



**DEVELOPMENT AND IMPLEMENTATION OF  
AN INSTRUCTIONAL DESIGN: TECHNOLOGY  
INTEGRATION IN ENGLISH LANGUAGE  
TEACHING**

**Doktora Tezi**

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**DEVELOPMENT AND IMPLEMENTATION OF AN INSTRUCTIONAL  
DESIGN: TECHNOLOGY INTEGRATION IN ENGLISH LANGUAGE  
TEACHING**

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**PhD DISSERTATION**

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**Department of Foreign Language Education**

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## FINAL APPROVAL FOR THESIS

This thesis/dissertation titled “Development and Implementation of an Instructional Design: Technology Integration in English Language Teaching” prepared and submitted by Bayram ÇİBİK in partial fulfillment of the requirements in “Code of Graduate School of Anadolu University ” for the Degree of Doctor of Philosophy (PhD) in the Department of Foreign Language Education has been examined and approved on 28/05/2025.

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## ABSTRACT

### DEVELOPMENT AND IMPLEMENTATION OF AN INSTRUCTIONAL DESIGN: TECHNOLOGY INTEGRATION IN ENGLISH LANGUAGE TEACHING

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Anadolu University, Graduate School, June, 2025

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Technology integration in language teaching is considered to be vital and beneficial for enhancing both teaching practices and learning outcomes. To this end, this study aims to design, develop, and implement the “Technology Integration in English Language Teaching” course, specifically tailored to meet the local needs and expectations of EFL teacher candidates. It also aims to measure the effectiveness of the course, impact of the course on teacher candidates’ Technological Pedagogical Content Knowledge (TPACK) scores and gather their opinions and suggestions on the course, for course evaluation and revision. This study employs a Design Based Research methodology. For the design and development phase of the course, needs analyses were conducted with 41 EFL teacher candidates and eight in-service teachers; along with expert consultations with five field experts. Course content and the learning outcomes were developed based on a comprehensive literature review, results from needs analyses, and expert opinions. In the implementation phase, the course was conducted with 64 EFL teacher candidates. Effectiveness of the course was measured through the realization of the learning outcomes, a TPACK-EFL scale ( $n = 42$ ), and two focus group interviews ( $n = 8$ ). The results demonstrated that the intended learning outcomes were largely achieved, reflecting participants’ ability to apply both theoretical and practical knowledge. Furthermore, the course had a statistically significant positive impact on participants’ TPACK-EFL scores. Participants also perceived the course as a valuable and necessary component of the English Language Teaching curriculum.

**Keywords:** Technology integration in language teaching, Computer assisted language learning, Instructional design, Teacher training, TPACK.

## ÖZET

### BİR ÖĞRETİM TASARIMI DİZAYNI VE UYGULAMASI: İNGİLİZCE ÖĞRETİMİNDE TEKNOLOJİ ENTEGRASYONU

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Dil eğitiminde teknoloji entegrasyonu, hem öğretim uygulamalarını hem de öğrenme çıktılarını geliştirmek için kritik bir öneme sahiptir. Bu sebeple, bu çalışmada İngilizce öğretmen adaylarının beklentilerine ve ihtiyaçlarına özel olarak uyarlanmış bir “İngiliz Dili Eğitiminde Teknoloji Entegrasyonu” dersi tasarlanması, geliştirilmesi ve uygulanması amaçlanmaktadır. Çalışma ayrıca bu dersin etkililiğini, öğretmen adaylarının Teknolojik Pedagojik Alan Bilgisi (TPAB) puanları üzerindeki etkisini, ve dersi değerlendirmek ve revize etmek için katılımcıların ders hakkında görüş ve önerilerini incelemeyi de amaçlar. Bu çalışma, bir Tasarım Temelli Çalışma olarak planlanmıştır. Dersin tasarlanması ve geliştirilmesi aşamasında, 41 İngilizce öğretmen adayı ve sekiz İngilizce öğretmeni ile ihtiyaç analizleri yapılmış, ayrıca beş alan uzmanından uzman görüşleri alınmıştır. Dersin öğrenme çıktıları ve içerikleri, kapsamlı bir literatür taraması, ihtiyaç analizlerinin sonuçları ve uzman görüşleri dikkate alarak geliştirilmiştir. İkinci aşama olarak ise ders 64 İngilizce öğretmen adayı ile uygulanmıştır. Dersin etkililiği, öğrenme çıktılarının gerçekleşme düzeyi, katılımcıların TPACK-EFL ölçeğinden elde edilen puanlar ( $n = 42$ ) ve iki odak grup görüşmesinden ( $n = 8$ ) elde edilen görüşler doğrultusunda değerlendirilmiştir. Sonuçlar, hedeflenen öğrenme çıktılarının büyük ölçüde gerçekleştiğini ve katılımcıların hem teorik hem de pratik bilgileri başarıyla uygulayabildiğini göstermektedir. Ayrıca, dersin katılımcıların TPACK-EFL puanları üzerinde istatistiksel olarak anlamlı ve olumlu bir etkisi olduğu belirlenmiştir. Buna ek olarak, öğretmen adayları bu dersin mevcut İngiliz Dili Eğitimi programlarına eklenmesini yararlı ve gerekli bulmuşlardır.

**Anahtar Kelimeler:** Dil eğitiminde teknoloji entegrasyonu, Bilgisayar destekli dil öğrenimi, Öğretim tasarımı, Öğretmen eğitimi, TPACK.

23/06/2025

## **STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES**

I hereby truthfully declare that this thesis is an original work prepared by me; that I have behaved in accordance with the scientific ethical principles and rules throughout the stages of preparation, data collection, analysis and presentation of my work; that I have cited the sources of all the data and information that could be obtained within the scope of this study, and included these sources in the references section; and that this study has been scanned for plagiarism with “scientific plagiarism detection program” used by Anadolu University, and that “it does not have any plagiarism” whatsoever. I also declare that, if a case contrary to my declaration is detected in my work at any time, I hereby express my consent to all the ethical and legal consequences that are involved.

**Bayram ÇİBİK**

23/06/2025

## ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ

Bu tezin bana ait, özgün bir çalışma olduğunu; çalışmamın hazırlık, veri toplama, analiz ve bilgilerin sunumu olmak üzere tüm aşamalarında bilimsel etik ilke ve kurallara uygun davrandığımı; bu çalışma kapsamında elde edilen tüm veri ve bilgiler için kaynak gösterdiğimi ve bu kaynaklara kaynakçada yer verdiğimi; bu çalışmamın Anadolu Üniversitesi tarafından kullanılan “Bilimsel İntihal Tespit Programı”yla tarandığını ve hiçbir şekilde “intihal içermediğini” beyan ederim. Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçları kabul ettiğimi bildiririm.

**Bayram ÇİBİK**

23/06/2025

## **DECLARATION OF GENERATIVE ARTIFICIAL INTELLIGENCE USAGE**

I declare that I have not used generative artificial intelligence programs at any stage of the preparation, execution, data analysis, etc. of this study.

**Bayram ÇİBİK**



23/06/2025

## ÜRETKEN YAPAY ZEKÂ KULLANIM BEYANI

Bu tez çalışmasının hazırlanması, yürütülmesi, verilerin analizi vb. aşamalarının herhangi birinde üretken yapay zekâ programlarından yararlanmadığımı beyan ederim.

**Bayram ÇİBİK**



## DEDICATION



*to Nazo and Cesó*

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## TABLE OF CONTENTS

|                                                                                                                     | <u>Page</u> |
|---------------------------------------------------------------------------------------------------------------------|-------------|
| DEVELOPMENT AND IMPLEMENTATION OF AN INSTRUCTIONAL DESIGN: TECHNOLOGY INTEGRATION IN ENGLISH LANGUAGE TEACHING..... | i           |
| FINAL APPROVAL FOR THESIS .....                                                                                     | ii          |
| ABSTRACT.....                                                                                                       | iii         |
| ÖZET .....                                                                                                          | iv          |
| STATEMENT OF COMPLIANCE WITH ETHICAL PRINCIPLES AND RULES .....                                                     | v           |
| ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ.....                                                                    | vi          |
| DECLARATION OF GENERATIVE ARTIFICIAL INTELLIGENCE USAGE                                                             | vii         |
| ÜRETKEN YAPAY ZEKÂ KULLANIM BEYANI .....                                                                            | viii        |
| DEDICATION .....                                                                                                    | ix          |
| ACKNOWLEDGEMENTS .....                                                                                              | x           |
| TABLE OF CONTENTS .....                                                                                             | xii         |
| LIST OF TABLES .....                                                                                                | xviii       |
| LIST OF FIGURES .....                                                                                               | xx          |
| LIST OF ABBREVIATIONS .....                                                                                         | xxii        |
| 1 INTRODUCTION .....                                                                                                | 1           |
| 1.1 Statement of the Problem .....                                                                                  | 5           |
| 1.2 Significance of the Study .....                                                                                 | 8           |
| 1.3 Purpose of the Study .....                                                                                      | 10          |
| 1.4 Definition of Terms.....                                                                                        | 11          |
| 2 LITERATURE REVIEW .....                                                                                           | 12          |
| 2.1 Technology Integration in Language Teaching .....                                                               | 12          |
| 2.1.1 Computer assisted language learning .....                                                                     | 13          |
| 2.2 The Role of Teachers in Technology Integration .....                                                            | 15          |

|       |                                                                                   |    |
|-------|-----------------------------------------------------------------------------------|----|
| 2.3   | Theoretical Background: Connectivism.....                                         | 17 |
| 2.3.1 | Historical context and theoretical foundations .....                              | 17 |
| 2.3.2 | Core principles of Connectivism.....                                              | 19 |
| 2.3.3 | Learning networks and digital environments .....                                  | 20 |
| 2.3.4 | Digital literacy as an enabler of Connectivist learning in ELT .....              | 20 |
| 2.3.5 | Connectivism and technology integration frameworks (TPACK) .....                  | 21 |
| 2.3.6 | PLNs, social media, and networked learning in ELT.....                            | 21 |
| 2.3.7 | Implications for language teaching and instructional design .....                 | 22 |
| 2.4   | Teacher Competencies and TPACK.....                                               | 22 |
| 2.4.1 | TPACK-EFL .....                                                                   | 28 |
| 2.5   | Instructional Design Theory .....                                                 | 29 |
| 2.6   | Research on Technology Integration in Language Teaching .....                     | 31 |
| 2.6.1 | Effects of technology integration in language teaching.....                       | 32 |
| 2.6.2 | Technology integration in major language areas and skills.....                    | 33 |
| 2.6.3 | Technology integration in assessment and feedback .....                           | 38 |
| 2.6.4 | Technology integration and motivation .....                                       | 39 |
| 2.6.5 | Technology integration and interpersonal/intrapersonal language<br>learning ..... | 40 |
| 2.6.6 | Technology integration and learner autonomy .....                                 | 41 |
| 2.6.7 | Technology integration and TPACK .....                                            | 42 |
| 2.6.8 | Emerging concepts regarding technology integration in language<br>teaching .....  | 43 |
| 2.6.9 | Studies in the Turkish context .....                                              | 45 |
| 3     | METHODOLOGY .....                                                                 | 48 |
| 3.1   | Research Design.....                                                              | 48 |

|         |                                                                |    |
|---------|----------------------------------------------------------------|----|
| 3.2     | Participants .....                                             | 49 |
| 3.3     | Instruments .....                                              | 53 |
| 3.4     | Data Collection.....                                           | 55 |
| 3.5     | Data Analysis .....                                            | 58 |
| 3.6     | Instructional Design .....                                     | 63 |
| 3.6.1   | Needs analysis and expert consultation.....                    | 64 |
| 3.6.2   | Learning outcomes.....                                         | 65 |
| 3.6.3   | Course content and tool selection .....                        | 66 |
| 3.6.4   | Instructional materials and learning activities.....           | 68 |
| 3.6.5   | Assessment design and evaluation methods .....                 | 69 |
| 3.6.6   | Expert review and course finalization.....                     | 71 |
| 3.6.7   | Implementation context and setting .....                       | 72 |
| 3.6.8   | Course structure and instructional approach .....              | 73 |
| 3.6.9   | Accessibility and inclusivity measures .....                   | 75 |
| 3.6.10  | Role of the researcher .....                                   | 77 |
| 3.6.11  | Iterative improvement and adaptation .....                     | 78 |
| 3.6.12  | Challenges and solutions during design and implementation..... | 80 |
| 3.6.13  | Reliability and validity .....                                 | 81 |
| 3.6.14  | Trustworthiness.....                                           | 81 |
| 3.6.15  | Ethical precautions .....                                      | 83 |
| 4       | FINDINGS .....                                                 | 84 |
| 4.1     | Findings of Phase 1: Course Design .....                       | 85 |
| 4.1.1   | Needs analysis with in-service teachers.....                   | 86 |
| 4.1.1.1 | ISTs' sources of information.....                              | 88 |

|         |                                                                    |     |
|---------|--------------------------------------------------------------------|-----|
| 4.1.1.2 | ISTs' reasons for using technology .....                           | 89  |
| 4.1.1.3 | ISTs' purposes of using technology .....                           | 91  |
| 4.1.1.4 | ISTs' views on the effects of using technology for teachers .....  | 92  |
| 4.1.1.5 | ISTs' views on the effects of using technology for learners .....  | 94  |
| 4.1.1.6 | ISTs' personal strengths in using technology .....                 | 97  |
| 4.1.1.7 | Areas that need improvement .....                                  | 98  |
| 4.1.1.8 | ISTs' expectations from the course .....                           | 99  |
| 4.1.1.9 | Problems faced in emergency online learning scenarios by ISTs..... | 100 |
| 4.1.2   | Needs analysis with EFL teacher candidates.....                    | 101 |
| 4.1.2.1 | TCs' reasons for using technology.....                             | 102 |
| 4.1.2.2 | TCs' purposes of using technology .....                            | 102 |
| 4.1.2.3 | TCs' sources of information.....                                   | 103 |
| 4.1.2.4 | TCs' views on the effects of using technology for teachers .....   | 104 |
| 4.1.2.5 | TCs' views on the effects of using technology for learners .....   | 105 |
| 4.1.2.6 | TCs' personal strengths in using technology .....                  | 105 |
| 4.1.2.7 | Areas that need improvement.....                                   | 106 |
| 4.1.2.8 | TCs' expectations from the course .....                            | 107 |
| 4.1.2.9 | Problems faced in emergency online learning scenarios by TCs.....  | 108 |
| 4.1.3   | Insights from instructors of similar courses .....                 | 109 |
| 4.1.4   | Insights from online education experts .....                       | 113 |
| 4.1.5   | Applying the initial ASSURE steps .....                            | 116 |
| 4.1.5.1 | Analyze learners.....                                              | 116 |
| 4.1.5.2 | State objectives .....                                             | 117 |
| 4.1.5.3 | Select methods, media and materials .....                          | 121 |

|         |                                                             |     |
|---------|-------------------------------------------------------------|-----|
| 4.1.5.4 | Bridging theory and practice: a Connectivist approach ..... | 126 |
| 4.2     | Findings of Phase 2: Course Implementation .....            | 129 |
| 4.2.1   | Weekly course overview .....                                | 130 |
| 4.2.2   | Utilize media and materials.....                            | 140 |
| 4.2.3   | Require learner participation .....                         | 153 |
| 4.3     | Findings of Phase 3: Course Evaluation.....                 | 157 |
| 4.3.1   | Realization of learning outcomes.....                       | 160 |
| 4.3.1.1 | Alignment of assessments with learning outcomes .....       | 160 |
| 4.3.1.2 | Midterm exam .....                                          | 161 |
| 4.3.1.3 | Final e-portfolio.....                                      | 162 |
| 4.3.1.4 | Supporting evaluations.....                                 | 164 |
| 4.3.2   | Focus group interview findings.....                         | 165 |
| 4.3.2.1 | Expectations and outcomes .....                             | 165 |
| 4.3.2.2 | Course content.....                                         | 166 |
| 4.3.2.3 | Teaching and learning process .....                         | 168 |
| 4.3.2.4 | Evaluation process .....                                    | 169 |
| 4.3.2.5 | Strengths of the course .....                               | 170 |
| 4.3.2.6 | Areas for improvement.....                                  | 171 |
| 4.3.3   | TPACK-EFL scale findings .....                              | 172 |
| 4.3.4   | Final reflections on the course .....                       | 178 |
| 4.3.4.1 | Effectiveness of the instructional design .....             | 178 |
| 4.3.4.2 | Student feedback and responsive adjustments.....            | 179 |
| 4.3.4.3 | Recommendations for future iterations of the course .....   | 179 |
| 4.3.4.4 | Conclusion .....                                            | 180 |

|          |                                                                |            |
|----------|----------------------------------------------------------------|------------|
| <b>5</b> | <b>DISCUSSION.....</b>                                         | <b>181</b> |
| 5.1      | Discussion of Phase 1: Course Development.....                 | 181        |
| 5.1.1    | Needs analysis.....                                            | 181        |
| 5.2      | Discussion of Phase 3: Course Evaluation.....                  | 186        |
| 5.2.1    | Realization of learning outcomes.....                          | 187        |
| 5.2.2    | TPACK-EFL scale .....                                          | 188        |
| 5.2.3    | Focus group interviews.....                                    | 190        |
| <b>6</b> | <b>CONCLUSION.....</b>                                         | <b>195</b> |
| 6.1      | Summary of the Study.....                                      | 195        |
| 6.2      | Limitations of the Study.....                                  | 198        |
| 6.3      | Implications for EFL Teacher Education Context in Türkiye..... | 198        |
| 6.4      | Recommendations for Further Research .....                     | 200        |
|          | <b>REFERENCES.....</b>                                         | <b>202</b> |
|          | <b>APPENDICES</b>                                              |            |
|          | <b>ÖZGEÇMİŞ</b>                                                |            |

## LIST OF TABLES

|                                                                                                                     |     |
|---------------------------------------------------------------------------------------------------------------------|-----|
| <b>Table 1.1</b> Three Stages of CALL (Adapted from Warschauer and Healy (1998)) .....                              | 4   |
| <b>Table 1.2</b> Problems Regarding Emergency Online Education in the Turkish Context ...                           | 6   |
| <b>Table 2.1</b> Summary of TPACK Constructs.....                                                                   | 28  |
| <b>Table 3.1</b> Participants of the Study .....                                                                    | 50  |
| <b>Table 3.2</b> Experts, Fields of Study, and Consulted Issues .....                                               | 52  |
| <b>Table 3.3</b> Data Collection Instruments of the Study .....                                                     | 53  |
| <b>Table 3.4</b> The Reliability Coefficients of the TPACK-EFL Scale.....                                           | 55  |
| <b>Table 3.5</b> Summary of the ISTs Interview Data .....                                                           | 56  |
| <b>Table 3.6</b> Summary of the ISCs Interview Data .....                                                           | 56  |
| <b>Table 3.7</b> Summary of the OEEs Interview Data.....                                                            | 56  |
| <b>Table 3.8</b> Descriptive Information on Focus Group Interviews .....                                            | 57  |
| <b>Table 3.9</b> Sample Coding Scheme for the Needs Analysis Data .....                                             | 60  |
| <b>Table 3.10</b> Sample Coding Scheme for the Expert Opinion Data .....                                            | 61  |
| <b>Table 3.11</b> Sample Coding Scheme for the Focus Group Interview Data .....                                     | 62  |
| <b>Table 3.12</b> Summary of Expert Consultations for the Course Book.....                                          | 68  |
| <b>Table 3.13</b> Summary of Expert Consultations for Course Content .....                                          | 69  |
| <b>Table 3.14</b> Summary of Expert Consultations for Mid-Term Exam .....                                           | 69  |
| <b>Table 3.15</b> Summary of Expert Consultations for Evaluation Rubrics.....                                       | 71  |
| <b>Table 3.16</b> Summary of Expert Consultations for Overall Course Evaluation.....                                | 72  |
| <b>Table 3.17</b> Summary of Expert Consultations for the TPACK-EFL Scale .....                                     | 81  |
| <b>Table 4.1</b> Alignment of Learning Outcomes with Assessment Methods.....                                        | 120 |
| <b>Table 4.2</b> Key Course Design Elements and Underlying Justifications .....                                     | 121 |
| <b>Table 4.3</b> Initial Course Syllabus .....                                                                      | 122 |
| <b>Table 4.4</b> Updated Weekly Course Content, Digital Tools, Learning Outcomes, and<br>Justification Sources..... | 131 |

|                                                                                      |     |
|--------------------------------------------------------------------------------------|-----|
| <b>Table 4.5</b> Sample Lesson Plan .....                                            | 140 |
| <b>Table 4.6</b> Assessment Methods and Their Alignment with Learning Outcomes ..... | 158 |



## LIST OF FIGURES

|                                                                                       |     |
|---------------------------------------------------------------------------------------|-----|
| <b>Figure 2.1</b> History of CALL Timeline (Braul, 2006) .....                        | 15  |
| <b>Figure 2.2</b> The Eight Dimensions of ECML's Taxonomy of Frameworks.....          | 24  |
| <b>Figure 2.3</b> TPACK Framework.....                                                | 27  |
| <b>Figure 2.4</b> Steps of the ASSURE Model .....                                     | 31  |
| <b>Figure 3.1</b> Design-Based Research Process.....                                  | 49  |
| <b>Figure 3.2</b> A Sample Week in the LMS.....                                       | 75  |
| <b>Figure 4.1</b> Actively Used Technologies by ISTs .....                            | 87  |
| <b>Figure 4.2</b> ISTs' Sources of Information .....                                  | 88  |
| <b>Figure 4.3</b> ISTs' Reasons for Using Technology.....                             | 89  |
| <b>Figure 4.4</b> ISTs' Purposes of Using Technology.....                             | 91  |
| <b>Figure 4.5</b> ISTs' Views on the Effects of Using Technology for Teachers.....    | 93  |
| <b>Figure 4.6</b> ISTs' Views on the Effects of Using Technology for Learners .....   | 95  |
| <b>Figure 4.7</b> ISTs' Personal Strengths in Using Technology.....                   | 97  |
| <b>Figure 4.8</b> Areas that Need Improvement.....                                    | 98  |
| <b>Figure 4.9</b> ISTs' Expectations from the Course.....                             | 99  |
| <b>Figure 4.10</b> Problems Faced in Emergency Online Learning Scenarios by ISTs..... | 100 |
| <b>Figure 4.11</b> TCs' Reasons for Using Technology .....                            | 102 |
| <b>Figure 4.12</b> TCs' Purposes of Using Technology.....                             | 103 |
| <b>Figure 4.13</b> TCs' Sources of Information .....                                  | 103 |
| <b>Figure 4.14</b> TCs' Views on the Effects of Using Technology for Teachers.....    | 104 |
| <b>Figure 4.15</b> TCs' Views on the Effects of Using Technology for Learners .....   | 105 |
| <b>Figure 4.16</b> Personal Strengths of TCs in Using Technology .....                | 106 |
| <b>Figure 4.17</b> Areas that Need Improvement.....                                   | 107 |
| <b>Figure 4.18</b> TCs' Expectations from the Course .....                            | 108 |

|                                                                                         |     |
|-----------------------------------------------------------------------------------------|-----|
| <b>Figure 4.19</b> Problems Faced in Emergency Online Learning Scenarios by TCs.....    | 108 |
| <b>Figure 4.20</b> ICSs’ Suggestions for Instructional Design .....                     | 110 |
| <b>Figure 4.21</b> OEEs’ Suggestions for Instructional Design .....                     | 114 |
| <b>Figure 4.22</b> Learning outcomes coverage by week .....                             | 139 |
| <b>Figure 4.23</b> Mentimeter Collaborative Timeline Activity .....                     | 142 |
| <b>Figure 4.24</b> Collaborative Brainstorming Activity - AnswerGarden.....             | 143 |
| <b>Figure 4.25</b> Collaborative Brainstorming Activity - Mentimeter .....              | 143 |
| <b>Figure 4.26</b> Sample Blog for Evaluation .....                                     | 145 |
| <b>Figure 4.27</b> Google Jamboard Blog Evaluation Activity.....                        | 146 |
| <b>Figure 4.28</b> Prompt for the Forum Discussion.....                                 | 147 |
| <b>Figure 4.29</b> Sample Learner Response to the Forum Discussion .....                | 147 |
| <b>Figure 4.30</b> Sample Learner Response to the Forum Discussion .....                | 147 |
| <b>Figure 4.31</b> Objectives and content for the infographic assignment .....          | 149 |
| <b>Figure 4.32</b> Sample Piktochart Activity Outcome .....                             | 150 |
| <b>Figure 4.33</b> Sample Storyboardthat Activity Outcome.....                          | 151 |
| <b>Figure 4.34</b> Quizizz Activity – Individual Scores and Accuracy Rates .....        | 152 |
| <b>Figure 4.35</b> Quizizz Activity – Quiz Statistics .....                             | 152 |
| <b>Figure 4.36</b> Quizizz Activity – Detailed Student Responses.....                   | 153 |
| <b>Figure 4.37</b> TCs’ Expectations from the Course and Outcomes .....                 | 165 |
| <b>Figure 4.38</b> TCs’ Opinions and Suggestions on Course Content .....                | 167 |
| <b>Figure 4.39</b> TCs’ Opinions and Suggestions on the Teaching and Learning Process . | 168 |
| <b>Figure 4.40</b> TCs’ Opinions and Suggestions on the Evaluation Process .....        | 169 |
| <b>Figure 4.41</b> TCs’ Remarks on the Strengths of the Course .....                    | 170 |
| <b>Figure 4.42</b> TCs’ Remarks on the Areas for Improvement .....                      | 171 |
| <b>Figure 5.1</b> Course Design, Development, Implementation, and Evaluation Process .. | 181 |

## **LIST OF ABBREVIATIONS**

|        |                                                     |
|--------|-----------------------------------------------------|
| AI:    | Artificial Intelligence                             |
| CALL:  | Computer Assisted Language Learning                 |
| CK:    | Content Knowledge                                   |
| DBR:   | Design Based Research                               |
| EFL:   | English as a Foreign Language                       |
| ELT:   | English Language Teaching                           |
| ISC:   | Instructor of Similar Courses                       |
| IST:   | In-service Teacher                                  |
| MALL:  | Mobile Assisted Language Learning                   |
| OEE:   | Online Education Expert                             |
| PCK:   | Pedagogical Content Knowledge                       |
| PK:    | Pedagogical Knowledge                               |
| TC:    | Teacher Candidate                                   |
| TCK:   | Technological Content Knowledge                     |
| TIELT: | Technology Integration in English Language Teaching |
| TK:    | Technological Knowledge                             |
| TPACK: | Technological Pedagogical Content Knowledge         |
| TPK:   | Technological Pedagogical Knowledge                 |

## 1 INTRODUCTION

John Dewey, a pioneer of progressive education, emphasized the importance of evolving teaching to meet the changing needs of society (Dewey, 1915). Central to Dewey's idea was that education should prepare learners for the future, rather than merely passing down old knowledge. Even though today's circumstances are vastly different from Dewey's time, the need to stay up-to-date as educators remains critical. With each passing generation, there are significant changes between learners and teachers, and teachers must be able to keep up with these changes to connect with their learners. Of these generational changes, one of the most apparent and natural is technology. As each generation becomes more immersed in new technologies, teachers must adapt their teaching methods to stay relevant, aiming to prepare their learners for a technology-driven future.

Technology as a term can be traced back to ancient Greek and Latin. "Technology" derives from the Greek "technologia," from "techne" (art, craft) and "logia" (study, discourse). In medieval times, the meaning of "techne" has shifted through a more systematic and theoretical knowledge and the meaning of the word *technologia* shifted from "systematic method of performing or engaging in an art" (Greek) to "systematic description of the arts and sciences" in Latin (Merriam-Webster, nd).

In the English language, the term was first introduced in the 18<sup>th</sup> century and initially applied to a relatively narrow range of mechanical arts. Nowadays, it is generally defined as "the practical application of knowledge especially in a particular area" (Merriam-Webster, nd). In the process, there were some key shifts to the meaning of technology, from crafts and art to science, from manual to mechanical, and finally, from physical to digital. Today, it encompasses both tangible devices such as computers, mobile devices, and peripherals, and also intangible technologies such as software, algorithms, and virtual technologies.

As can be understood from each of the various definitions of the term, technology is related to almost all aspects of daily life, including domains such as communication, transportation, entertainment, healthcare, education, etc. Throughout history, technology impacted and improved human daily life, shaping how we live and interact with our environment. From the most simple hand tools to the most advanced digital systems, it has given shape to social developments and transformations. In prehistoric times, advancements in tools and the discovery of fire enhanced protection, hunting, and

cooking. Specifically, the invention of the wheel revolutionized transportation and therefore, commerce, and daily life. Another revolutionary period of humankind in terms of technology took place in the 18<sup>th</sup> and 19<sup>th</sup> centuries, with the industrial revolution. The concepts of mass production, mechanization, and specifically the steam engine, have created new industries, labor practices, and daily routines. And finally, in the 20<sup>th</sup> and 21<sup>st</sup> centuries, digital technologies and computers have transformed daily life further, enhancing communication and access to information, and creating a more global world (Castells, 2009). In modern society, technology influences how individuals work, interact with each other, and search for leisure activities. Mobile digital devices and the internet have revolutionized communication and created a network society, in which geographical boundaries have become irrelevant in many senses. With the help of social media platforms and video conferencing tools, human interactions, both personal and professional, have become much faster and easier.

While technological advancements significantly impact both intrapersonal and interpersonal communication and interaction, it is important to recognize their profound influence on knowledge processing and retention in the human mind, particularly in the realms of learning and teaching. Therefore, it is safe to say that education, naturally involving interaction and communication, is a field that is greatly influenced by the developments in technology.

The use of technology in education has been a transformative journey starting from the mid-20<sup>th</sup> century, and influencing every aspect of education from in-class tasks to curriculum design. One of the earliest uses of educational technologies was the installation of two mainframe computers at the Universities of Harvard and Pennsylvania in the 1940s (Molnar, 1997). Evidently, these computers were neither very effective nor accessible, however, they paved the way for a quick development in the use of technology in education. While the first computers were used mostly for research purposes and in the fields of mathematics and science, they became more popular and accessible in the 1960s. At Dartmouth University, two researchers tried to make learners interact with computers more directly by developing a time-shared system for the learners to use computers individually (Kemeny & Kurtz, 1968). At similar times, at Stanford University, two researchers designed a computer-assisted self-paced program in mathematics and reading, in which drill-and-practice was the main way of studying a topic. In the late 1960s, the

use of computers in education became more widespread, however, computers at that time were still very expensive and large. Only after the 1970s personal computers were developed, and became more economical and practical. In the 1980s, with even more advanced computers, technology became more intertwined with education. Since then, with the rapid advancements in both tangible technologies such as computers, projectors, and interactive whiteboards, and intangible technologies such as virtual realities and artificial intelligence, technology has continued to reshape the ways knowledge is transmitted and received and, therefore, reshaped education. With the advancements in digital learning platforms, artificial intelligence, and especially adaptive learning systems, personalized learning is one of the most significant outcomes of educational technologies (Johnson et al., 2016). Additionally, with the help of e-learning platforms, educational technologies ideally enhance the accessibility for learners from different geographical or socio-economic backgrounds, contributing to the democratization of education (Means et al., 2009). Finally, interactive and rich content, multimedia, and gamification elements are helpful tools for engaging learners in a more enjoyable teaching and learning process (Subhash & Cudney, 2018).

The use of technology specifically in language teaching can also be traced back to similar times. Technology has been actively integrated into language teaching since the 1950s, although different terminology was used at different times. Thomas et al. (2012) summarize these terms as Computer Assisted Instruction (CAI), Computer Assisted Learning (CAL), Computer Assisted Language Instruction (CALI), Computer Assisted Language Learning (CALL), and Technology Enhanced Language Learning (TELL). In recent years, more current terminology has emerged such as Mobile Assisted Language Learning (MALL) and even Robot Assisted Language Learning (RALL). Although all these terminologies and minor differences between them may seem confusing at first glance; Thomas et al. (2012) state that these differing terminologies are just a result of one joint effort: attempts of the academic community to integrate technology into the language teaching and learning process.

According to Thomas et al. (2012), from the 1950s to the 1970s, technology in language teaching was used mostly for drills and repetition, in harmony with the behavioristic paradigm of that timespan. From the 1970s to 1980s, with the advancement of computers and the rise of the communicative paradigm, technology was used in a way to prompt

students into discussions in which they have more flexibility and autonomy. Since the 1980s, the advancement of multimedia, websites, and tools allowed the creation of more authentic learning environments and helped students learn skills in a more integrated way, in line with the socio-cultural paradigm. Table 1.1 below summarizes the different stages of CALL.

**Table 1.1**

*Three Stages of CALL (Adapted from Warschauer and Healy (1998))*

|                                           | <b>Behavioristic<br/>(Structural) CALL<br/>1950s – 1970s</b>               | <b>Communicative CALL<br/>1970s – 1980s</b>    | <b>Integrative CALL<br/>1980s and 2000s</b>        |
|-------------------------------------------|----------------------------------------------------------------------------|------------------------------------------------|----------------------------------------------------|
| <b>Technology</b>                         | Mainframe Computers                                                        | Personal Computers                             | Internet and<br>Multimedia                         |
| <b>Language<br/>Teaching<br/>Paradigm</b> | Behavioristic –<br>Structural (Grammar<br>Translation & Audio-<br>Lingual) | Cognitive (Communicative<br>Language Teaching) | Socio-Cognitive<br>(Content-Based &<br>Task-Based) |
| <b>Use of<br/>Technology</b>              | Drills and Repetitions                                                     | Communicative Practices                        | Authentic & Social<br>Practices                    |

Integrating technology into language teaching is reported to be beneficial for both teachers and learners by many researchers. First of all, it enhances learners' 21-century skills (Larson & Miller, 2011), promotes learner autonomy (Blin, 2004; Stockwell & Reinders, 2019), boosts student comprehension (Kozma, 2003; Hung, 2014), boosts their self-regulation (Lam & Lawrence, 2002; Schunk & Greene, 2017), and motivates learners significantly (Warschauer, 1996; Barak et al., 2016; Harmandaoğlu-Baz et al., 2018).

As for teachers, technology is reported to be useful in terms of time-management, communication and feedback, and professional development (McKnight et al., 2016). Teachers may use technology to engage learners and support various learning styles (Mundy et al., 2012), build technological, pedagogical, and content knowledge together (Koehler & Mishra, 2009), access infinite and constantly-available learning materials (Ertmer & Ottenbreit-Leftwich, 2010), and facilitate both in-class and online engagement and interaction (Tondeur et al., 2012).

Thomas et al., (2012) state that although technology can be a very useful medium in language teaching, it is ultimately just a medium, not a mean or method, and it is up to

teachers to learn how to benefit from it. Molnar (1997) claims that technology helps increase productivity, however, it also requires more skilled teachers with additional training and a greater understanding of technological tools. Hughes (2005, p. 277) states that “the power to develop innovative technology-supported pedagogy lies in the teacher's interpretation of the newly learned technology's value for supporting instruction and learning in the classroom”. Stockwell and Reinders (2019) similarly claim that technology can be very beneficial for both learners and teachers in terms of increasing engagement and autonomy, however, teaching with technology is challenging and requires appropriate support. Additionally, it is claimed that teachers' attitudes and beliefs toward technology are decisive in the integration of technology while teaching (Ertmer & Ottenbreit-Leftwich, 2010; Taimalu & Luik, 2019). Therefore, without proper teacher knowledge, attitude, or belief, using technology in education can be problematic and difficult to manage. The necessary teacher knowledge to understand and use technology is generally discussed in teacher competency frameworks.

Teacher competency can simply be defined as the knowledge, skills, and attitudes a teacher should have to become successful in maximizing teaching (Jackson, 1990, European Commission, 2019). Governments and educational institutions systematically create and update teacher competency frameworks to shape and promote teacher education. Common European Framework of Reference for Languages (CEFR), European Portfolio for Student Teachers of Languages (EPOSTL), and Cambridge English Teaching Framework are some examples of long-established teacher competency frameworks. The Turkish Ministry of National Education (MoNE) also has teacher competency frameworks. All of these teacher competency frameworks include items regarding the use of technology to enhance student engagement and learning. The framework of the Turkish Ministry of National Education, for example, specifies the importance of technology integration with an item that reads “making use of the technology effectively in the teaching and learning process” (Ministry of National Education, 2017a).

### **1.1 Statement of the Problem**

Although using technology is reported to be beneficial for both teachers and learners in numerous studies in the literature, and with all the importance given to the integration of technology in language teaching in teacher training frameworks, it is surprising to

encounter technology-related problems in language teaching frequently. In this sense, the emergency online education process during the COVID-19 pandemic can be examined as a trial-run process regarding the use of technology since every teacher regardless of their attitude or aptitude had to integrate technological tools into their teaching process, and they have faced many problems. In the Turkish education context, the most frequently reported problems can be summarized as issues with engagement, motivation, and interaction, teaching practicum, technology related skills, feedback, group and peer work, teacher and learner readiness, and socialization and discussion. Table 1.2 summarizes these problems with relevant studies.

**Table 1.2**

*Problems Regarding Emergency Online Education in the Turkish Context*

| <b>The Study</b>                        | <b>Category of Problems</b>                            | <b>Reported Problems</b>                                                                                                                                                                                                                                                                |
|-----------------------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (Karataş & Tuncer, 2020)                | Interaction<br>Engagement<br>Motivation                | With the emergency online education, there was an overemphasis on writing skills, limiting the interaction, engagement, and motivation of learners.                                                                                                                                     |
| (Atmaca, 2023)                          | Teaching Practicum                                     | Although there were some professional gains in this process, the challenges were much more salient. Requirements regarding technology training and infrastructure were specified.                                                                                                       |
| (Civelek et al., 2021)<br>(Kaysi, 2020) | Technology Related Skills                              | Teachers' lack of technology-related skills necessary for effective online teaching hindered the process. Training teachers and teacher candidates was suggested.                                                                                                                       |
| (Keskin & Kaya, 2020)                   | Communication<br>Feedback                              | Learners could not communicate with teachers effectively, and could not receive feedback in an efficient way.                                                                                                                                                                           |
| (Özdoğan & Berkant, 2020)               | Readiness<br>Socialization<br>Discussion<br>Evaluation | Problems were stated regarding a general lack of readiness among both teachers and learners for online education, lack of socialization opportunities, and meaningful discussions within the online learning environment. Online education was also considered inefficient for testing. |

Although technology-related competencies are included in many teacher competency frameworks, (UNESCO ICT-CFT, ECML, EU Key Competences, etc.) there appears to be an actualization problem with these competencies. Brul (2006) argued that teachers' lack of knowledge and experience with CALL was a serious potential barrier to their ability to integrate technology into language teaching. Rienties et al. (2013) emphasized

that only with effective educational technology training and practice, teachers could enhance their ability to teach effectively with technology. Lin and Zheng (2015) investigated the teaching practices of 19 in-service teachers toward online language teaching and found that teachers had limited knowledge of technology integration, and they demanded training on integrating technology into their teaching. Howard et al. (2020) carried out a study with 222 in-service teachers across 20 countries and stated that teachers need support regarding their online teaching readiness, specifically regarding the technologies that can be used and the type of tasks that can be carried out in online education. Scherer et al. (2023) reported that teachers try to incorporate technology even though their educational past did not prepare them adequately for technology integration. Fernandez-Batanero et al. (2020) also noted that teachers attach great value to technology, and actively pursue chances of professional development and self-improvement.

Studies with pre-service teachers also offered similar findings. Collecting data from 688 4<sup>th</sup> grade pre-service teachers, Tondeur et al. (2020) stated that the participants were not satisfied with their pre-service education and they felt that they did not get sufficient support to design, reflect, and evaluate TPACK (technological pedagogical content knowledge). Moore-Hayes (2011) reported that both teachers and teacher candidates pursue a self-taught approach when learning new technologies. Similarly, Tondeur et al. (2012) stated that although there might be some formal technological training, it remained inconsistent and fragmented.

In the Turkish education context, Özer (2018) investigated 174 third and fourth grade English as a foreign language (EFL) teacher candidates' attitudes toward using computer technologies in language teaching. The author found out that although participants had a positive attitude towards using computers in language teaching, their actual use of computers was limited to simple tasks such as sending emails, finding online materials, and preparing presentations; and they needed support and courses regarding effective integration of technology. Köksal and Kara (2022) working with a broader group of including EFL teacher candidates, analyzed 150 teacher candidates' readiness for online teaching, comparing different variables such as gender, age, department, class, and sociocultural background; and the only significantly meaningful difference was found between teacher candidates' departments. Teacher candidates studying in departments that provide technology education were found to have a higher level of readiness to use

technology in education in the context of online learning. Uzundurdu (2022) carried out a study with 108 EFL teacher candidates and found that teacher candidates were dissatisfied with their teacher training process and requested additional training regarding the integration of technology in language teaching. Therefore, there is a need for a course to better prepare prospective EFL teachers studying in the English Language Teaching (ELT) department for the integration of technology into language teaching. This study aims to address this gap by designing a course covering the integration of technology in language teaching.

## **1.2 Significance of the Study**

In the Turkish education context, the majority of ELT departments follow the English Language Teaching Undergraduate Program designed by the Council of Higher Education (CoHE), which includes two basic technology-related courses: Information Technologies and Instructional Technologies (Council of Higher Education, 2018). The Information Technologies course, typically offered in the first year, focuses on foundational computer skills such as basic concepts of hardware and software, operating systems, and word processing tools. The Instructional Technologies course, usually offered in the second year, centers on instructional design and material development in online and offline environments, including evaluation techniques, learning object repositories, and instructional design principles.

While these courses provide general technological competencies, they lack emphasis on current, advanced digital tools and their practical use in language education. Additionally, they do not address language-specific applications or how technology can be systematically integrated into the teaching of different language skills. As such, there is a clear curricular gap in preparing pre-service English language teachers to effectively integrate technology into language instruction. The course developed within the scope of this study aims to fill this gap by introducing pre-service teachers to current, language-focused technologies and practical strategies for technology integration in language classrooms.

Therefore, in addition to addressing current pedagogical and technological needs, this study is significant because it introduces a course model that is not currently represented in the national ELT curricula. A review of 75 universities in Türkiye offering ELT programs revealed that only 23 of them include a course that explicitly focuses on

technology integration in language teaching. This gap highlights the absence of a standardized, systematic approach to equipping teacher candidates with the digital competencies necessary for contemporary classrooms. By developing and evaluating a structured, evidence-based course in this area, the study responds to a critical need in teacher education and offers a replicable model that can inform curriculum development in other institutions.

The importance and the necessity of technology training in teacher education programs are well-documented in the relevant studies. First of all, regarding the argument that the current generation of learners is already competent in technology, there are mixed results. In many studies such as Kennedy et al. (2008), Tondeur et al. (2012), and Scherer et al. (2023) it is reported that even though this generation of learners is referred to as digital natives, they are not competent in using technology for educational purposes and they need improvement, even in the most basic tasks. Regarding digital native teacher candidates, similar results are reported that teacher candidates still require more structured and consistent training to effectively integrate technology into their teaching practices (Lei, 2009; Southall, 2013). Moreover, Kaminskiene et al. (2022) state that new technologies are constantly creating skill gaps in teacher training and there should be interventions to address this skill gap problem. Similarly, as a result of a meta-analysis, Wilson (2021) emphasizes the need for comprehensive and systematic technology training in teacher education programs, since it can enhance both the attitudes and technology beliefs of teachers. This need is further supported by Shannon and Chapelle (2017), who underline the importance of training teacher candidates for the technological demands of modern learners and classrooms. Research by Kessler (2007), Jeong (2017), and Son (2018) demonstrate that such interventions can significantly improve teacher candidates' preparedness and confidence in using technology. Additionally, Hubbard (2013), and Shadiev and Wang (2022) argue that curricula should support diverse language skills through technology, advocating for comprehensive technology integration in education. Therefore, the "Technology Integration in English Language Teaching" (TIELT) course is expected to address this gap and prepare EFL teacher candidates for effective technology integration in language teaching and learning. Moreover, this course can serve as a model not only for English language teaching but also for other language-focused courses, highlighting the potential for broader application across language education programs.

Teachers play a critical role in the integration of technology into the language teaching process since they are responsible for the decision-making, selecting, implementing, and evaluating educational technologies (Lee & Reigeluth, 1994). Therefore, the attitude of teachers toward technology must be positive (Teo, 2010) and they should be ready to experiment with new technologies. Hughes (2005) claims that teachers with more experience with technology are more comfortable with new technologies and can evaluate new technologies more accurately. Similarly, Chai and Lim (2011) draw attention to the importance of teacher preparation programs in developing teacher knowledge for technology integration and the need for constant practice of technology integration within these programs. Koh and Divaharan (2011) state that teachers' level of TPACK is determinant in their use of technology while teaching. To increase the TPACK and provide teacher candidates with experience regarding technology, a course that trains EFL teacher candidates in integrating technology into their classrooms and using it effectively is pivotal. Furthermore, drawing from the ideas of Rosenberg and Koehler (2015) that the context is of vital importance and one of the least comprehended components in technology integration, it is aimed to design a course taking the immediate context into consideration.

The proposed course takes opinions and suggestions from both teachers and learners into account. Therefore, the TIELT course is expected to be goal-oriented and motivating for EFL teacher candidates since it is based on their actual needs and expectations, rather than being merely theoretical (Stern, 1992).

### **1.3 Purpose of the Study**

This study aims to design a specifically tailored course based on a needs analysis for EFL teacher candidates by responding to their needs related to technology integration in their language teaching process and to measure its effectiveness. To this end; this study seeks answers to the following research questions:

- 1- What are the digital competency needs and expectations of EFL teacher candidates for effective technology integration in language teaching?
- 2- What are the digital competency needs and expectations of in-service English teachers for effective technology integration in language teaching?
- 3- What are the aims, course content, teaching/learning process, and evaluation methods of the “Technology Integration in English Language Teaching” course?

- 4- To what extent is the “Technology Integration in English Language Teaching” course effective in achieving its intended learning outcomes?
- 5- What are the effects of the “Technology Integration in English Language Teaching” course on EFL teacher candidates’ TPACK?
- 6- What are EFL teacher candidates’ opinions and suggestions on the “Technology Integration in English Language Teaching” course?

#### **1.4 Definition of Terms**

**CALL (Computer Assisted Language Learning):** “the search for and study of applications of the computer in language teaching and learning” (Levy, 1997, p.1).

**TPACK (Technological Pedagogical Content Knowledge):** an efficient way of conceptualizing technology use in classrooms (Koehler et al., 2014).

**Instructional Design:** “an iterative process of planning outcomes, selecting effective strategies for teaching and learning, choosing relevant technologies, identifying educational media and measuring performance” (Branch & Kopcha, 2014, p.77).

**Design-Based Methodology:** a practical research methodology that brings together research and practice in formal education (Anderson & Shattuck, 2012).

**ASSURE Model:** a guide for teachers on planning and delivering lessons with technology and media integration (Heinich et al., 1996).

## **2 LITERATURE REVIEW**

This section presents a history of technology in language teaching and the theoretical framework for relevant concepts for the study. The terms Connectivism, Computer Assisted Language Learning, Teacher Competencies, Technological-Pedagogical Content Knowledge, and Instructional Design Theory are explained in detail and relevant studies from multiple contexts are presented.

### **2.1 Technology Integration in Language Teaching**

The role of technology in language teaching has seen exponential growth, evolving from its early use primarily for research purposes to becoming a supplementary tool, and finally, nowadays, being fully integrated into teaching and learning processes, creating core concepts such as online learning, blended learning, and hybrid learning. Along with the developments of digital tools and multimedia, and with the rise of the internet, the potential of integrating technology in language teaching has been maximized. Additionally, with easy access to authentic sources and being able to take advantage of online tools such as online editing tools, grammar checkers, online dictionaries, and supportive language learning applications, the benefits of using technology in the language teaching process have been more and more obvious. Even in the more controversial times in the name of technology, Dunkel (1987) considered technology as inevitable and argued that even though computers might seem worthless to some teachers, or deemed expensive; they would increase in number and become popular anyway. In line with the anticipations of Dunkel, over time, computers have become so popular that they are an essential part of daily life, and millennial generations are now called digital natives (Prensky, 2001), implying that they have constant access to technological tools and have advanced technological skills.

As mentioned before, the relationship between technology and language teaching can be traced back to the 1950s, and many different terminologies are used to refer to how technology is used in language teaching. The terms Computer Assisted Instruction (CAI), Computer Assisted Learning (CAL), Computer Assisted Language Instruction (CALI), Technology Enhanced Language Learning (TELL), and Computer Assisted Language Learning (CALL) are all used at different times with different purposes. All of these terms refer to the use of the internet, digital platforms, digital tools, and online resources to

support language teaching and learning experiences, yet, CALL stands out as a well-established and accepted term.

### **2.1.1 Computer assisted language learning**

Levy (1997, p.1) very broadly defines Computer Assisted Language Learning (CALL) as “the search for and study of applications of the computer in language teaching and learning”. The part “applications of the computer” or even the term computer itself may seem restricted today, however, online sources and the internet are also considered to be an important part of CALL, along with applications.

CALL in general can be examined in three major developmental stages. Developments and changes in both technology and language teaching paradigms are decisive in dividing these stages, which are, according to Warschauer and Healy (1998): Behavioristic CALL, Communicative CALL, and Integrative CALL.

Behavioristic CALL started in the 1950s and continued into the 1960s and 1970s. Being influenced by the behaviorist paradigm of that time and with the limited capacity of computers, Behavioristic CALL was restricted in use and effect, since the main ways to practice language were to use drills and repetitions. Warschauer and Meskill (2000) defined this period as hope-inspiring yet disappointing because of the lack of opportunities. Computers were expensive, rare, and underdeveloped, therefore students had to use them with a time-sharing system. During Behavioristic CALL, the role of the computers was mostly similar to that of the tutors, to provide learners with language tests, learning materials, and language drills (Taylor, 1980).

In the late 1970s and during the 1980s and 1990s, CALL evolved with the advancements in technology, the increase in the number of personal computers, and the rise of the Communicative paradigm (Communicative Language Teaching - CLT) in language teaching. In this period, rather than using computers for the limited purposes of drills and repetitions and uploading materials, teachers could create their own activities, and computer software and activities became more interactive. The behavioristic paradigm was also rejected during this period, and rather than a set of optimal prescriptions, language learning was now considered to be a complex cognitive process with diverse learner needs (Levy, 1997). Warschauer and Healey (1998) stated that what was considered important in this period was not learners' engagement with the computers, rather it was their engagement with each other while working with the computers. Learner

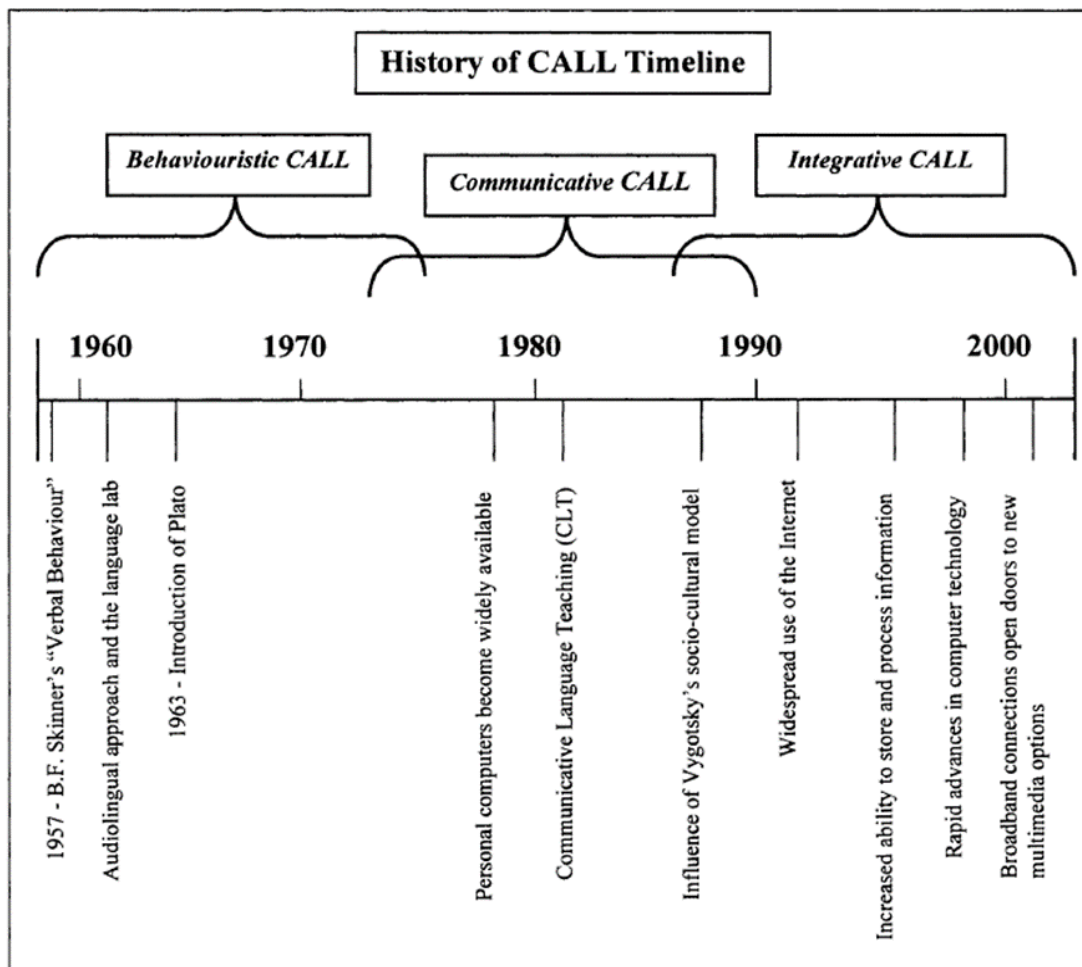
motivation and interaction (both learner-learner and learner-computer) were considered to be critical for learning (Han, 2009).

In the 2000s, as different language teaching approaches such as content-based and task-based approaches focused on integrating learners with authentic environments, and additionally integrating language skills, a new paradigm regarding technology and language teaching emerged: the Integrated CALL (Warschauer & Healey, 1998). In this period, language skills such as reading, listening, writing, and speaking were integrated with technology. Language learning was considered to be an authentic and social construct and technology was considered to enable new virtual forms of social environments in addition to the existing forms of socialization. Advanced multimedia with fast computers allowed for better integration of technology in language teaching, using different input mediums such as videos, podcasts, texts, etc. Video and audio files of native speakers became easily accessible and they were used in interactive activities which allowed learners to practice their listening and speaking skills. Jarvis and Achilleos (2013) stated that CALL has grown into online blogs, virtual environments, and Computer-mediated Communication (CMC), along with prior technologies. CMC was used to create social and supportive environments (Arnold et al., 2005). Recently, Augmented Reality (AR) and Virtual Reality (VR) technologies, Automatic Speech Recognition (ASR) Technologies, Mobile Technologies (Mobile-assisted Language Learning, MALL), and finally artificial intelligence (AI) technologies have become popular successively and are being integrated into language teaching and research.

In summary, although CALL has gone through some stages, these stages were not clear-cut and were mostly defined as a result of technological advancements and changes in teaching paradigms. Ertmer and Newby (2013) claimed that these paradigms could still be used interchangeably, in a way to create a taxonomy of learning. In this sense, Behavioristic CALL can be used to teach “the what” (facts and structures), Communicative CALL for “the how” (principles and processes), and Integrated CALL for “the why” (personal meaning, situated, and contextual learning). The history of the CALL timeline proposed by Braul (2006) indicates the different stages of CALL and their overlapping nature (Figure 2.1).

**Figure 2.1**

*History of CALL Timeline (Braul, 2006)*



## **2.2 The Role of Teachers in Technology Integration**

Directly related to the changes in technology, learner profiles have changed too. As for Prensky (2001), learners have changed so drastically that these generational differences have created two different groups: digital natives and digital immigrants. Briefly, people who were born after 1980 were called digital natives, the Net generation, or the millennials, and the people who were born before the 1980s were called digital immigrants. Prensky claimed that digital natives were a group quite different from the previous ones, since they have advanced technological skills, therefore, the nature of education itself must be changed to accommodate the skills and needs of this group. As expected, this claim was not accepted by everyone, for example, Bennett et al. (2008) claimed that there was no need to create such a panic, and the actual differences between these groups were not clear cut and they might not be so distinctive. However, the authors

did accept that this group had technology embedded in their lives and there was a need for rigorous investigation.

Prensky's claims may be controversial and debatable, however, it is clear that learners today have profound access and exposure to technology, therefore, require guidance. In educational settings, teachers are expected to guide their students regarding the effective and informed use of technology. The role of teachers in guiding their students through the appropriate use of technology is covered in most teacher competency frameworks and related literature.

Lee and Reigeluth (1994) summarized the role of teachers in the information age as instructors and facilitators, academic and social advisors, resource and technology managers, course and curriculum developers, and educational system change agents. The term "resource and technology managers" refers to the role of teachers in selecting and using appropriate technology in line with learners' needs. Warschauer and Healey (1998) stated that the role of the teachers has transformed from the provider of information or the font of wisdom to the facilitator of learning so that they can select and offer information in various ways and in line with their learners' diverse needs, one of which is the effective use of technology. Similarly, Godwin-Jones (2012) claimed that to be able to self-actualize in this multicultural and multilingual world, learners would need both technological and pedagogical skills and it was up to teachers to address them. Webster and Murphy (2008) stated that although new educational technologies could improve teaching and learning, for these to be effective, they must be supported by creative instructional strategies of teachers, which in turn promote mobility, communication, and collaboration. Hughes (2005) mentioned that a teacher's interpretation of the new technology's effectiveness in assisting teaching and learning in the classroom is vital for creating innovative technology-supported pedagogy. Szymkowiak et al. (2021) reported that one of the important roles of teachers is acting as moderators in the teaching process, educating students on online learning opportunities, and consequently, educating them on identifying reliable sources and technologies. The authors added that teachers needed appropriate training to be able to manage this process.

In summary, while technology offers numerous opportunities to enhance education, the role of teachers in technology integration is indisputable. To address the technological needs of their students and integrate technology into their teaching, teachers need to

improve their TPACK (Koh & Divaharan, 2011) and have a positive attitude towards technology use (Teo, 2010).

## **2.3 Theoretical Background: Connectivism**

Before discussing the instructional design frameworks that structured the course content and delivery, namely TPACK and the ASSURE model, this section aims to establish the broader theoretical perspective that informed the orientation of the study.

The rapid advancement of digital technologies has reshaped how individuals access, process, and share information. This transformation has, in turn, changed how people teach and learn. Traditional learning theories such as behaviorism, cognitivism, and constructivism were developed in pre-digital contexts and address learning in relatively stable, structured environments (Siemens, 2005). These theories view knowledge as something acquired internally by the learner, whether through conditioning, cognitive structuring, or active construction.

However, in today's dynamic and constantly evolving information landscape, learning often takes place through interaction with networks of people, tools, and resources. Connectivism, introduced by Siemens (2005) and further developed by Downes (2007, 2012), responds to this shift by conceptualizing learning as a process of forming and navigating connections within diverse digital and social networks. Connectivism acknowledges that learning increasingly occurs outside of the individual, distributed across systems and supported by digital tools. It marks a shift from internal knowledge acquisition to external, networked learning (Duke et al., 2013).

In the context of this study, Connectivism provides a useful theoretical lens for designing a technology integration in English language teaching course. It aligns well with the course's emphasis on digital tools, networked learning environments, and real-world language use.

### **2.3.1 Historical context and theoretical foundations**

Ertmer and Newby (2013) outline the contributions of major learning theories:

Behaviorism focuses on observable behaviors shaped by environmental stimuli. In the field of language teaching, behaviorist principles exercised methods like audiolingual drills based on repetition and reinforcement.

Cognitivism emphasizes internal mental processes. Language learning methods influenced by this theory often use memory strategies and encourage learners to notice language structures.

Constructivism views learners as active participants who construct understanding through experience and social interaction. In language teaching, approaches like task-based learning reflect constructivist values.

While these theories continue to inform pedagogy, they were not designed for the realities of networked and technology-rich learning environments. Siemens (2005) argued that traditional theories must evolve to remain relevant, as they do not fully address how learners acquire knowledge from distributed, constantly changing digital sources.

Connectivism builds on earlier theories but extends beyond them by emphasizing the role of technology and networks. Drawing on network theory and chaos theory, Siemens (2005) explains that learning involves connecting to diverse nodes (individuals, databases, tools) within a system. Learning is nonlinear, emergent, and shaped by relationships between interconnected elements.

Although Connectivism shares constructivist ideas about social learning, it differs by highlighting that interactions are not confined to classrooms or peer groups. Online forums, social media, collaborative platforms, and AI-powered tools are now essential spaces for learning (Downes, 2007).

Connectivism also posits that knowledge can reside in non-human appliances. For instance, databases, language learning apps, and AI tools store and manage information beyond human memory. Learning involves the ability to access, filter, and apply information from these tools, expanding learners' cognitive capacities.

Some scholars question whether Connectivism qualifies as a standalone learning theory, suggesting it may be better described as a pedagogical model or an evolution of social constructivism (Verhagen, 2006; Kop & Hill, 2008). Nevertheless, Siemens (2005) asserts that Connectivism fills theoretical gaps by addressing how learning occurs in complex, digital environments where information sources shift rapidly and learners must continuously adapt.

In this study, Connectivism is adopted as a framework for designing a technology focused selective course for the teacher candidates of English Language Teaching field, as it

supports the principles of networked learning, digital participation, and distributed knowledge, key components of both the instructional model and the evolving landscape of language education.

### **2.3.2 Core principles of Connectivism**

Siemens (2005) outlines the following core principles of Connectivism:

- Learning and knowledge rest in diversity of opinions. Language learners benefit from exposure to multiple perspectives through diverse content and interaction with speakers from various backgrounds. This supports critical thinking and pragmatic language use.
- Learning is a process of connecting specialized nodes or information sources. English language learners can connect with online dictionaries, grammar blogs, peers, teachers, and apps. Mastering language involves using and navigating this network.
- Learning may reside in non-human appliances. Knowledge is often stored in external tools such as search engines, databases, and apps. Learners must learn how to access and use these tools effectively.
- The capacity to know more is more critical than what is currently known. In a fast-changing digital world, the ability to keep learning is more valuable than static content knowledge. Language learners should develop strategies to stay updated with language trends and evolving usage.
- Nurturing and maintaining connections is essential for continual learning. Ongoing interaction with peers and communities sustains language development. For example, learners who stay connected with English-speaking networks can continue practicing outside the classroom.
- The ability to see connections between fields and concepts is a core skill. Language learning intersects with other fields (e.g., culture, media, and technology). Recognizing such connections enriches learners' understanding and communicative competence.
- Currency (up-to-date knowledge) is the goal of learning. Learners must stay informed about how language is used in current contexts, including slang, idiomatic expressions, and digital communication.

- Decision-making is a learning process. Choosing relevant resources and filtering information are part of learning. Language learners must decide which tools and sources best meet their goals.

These principles directly inform the instructional design in this study by emphasizing learner autonomy, digital engagement, and the importance of building personal learning networks (PLNs) to support English language learning.

### **2.3.3 Learning networks and digital environments**

Connectivism defines learning networks as systems of nodes (information sources or individuals) and connections (relationships between them). Learning happens through forming, maintaining, and navigating these connections (Siemens, 2005).

In digital environments, learners curate personal networks including platforms like MOOCs, social media, discussion forums, and learning apps. For example MOOCs emphasize peer-to-peer learning and self-directed exploration. Learners choose pathways, engage with shared content, and form study groups, illustrating Connectivist learning in practice (Downes, 2010; Cormier & Siemens, 2010).

In the EFL context, learners can build PLNs by connecting with influencers on social media, using language exchange platforms, subscribing to educational YouTube channels, and participating in online communities. These networks offer authentic input and interaction, supporting both language acquisition and learner motivation.

Teachers and learners also benefit from PLNs by engaging with professional networks, sharing resources, and co-developing practices with peers worldwide. This aligns with Connectivist ideas of distributed knowledge and collaborative learning.

### **2.3.4 Digital literacy as an enabler of Connectivist learning in ELT**

In a Connectivist approach, digital literacy is essential. Learners must locate, evaluate, and use digital information effectively. This includes skills like searching, filtering, evaluating credibility, and participating responsibly in online spaces (Siemens, 2005; Kropf, 2013).

In ELT, digital literacy involves multimodal, information, and intercultural literacies (Dudeney & Hockly, 2016). For example, learners must interpret meaning from videos, differentiate accurate language advice online, and communicate across cultural

boundaries. Teachers should integrate these skills into classroom tasks e.g., comparing online sources, engaging with digital content, or creating language portfolios.

This study incorporates digital literacy instruction in its course design by including tasks such as evaluating online resources, practicing with educational apps, and creating digital content in English.

### **2.3.5 Connectivism and technology integration frameworks (TPACK)**

Effective Connectivist learning requires thoughtful technology integration. The TPACK framework (Mishra & Koehler, 2006) helps teachers balance technological, pedagogical, and content knowledge in lesson planning.

In EFL contexts, TPACK guides teachers in selecting tools that align with language goals and pedagogical approaches. For example, teaching vocabulary through context-rich videos (content + pedagogy) using YouTube or Edpuzzle reflects TPACK thinking.

In the instructional design implemented in this study, TPACK informed the selection of tools and methods. Course activities were designed to combine content objectives, pedagogical strategies, and technology tools in alignment with Connectivist goals. With these alignments, it was aimed to ensure the meaningful integration of technology to extend learners' networks and language use.

### **2.3.6 PLNs, social media, and networked learning in ELT**

PLNs and social media are central to Connectivist ELT. Language learners engage with real-world English through Instagram, Reddit, Discord, and YouTube, developing fluency through authentic interactions. Barrot (2021) found widespread evidence of social media's positive impact on language learning. It was stated that social media such as Facebook, Skype, WhatsApp, and Twitter continue to draw significant interest from scholars, and possible reasons are reported to be versatile communication features, global reach, and large user base, making them effective tools for language education in relation to Connectivist principles.

For teachers, PLNs support continuous professional growth. Online communities offer spaces to share resources, solve problems, and stay updated with pedagogical trends. Trust (2012) found that teachers using Twitter for networking gained practical insights and new strategies.

This study's instructional design encourages both students and teachers to cultivate PLNs. Course tasks include creating PLNs, exploring social platforms, reflecting on digital interactions, and aiming collaborative activities with external audiences through social media or created blogs.

### **2.3.7 Implications for language teaching and instructional design**

Connectivism has clear implications for instructional design in the field of English Language Teaching:

- Language learning as connected and lifelong: Learning should extend beyond the classroom through sustained digital interaction and engagement with global language communities.
- Learner autonomy and digital literacy: Teachers should foster self-directed learning by helping students develop research and filtering skills.
- The teacher as facilitator: Teachers guide learners in building networks and navigating digital tools, rather than serving as sole knowledge sources.
- Authentic, and technology-enhanced tasks: Instruction should simulate real-world language use, integrating communication tools like blogs, video calls, and social media.

The course designed in this study operationalizes these principles by incorporating tasks that extend learning into real-life contexts, emphasize collaboration and interaction, and support learners in building digital fluency. In doing so, it reflects a Connectivist approach to instructional design for English language education.

## **2.4 Teacher Competencies and TPACK**

There are numerous frameworks for teacher competencies that define the knowledge, skills, and dispositions a qualified teacher should possess. In addition to the frameworks developed by ministries of education in various countries such as the Turkish Ministry of National Education (MoNE), which use these models to guide teacher training institutions, several international and independent educational organizations have also developed widely adopted frameworks. Examples include the INTASC Standards in the United States, the Teachers' Standards in the United Kingdom, the UNESCO ICT Competency Framework for Teachers, and the European Union's Key Competences for

Lifelong Learning. These frameworks serve as guiding documents to ensure teachers are prepared to meet the evolving demands of modern education systems.

The term competency is defined as the “possession of sufficient knowledge or skill” in the Merriam-Webster online dictionary (n.d.). Similarly, teacher competencies refer to the knowledge, skills, and attitudes a teacher should have (European Commission, 2018).

Teacher competencies are deemed necessary since they act as a road map or guide for teacher training institutions (Creemers et al., 2013). They help institutions to standardize the process of teacher training, which without any guidance may result in a nationwide group of teachers with an extremely wide range of skills and competencies. However, for learners from each corner of the country to have similar opportunities and facilities in the name of equality, standardization of teacher training is necessary, which is easier to achieve by setting nationwide teacher competencies.

In the Turkish education context, teacher training can be traced back to the establishment of the Turkish Republic, with village institutes, teacher schools, and continuing with faculties of education. Standardization in teacher training can also be traced back to similar times, with the establishment of the Ministry of National Education in 1920 and the law on the unification of education in 1924. Over time, these efforts led to the development of teacher competencies under MoNE. A major milestone in this standardization process came in 2006, when Turkey, as part of its alignment with the Bologna Process, introduced its first official General Competency Framework for the Teaching Profession. This framework marked a systematic and structured approach to defining the qualifications and expectations for teachers (MoNE, 2017).

The European Union’s Key Competences for Lifelong Learning Framework serves as a foundational guide for defining the essential knowledge, skills, and attitudes that individuals need to thrive in a modern, knowledge-based society (European Commission, 2018). First established in 2006 and revised in 2018, this framework outlines eight key competencies (literacy, multilingualism, digital competence, personal and social skills, and cultural awareness) that are considered vital for personal fulfillment, active citizenship, social inclusion, and employability. It is broad by design, aiming to be applicable across disciplines and educational stages, and it plays a central role in shaping national educational standards and teacher education policies within the EU.

Building on this broader foundation, the European Centre for Modern Languages (ECML, 2019) developed a more specific taxonomy of teacher competencies in a 2019 project by analyzing 40 different teacher competency frameworks (Figure 2.2). While the ECML's focus remains on language education, the taxonomy includes both language-specific competencies and more general teaching competencies. This reflects the integrated nature of language teaching today, which increasingly requires skills in areas such as intercultural communication, digital literacy, and learner autonomy, competences that resonate across disciplines. Rather than duplicating the EU's general framework, the ECML initiative contextualizes it within the field of language teaching, offering a language education specific lens through which to interpret and apply broader educational priorities.

**Figure 2.2**

*The Eight Dimensions of ECML's Taxonomy of Frameworks*



The taxonomy includes the eight most important and frequent dimensions of teacher competencies:

- 1- Professional Values and Principles
- 2- Language and Communicative Competencies
- 3- Information Technology Competencies
- 4- Metalinguistic, Meta-Discourse and Meta-Cultural Competencies

- 5- Teaching Competencies
- 6- Competencies for Cooperation
- 7- Competencies for Initial Education and Career-Long Development
- 8- Professional Learning Opportunities

With regard to the use of technology in teaching, information technology (IT) competency covers the use of ITs (computers, mobile devices, applications, the internet, etc.) in the teaching and learning process. As can be seen in Figure 2.2, IT Competencies intersect the remaining dimensions (metalinguistic, meta-discourse, and meta-cultural competencies; teaching competencies; competencies for initial education and career-long development) implying the importance of IT competency in feeding and being in harmony with the other dimensions (ECML, 2019). Furthermore, the importance of technological competencies is also highlighted in the European Union's Key Competencies Framework, which highlights digital competence as one of the eight key competencies necessary for lifelong learning (European Commission, 2019). This dual emphasis from both ECML and the EU reinforces the need to integrate IT skills into teacher training and professional development as an essential part of modern education.

The general teacher competencies proposed by the Turkish MoNE constitute three main competencies: professional knowledge, professional skills, and attitudes and values. Regarding general teacher competencies, under the competency domain of Professional Skills – Managing the Teaching and Learning Process, item B3.9 reads “She/he makes use of the information and communication technologies effectively in the teaching and learning process” (Ministry of National Education, 2017a). However, this framework is limited in addressing technology-related competencies, as it does not include a dedicated sub-competency area for technology but merely refers to it in a single item. Moreover, it has been criticized for lacking mechanisms that allow self-evaluation, and it falls short of serving as a comprehensive road map for teachers and teacher candidates in terms of technological integration into pedagogy (Alan & Güven, 2022). To rectify these gaps, the authors conducted a study within the Turkish education context aiming to develop a more detailed and functional generic teacher competency framework. As a result, the study proposed a Generic Teacher Competency Framework (GTCF) consisting of six generic competency domains and 31 sub-competencies, including a dedicated sub-competency area for digital competencies. They state that for a teacher to exhibit digital citizenship

qualities, they should effectively use technology enhanced instruction, lead students in accessing digital tools, critically evaluate online resources, be aware of digital opportunities and risks, guide ethical, safe, and legal media use, and serve as a role model in integrating digital tools for colleagues

The above mentioned competency frameworks support the need to use appropriate technological resources in English teaching, and accordingly, teachers are expected to benefit from information and communication technologies, access technological resources, and evaluate technological resources and use them effectively.

As mentioned before, general teacher competencies cover a wide range of skills necessary for effective teaching. TPACK, as a framework within these competencies, offers a more focused perspective on the integration of pedagogy, content knowledge and technology. Hence, TPACK highlights an important subset of competencies that play an essential role in modern educational settings.

TPACK was introduced by Mishra and Koehler (2006) as an extension of Shulman's (1986) Pedagogical Content Knowledge (PCK). Shulman (1986) stated that the terms pedagogy, content, and knowledge in education should be interactive and defined PCK as a type of teacher knowledge based on how teachers integrate their knowledge about teaching (pedagogy) and their knowledge of the subject matter (content). In one of the early attempts to integrate technology fully into education, around the same time when Mishra and Koehler (2006) formulated their framework, Angeli and Valanides (2005) came up with the term ICT-related PCK, a model building upon Shulman's PCK. The authors had similar remarks and points of view with Mishra and Koehler, stating a need to engage teacher candidates in technology-rich environments so that they could improve their ICT-related PCK skills. The authors claimed that training pre-service teachers on instructional technologies is beneficial for them in using technology to support teaching. However, after TPACK was introduced, it has become a pivotal term in educational technology studies (Voogt et al., 2013).

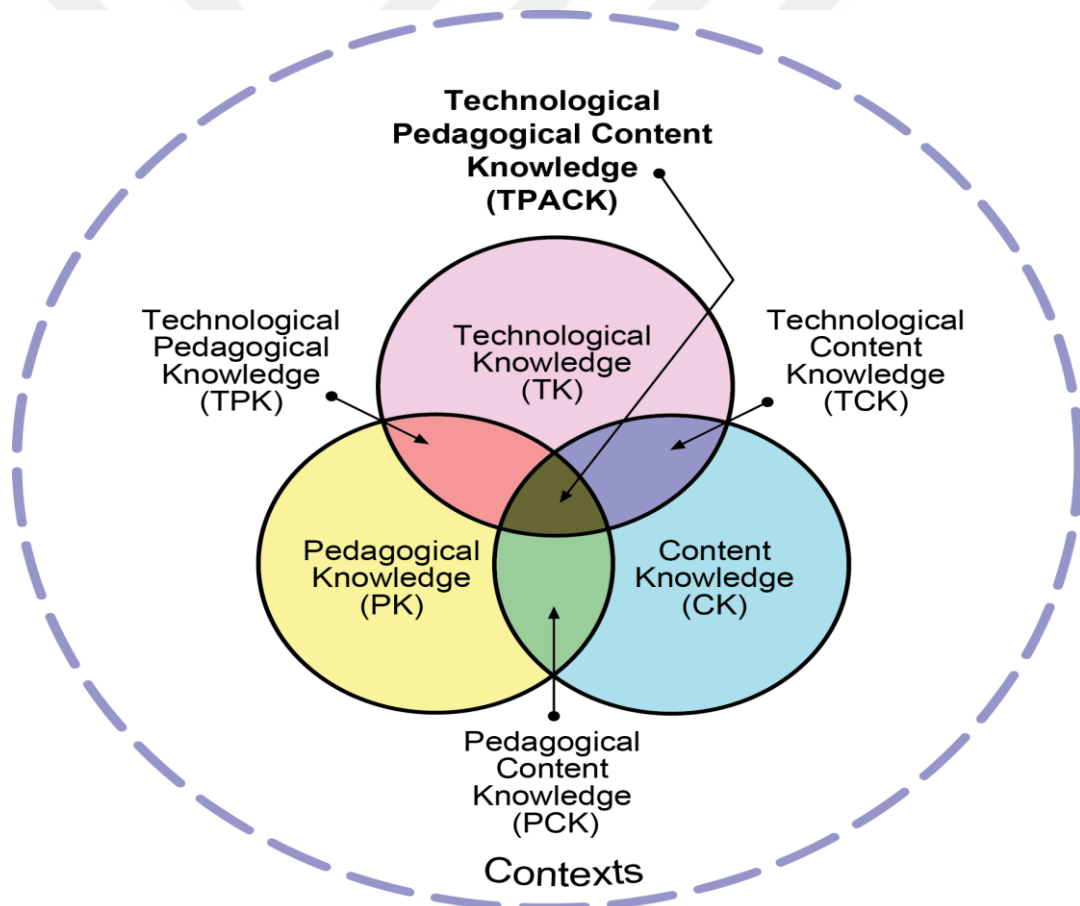
Mishra and Koehler (2006), considering technology as a vital component of teacher knowledge, combined technological knowledge with Shulman's existing teacher knowledge basis (PCK), and introduced TPACK as a result of a longitudinal design-based research. The authors considered TPACK important since it acts as a framework for teacher training, combining technology with the existing frameworks, and can benefit

both pre-service and in-service teachers. While TPACK is defined as an efficient way of conceptualizing technology use in classrooms (Koehler et al., 2014), it should not be considered as simply adding technology into the existing teaching process. Schmidt et al., (2009) stated that TPACK is the pedagogical and technological expertise that a teacher should have in order to integrate emerging educational technology into their teaching of a certain subject.

TPACK involves many concepts that come together to create a framework for teachers. These concepts are presented in Figure 2.3.

**Figure 2.3**

*TPACK Framework (Reproduced by permission of the publisher, © 2012 by tpack.org)*



As can be seen in the figure, TPACK involves different types of knowledge: Technological Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical

Content Knowledge (TPACK). A summary of these constructs can be seen in Table 2.1 (Redmond & Peled, 2019).

**Table 2.1**

*Summary of TPACK Constructs*

| <b>TPACK Construct</b>                              | <b>Definition</b>                                                                                                                      |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Content knowledge (CK)                              | Knowledge about the actual subject matter that is to be learned or taught                                                              |
| Pedagogical knowledge (PK)                          | Deep knowledge about methods of teaching and learning                                                                                  |
| Pedagogical content knowledge (PCK)                 | The blending of content and pedagogy into an understanding of how particular topics are presented for instruction                      |
| Technological knowledge (TK)                        | Knowledge of how to use technological tools such as hardware, software, and the web                                                    |
| Technological content knowledge (TCK)               | Knowledge about how technology and content are reciprocally related                                                                    |
| Technological pedagogical knowledge (TPK)           | Knowledge of technologies that may be used for learning and teaching and how teaching might change as the result of using technologies |
| Technological pedagogical content knowledge (TPACK) | Knowledge required to teach effectively with technology.                                                                               |

#### **2.4.1 TPACK-EFL**

Since TPACK is a framework for generic teacher training and is not field specific; researchers have tried to create field-specific TPACK scale versions to be able to measure its effectiveness in field-specific contexts such as Yalcin and Kutluca (2023) for preschool teachers, Bilici et al. (2013) for science teachers, Önal (2016) for mathematics teachers, and Başer et al. (2016) for teacher candidates learning to teach English as a foreign language.

As one of the recent field-specific TPACK scales, Wang (2022) developed a scale to specifically assess the TPACK levels of EFL teachers. By testing the scale with 552 EFL teachers from different cultural backgrounds, the author established that the instrument had high reliability and validity. One of the interesting findings of Wang's study was that

EFL teachers with different cultural backgrounds reported different levels of confidence regarding TPACK, indicating the importance of context in assessing TPACK.

In the Turkish context, Başer et al. (2016) developed a TPACK-EFL scale for teacher candidates learning to teach English as a foreign language. The authors aimed to measure subject-specific pedagogies and technologies, and they claimed that scales that apply to multiple content areas to cover a wider audience may not effectively consider the subject-specific teaching methods and technology practices associated with a particular field. Therefore, the authors developed the TPACK-EFL scale with the specific aim of assessing teacher candidates' knowledge of using technology to teach English as a foreign language.

The reasons behind selecting the TPACK-EFL scale for this study are grounded in the scale's alignment with both the contextual and target group needs. The TPACK-EFL scale was developed by Başer et al., (2016) specifically for pre-service English language teachers studying in a state university in Turkey. It was designed to measure teacher candidates' TPACK in a context-sensitive manner. This ensures that the scale accurately reflects the educational and cultural landscape, and technological resources available in Türkiye, making it an appropriate tool for evaluating the specific competencies of EFL TCs. Moreover, its focus on EFL enhances the validity of the data collected, ensuring the findings are both relevant and applicable to the target demographic.

## **2.5 Instructional Design Theory**

According to Reigeluth (1999), instructional design theory is a set of design theories that pertain to various aspects of instruction and offer explicit guidance on instructional design. These aspects include the following:

- What the instruction should be like,
- What the process of gathering information for making decisions about instruction should be like,
- What the process of creating the instructional plans should be like,
- What the process of creating the instructional resources should be like,
- What the process of preparing for the implementation of the instruction should be like,

- What the process for evaluating the instruction should be like?

Branch and Kopcha (2014) define instructional design as: “an iterative process of planning outcomes, selecting effective strategies for teaching and learning, choosing relevant technologies, identifying educational media, and measuring performance” (p. 77). This definition also very broadly covers the different aspects of instructional design theory.

According to Gustafson and Branch (2002), several characteristics should be present in all instructional design models:

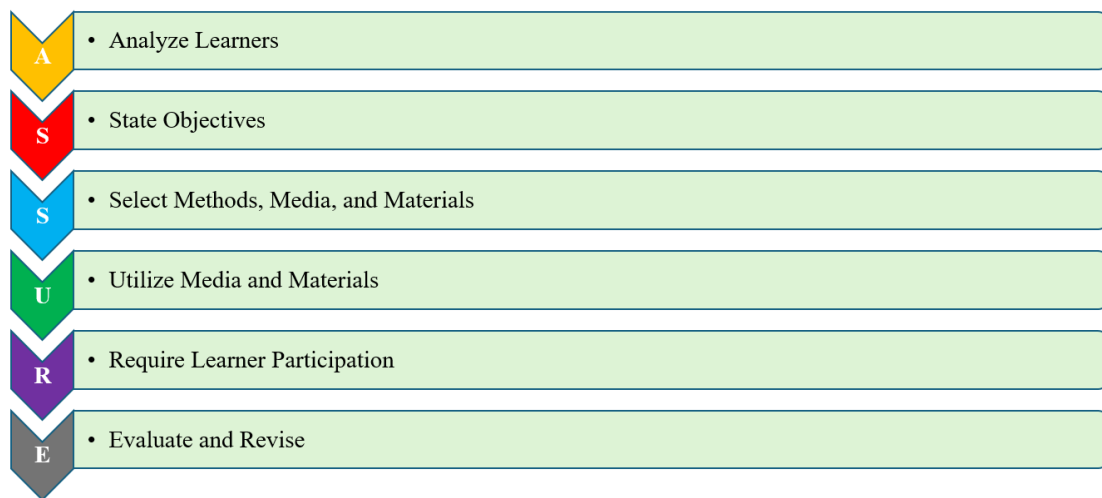
- Being learner-centered,
- Being goal-oriented,
- Focusing on real-world performance,
- Focusing on measurable outcomes,
- Being empirical,
- Involving team effort.

There are many models of instructional design that use the aspects of instructional design theory as their base and aim to offer guidance for instructional design. Some of the commonly accepted instructional design models are ASSURE, ADDIE, Kemp Design Model, and Gagne’s Nine Events of Instruction.

The ASSURE Model, just like other instructional design models, has the goal of making the teaching and learning process more effective, and stands out from the other instructional design models since it inherently involves technology integration in the teaching and learning process (Smaldino et al., 2008). It is introduced by Heinich et al., (1996) to act as a guide for teachers in planning and delivering lessons with technology and media integration. The term “ASSURE” is coined from the initials of the steps of the model. The steps of the model are presented in Figure 2.4.

**Figure 2.4**

*Steps of the ASSURE Model*



Source: Heinich et al., 1996

In the first step, the aim is to get to know the learners, their needs, and their goals. To modify the teaching process for learners, teachers need to analyze their learners. The second step states the importance of setting up clear and manageable course objectives and learning outcomes. These objectives should consist of measurable skills and behaviors. Step three is related to course materials. Once the learners' needs and course objectives are clear, teachers must decide what materials and sources they will use in the class. The use of technology and media is vital in step three and four. In step four, teachers must forge a link between the objectives/outcomes and the materials and technology they will use. In the fifth step, teachers decide what to do for the learners to actively engage in the lessons. The last step is the evaluation and revision step in which teachers evaluate the effectiveness of the process and make the necessary revisions (Callison, 2002).

The reason behind choosing the ASSURE model for this study is this model's inherent technology and media inclusion in the teaching and learning processes, which has a pivotal importance for this study.

## **2.6 Research on Technology Integration in Language Teaching**

Technology integration in language teaching has been a popular topic of investigation since computers have made their way into language teaching. While the early studies focused on the general effectiveness and usefulness of integrating technology into the language teaching process, after a while the focus of researchers shifted from “whether”

to “how”, namely, investigating the effects of technology in specific parts of the language teaching process such as teaching language skills, testing and assessment, feedback, motivation, interpersonal and intrapersonal learning, and learner autonomy. More recently, emerging concepts such as MALL, TPACK, online learning, and artificial intelligence (AI) have become popular fields of study.

### **2.6.1 Effects of technology integration in language teaching**

Historically, the results of the research on the effects of integrating technology in language teaching have been mostly positive, probably because of the instant advantages technology offers in educational contexts. However, not all perceptions of CALL were positive. Costs of acquiring and maintaining technology, limited interaction, technical difficulties, lack of trained staff, and poor linguistic modeling were some problems mentioned in the literature regarding CALL (Kohn, 1995; Lee, 2000). Pennington (2021) similarly stated that technology continues to have problems in terms of feedback and non-segmental features, furthermore, in the studies, teacher instruction was found to be more effective than computer instruction. However, the author concluded that these are still not valid reasons to not integrate technology in language teaching, since learners, in general, are eager to learn with technology and educational technologies have some unique benefits such as access to native speaker input.

Even in the early studies, where technology was very limited and rare, the results indicated that using technology in education might decrease learning time, enhance learners’ attitudes toward technology, and support learner differences and individual learning (Dunkel, 1987). The author especially stated that Computer Assisted Instruction (CAI) was effective in science and language teaching areas. Early CALL research has proven similar results too. Pederson (1987) mentioned that meaningful CALL may boost the development of language learning skills and result in better learning, moreover, it is ideally suited for tracking, identifying, and dealing with learner differences.

According to Warschauer and Healey (1998), computer software is beneficial since they provide authentic materials with native speaker models, they are available all the time and it is easier to record and track student learning and evaluation. On the advantages of integrating technology in language teaching, the authors additionally mentioned: contextualizing the grammar structures, gamification, feedback, individualization in

crowded classes, collaborative and competitive pair/group work, the fun factor, the variety of resources, and finally the real-life skill-building in computer use.

### **2.6.2 Technology integration in major language areas and skills**

The effects of technology integration in each major language area (grammar, vocabulary, pronunciation) and skill (reading, listening, writing, and speaking) have been studied thoroughly.

Grammar was one of the earliest focal points in this matter because both the Behavioristic Paradigm and underdeveloped computers were fit to cover grammar structures in the text form. Of course, in time, grammar activities and websites became more integrated in interactive and communicative contexts (Chan & Kim, 2004). Heift and Vyatkina (2017) classified four groups of technologies for grammar teaching: tutorial CALL (deductive teaching, explicit explanations, repetition, immediate feedback etc.); intelligent CALL (ICALL) (intelligent language tools, sentence-building activities, input enhancement); data-driven learning (DDL) (corpus-based applications, exposure to specific linguistic structures); and computer-mediated communication (CMC) (socially-situated and goal-oriented activities, interpersonal and intercultural practices). In one of the early studies, Salaberry (2000) compared face-to-face environments with CMC in terms of morpho-syntactic development and found that aspectual distinctions can be made more salient in CMC environments. Hegelheimer (2006) provided an 8-week technology-supported grammar instruction to nine learners. The instruction aimed to improve participants' grammar awareness while retaining a positive attitude. The results revealed that participants showed not only a greater awareness of grammar in general but also of their own grammatical mistakes. Moreover, the author added that the participants' reactions to the instruction were overwhelmingly positive. Castillo-Cuesta (2020) investigated the role of digital games (Educaplay Activities) on 68 EFL participants' grammar levels. In the 5-month implementation, the author evaluated the grammar levels of the participants from their writings and reported significant improvements in participants' grammatical accuracy in related topics. Dincer and Polat (2022) studied the effects of flipped learning on grammar teaching. The authors implemented online materials, online quizzes, and Google Classroom as the course management system for the experimental group. Their results revealed that when compared to the face-to-face group, the flipped group had significantly better post-test grammar scores.

Vocabulary is also one of the early focuses of the CALL research, and there are many tools nowadays that can be utilized to teach vocabulary. These tools include online games and activities, websites, corpora, dictionaries, and CMC tools (Stockwell, 2007). Ellis (1995), focusing on the implicit nature of vocabulary learning, stated that technological tools are well-suited to provide the required exposure to vocabulary. Similarly, Allum (2004) found out that technology provides good opportunities to present new vocabulary to students, which results in sustained retention. The author also added that integrating technology into the teaching process highly motivates students and is time-saving, especially in crowded classrooms. In a more recent study, Hirschel and Fritz (2013) compared the effectiveness of CALL and keeping vocabulary notebooks in terms of short-term and long-term vocabulary gains with 140 students (one CALL group, one Notebook group, and one control group). Their results indicated that in terms of short-term gains, there was not a statistically significant difference, and both groups outperformed the control group (%41 gains for the CALL group - %38 for the notebook group, and %3 for the control group). In the long term, while the CALL group forgot %5 of the gained vocabulary, the notebook group saw a decline of %14. Atalan (2023) studied the effects of using Quizlet on teaching vocabulary and pronunciation. The author compared two groups of 9<sup>th</sup>-grade students, an experimental group (n = 26) and a control group (n = 26). Results of the study revealed that there was a statistically significant difference in Quizlet groups' pre and post-test results, and participants' reflections towards using Quizlet were mostly positive.

Pronunciation is one of the more recently focused topics since speech recognition (ASR) software or computer articulation developed comparably recently at a level that would be helpful in the language teaching profession. For example, in one of the earlier studies where ASR software (FluSpeak) was compared with native speaker evaluation of 36 participants' pronunciation scores (Kim, 2006), the results revealed that ASR software failed at the intonation scores, was a little better at the word level, but still nowhere near the native speaker evaluation. The author concluded that although ASR software was not perfect, it could be useful in case the software was further developed or in contexts without native speakers. However, in more recent studies (Liu & Hung, 2016), in which 51 students participated in an 8-week computer-assisted pronunciation training, the authors also implemented computerized speaking tests and found that there was a significant improvement in participants' pronunciation quality. Shadieff and Liu (2023),

as a result of their systematic review study, added that one of the important advantages of ASR software was regarding the affective factors, namely lowering the speaking anxiety of participants. Similarly, in the Turkish context, Aktaş (2023) investigated the effects of Voki (ASR Software) on learners' speaking skills and anxiety with 61 participants. The researcher prepared a 6-week program and compared the pre and post-test results of the experimental group ( $n = 30$ ) with the control group ( $n = 31$ ). The results revealed that Voki can be used to boost learners' oral productive skills, overcome learners' pronunciation problems, reduce anxiety, and increase motivation.

Many technological tools can support the process of teaching reading. Chun (2006) compiles some of them as online dictionaries, annotation software, word-recognition software, web-based activities, and the Internet for extensive reading. Hadley and Charles (2017) add corpora to these tools. Dreyer and Nel (2003) conducted a study with 4 groups of ESL learners (131 total participants, high achiever/experimental group - high achiever/control group - low achiever/experimental group - low achiever/control group). In this study, participants received a technology-enhanced reading instruction course. Results of the study revealed that both high-achiever and low-achiever experimental groups received statistically significantly higher grades than control groups. Paratore et al. (2016) conducted a study with 29 pre-service teachers in a technology-infused literacy methods course. Analyzing the results of a TPACK scale, participants' Technology Knowledge and Technological Content Knowledge scores were found to be significantly higher after the implementation. Participants' intentions of using technology in their future classrooms also increased significantly. The authors' final remarks highlighted the importance of addressing technology throughout teacher training. Yaman (2023) created a seven-week supplementary program to measure the effectiveness of online comprehensive reading programs on learners' lexical gains, reading habits, and motivation, by comparing a traditional reading group ( $n = 28$ ) with a hypertext-supported experimental group ( $n = 29$ ). The results revealed that the experimental group outperformed the control group in terms of incidental lexical gains. Participants reported that hypertext format boosted their motivation, supported their reading habits, and caused long-term lexical gains.

Vandergrift and Goh (2012) stated that technology has affected listening in four main areas: dynamic visual media, multimedia environments, subtitles, and podcasts. In line

with this claim, technologies that are most associated with listening are audio and video files, podcasts, and Web 2.0 tools. O'Brien and Hegelheimer (2007) investigated the role of podcasts in listening strategy development. They tried to integrate podcasts into their teaching since podcasts are a rich source of input and instruction. Over 15 weeks, participants of the study had homework of extensive listening podcasts that were designed for listening courses along with their regular classroom materials. Apart from some initial technical problems, students evaluated podcasts as interesting, informative, and well-suited for the listening course. In another study where outdoor ubiquitous learning (u-learning) (Chang, 2018) was compared to indoor listening, the authors aimed to test the effects of cognitive load on listening comprehension with 160 participants. They tried to lower the cognitive load with a combination of outdoor U-learning, mobile devices, and GPS technologies. The experimental group received outdoor ubiquitous learning, while the control group received indoor traditional training. Their results indicated that cognitive load and listening comprehension had a negative correlation, therefore, the experimental group exhibited significantly better English listening comprehension. Yükseltürk et al. (2018) investigated the effects of game-based learning on learners' self-efficacy beliefs and attitudes toward the English language. They implemented Kinect-based games in a 1<sup>st</sup>-grade foreign language (English) course, a compulsory course offered at the university level in Türkiye. Their results indicated a significant increase in participants' self-efficacy beliefs and attitudes (particularly listening and speaking skills).

Warschauer (2007) stated that CMC tools mostly cover the technologies of writing whether they are technologies of synchronous communication (instant messaging, online chatting) or asynchronous communication (e-mails, online discussion boards). Recently, word processors, spelling and grammar checkers, and interactive writing systems are all used to teach writing. Howell et al (2017) examined the effectiveness of technology integration in learners' ability to construct multimodal arguments in their writings. During the 11-week intervention, 39 participants were introduced to digital tools such as iPads, websites, and Evernote along with elements of arguments in writing. Even though the implementation did not provide statistically significant results for multimodal arguments, the authors reported increased motivation, engagement, and participation; and added that even reluctant writers were writing substantially more. Williams and Beam (2019) as a result of their meta-analysis of 29 empirical studies, similarly reported that integration of technology boosted social interaction and peer collaboration while encouraging student

involvement and participation in writing assignments. In a blended learning scenario, Özkurkudis and Bümen (2019) compared two groups of learners in a writing course: an experimental group supported with online videos and quizzes and a traditional face-to-face writing group. Their results revealed that the writing scores of the experimental group increased significantly when compared to the control group. The participants also reported that including technology in the process increased their interest and efficiency and made them feel better equipped. Tseng and Warschauer (2023) mentioned the fears in education regarding AI writing tools such as ChatGPT, and they suggested incorporating and utilizing these tools into language teaching rather than deferring and discrediting them. They propose a five-part pedagogical framework for teachers. They claim that teachers should aid students to: understand the capabilities and limits, access and navigate, prompt effectively for good content, corroborate the accuracy of the content, and incorporate the content ethically and appropriately.

Levy (2009) stated that CMC technologies (online conferencing tools, voice chats), audio blogs, or VoIP (Voice over Internet Protocol) software (Skype, Google Hangouts, etc.) can be used in teaching speaking. Automatic Speech Recognition software is also reported to be beneficial in teaching speaking. James (2013) studied the effects of Asynchronous CMC (ACMC) on 16 post-beginner learners' speaking development. The analysis of the stimulated recalls and participants' perceived linguistic development questionnaires revealed that ACMC practices can be effective in developing speaking aspects in post-beginner (lower proficiency) language learners. Similarly, Bashori et al. (2021) studied the effectiveness of ASR websites on students' speaking anxiety and language enjoyment with 232 participants. They reported that ASR websites used in the study both reduced participants' level of speaking anxiety significantly and stimulated their language enjoyment. Dizon (2020) investigated the effects of using intelligent personal assistants (IPAs) such as Alexa on speaking proficiency scores with 28 participants. After a 10-week implementation of student-IPA interaction, the speaking proficiency scores of the experimental group were found to be significantly higher than the control group. In the Turkish context, Buckingham and Alpaslan (2017) compared two groups of learners in terms of their speaking performance and their willingness to communicate (WTC). During a period of four months, while the experimental group received extracurricular computer-mediated speaking activities, the control group received standard paper-based exercises. The results indicated an increase in both groups

in terms of speaking performance, while the experimental group did significantly better in terms of responding with minimal hesitations and pauses. The researchers concluded that using computer-mediated speaking activities could especially be useful in contexts where students did not have chances to practice in their immediate environment.

### **2.6.3 Technology integration in assessment and feedback**

Using technology for language testing and assessment is not a recent topic. It is generally referred to as Computer-assisted Language Testing (CALT) and defined as “an integrated procedure in which language performance is elicited and assessed with the help of a computer” (Noijons, 1994, p.38). Davies (1983), with the limited capacity of the computers of that time, mentioned that test areas involving technology were mostly insertion/deletion or cloze testing, auto-grading, and diagnostic testing of grammar and vocabulary. Noijons (1994), with the advancement of computers in a decade, mentioned that modern CALT focuses more on interaction with the students. Nowadays, CALT is consistently used in national exams and standardized tests as well as local in-class exams, reported to be useful for many reasons such as overcoming logistic burdens, consistency and uniformity, authenticity and greater interaction with input materials, recording, and monitoring test takers’ route and strategies, individualized test experience, self-pacing, immediate test results, and immediate feedback, accurate assessment free of bias and test security (Pathan, 2012; Milliner & Barr, 2020).

As mentioned before, immediate feedback in either instruction or testing is considered to be one of the positive aspects of technology integration. To clarify, Lefevre and Cox (2016) carried out a study with 2066 participants over 3 years regarding their preferences for the format of the feedback they receive. Participants’ answers after responding to a total of over 60000 multiple choice questions were analyzed. As a result, with regards to technology-based feedback, the authors recommended teachers to: always provide feedback to students, provide elaborative feedback for even correct answers, keep feedback succinct and focused, and allow learners to revisit questions. In a review study, Dawson et al. (2018) summarized the technologies that can be used for feedback in four groups: teacher-to-learner feedback (digital recordings, digital texts, and collaborative writing tools), computer-to-learner feedback (web-hosted software, student response systems, automated writing evaluation tools, and intelligent tutors), peer feedback (blogs, discussion forums, peer feedback software, and collaborative writing tools), and self-

feedback (digital recordings and e-portfolios). Ryan et al. (2019) compared digital feedback to non-digital feedback with 4514 participants. The participants were asked whether they preferred digitally recorded feedback, handwritten comments, electronic annotations, marking sheets/rubrics, or face-to-face conversations. Their analysis revealed that providing multiple modes of feedback was always preferable to a single mode, but when a single mode of feedback was to be provided, electronic annotations and digital recordings were the most preferred modes, as they tended to be the most personalized, detailed, and usable for students. Along with written and asynchronous feedback, technology can also provide synchronous feedback, especially with the help of Automatic Speech Recognition (ASR) Technologies. McCrocklin (2016) stated that ASR Technologies offer ample opportunities for oral practice and speaking skills, and support autonomous pronunciation development.

#### **2.6.4 Technology integration and motivation**

Motivation and technology integration in language teaching is if not the most, one of the most researched topics. In most of the studies, the researchers have found a positive correlation between technology integration and the motivation of learners. In some rare cases, some factors regarding technology integration are reported to be potentially demotivating such as a lack of skill regarding technology use or insufficient infrastructure (Taghizadeh & Yourdshahi, 2020; Akram et al., 2022), however, these are potential problems that could be easily addressed as technology improves and becomes more widespread.

Technology integration in language teaching is reported to be motivating for learners because of reasons such as being student-centered, providing a sense of being a part of a larger community, a sense of relaxation and excitement, offering authentic tasks that reflect real-life situations, etc. (Warschauer, 1996; Golonka et al., 2012; Lan et al., 2023). According to Wei (2022), the use of digital tools such as mobile apps and various websites is motivating, simply because they are designed to be attractive and useful. Therefore, the author further claims technology integration may alleviate anxiety while motivating learners, resulting in better overall performance. Barreto (2018) designed an action study to measure the effects of technology integration, specifically virtual environments, on learners' motivation. The findings revealed that integrating collaborative technologies may motivate learners and boost their confidence. Similarly, Elsakova et al., (2019)

mentioned that technologies such as social media can be a fun and motivating addition to traditional learning environments. Stockwell (2013) stated that enabling communication with various cultures and communities, and the use of authentic language input and output is a motivating factor for learners.

The concepts of Game-Based Learning and Gamification are also often reported to be positively correlated with motivation since playing games makes the process more enjoyable and interactive (Dehghanzadeh et al., 2019). Starting with the game “Where in the World is Carmen Sandiego” which came out in 1985, games are actively used for language learning. In a meta-analysis study, Hamari et al. (2014) investigated 24 studies and reported finding a positive relationship between gamification and motivation. Gamification is also reported to boost learner participation, improve learners’ attitudes, and alleviate the fear of making mistakes by creating a safe environment (Casanova-Mata, 2023).

#### **2.6.5 Technology integration and interpersonal/intrapersonal language learning**

Interpersonal (cooperative) and intrapersonal (individualized) learning are concepts that are greatly impacted by the growing role of technology in language education. Technology integration enhances interpersonal learning since it facilitates both online and in-class interaction and collaboration. In a systematic review, Zhang and Zou (2021) stated that collaborative writing tools such as online discussion forums, wikis, social media platforms, and Google Docs have a positive effect on both learners’ collaborative writing qualities and their individual writing qualities. González-Lloret (2020) mentioned that collaborative and technology-mediated tasks may lead to the promotion of productive language interaction and output, which is expected to motivate learners. Technology integration has also been reported to be effective in improving the communication skills of learners by reducing the anxiety of face-to-face encounters (AbuSeileek, 2012), and increasing the enthusiasm and the ability to express ideas in online situations (Umaroh, 2022).

Technology integration is also reported to be a useful concept in terms of intrapersonal or individualized learning, in which learners engage with various language learning tools on their own. For example, Lai and Gu (2011), collecting data from 279 foreign language learners at Hong Kong University, mentioned that although learners vary in their preferred language skill to support, they mostly use technology outside the classroom,

which increases their self-regulation skills and boosts individualized learning. Shadieff and Yang (2020), and Hoopingarner (2009) reported that learners may use technological tools to create additional practice and interactive opportunities, resulting in improvements in language skills such as vocabulary, speaking, and writing.

Lou et al. (2001) compared small-group learning and individual learning with technology. As a result of their meta-analysis, the authors stated that social context is important in learning, and although both small-groups and individuals benefited from technology, it has affected small-group learning to a greater extent, including their task performance as a group and also individual achievement. Similarly, Abuseileek (2007) compared the effectiveness of cooperative and individualized learning in CALL environments with traditional control groups. Both cooperative and individualized CALL experimental groups outperformed the control groups in listening and speaking scores. Moreover, the author added that the use of computers is found to be especially useful in motivating low-achiever students to take part in interactions.

#### **2.6.6 Technology integration and learner autonomy**

Technology integration is also reported to be effective in supporting learner autonomy. (Benson & Voller, 2014). Lewis (2014) highlighted that autonomy is linked with human sociality including identifying with other students, assisting them, acknowledging their assistance, practicing fairness, and cooperating as and when necessary. Godwin-Jones (2019) similarly stated that learner autonomy in language learning entails using both cognitive functions and language (a social tool), hence, it combines independence and interdependence. Reinders and White (2016) added that social participation can enhance learner autonomy, which can easily be established with social technologies. Key factors to enhance autonomy using technology are reported to be direct teacher support (Reinders, 2018), and a systematic approach and curriculum alignment (Muchlis, 2015).

Lee (2016) used Web 2.0 tools in a task-based instruction model, aiming to enhance learner autonomy. The results have revealed that different task types affect learner autonomy in different ways. While learners had more chances to work independently during structured tasks, they used social interaction to understand a topic during open-ended tasks. Immediate feedback and teacher scaffolding are reported to be effective in the self-regulation and autonomy of learners. The author concluded that personal commitment and cognitive engagement with the tasks may contribute to learner

autonomy. Sanz (2013) designed a course to teach English with a web-based multilingual tool to 20 learners. The course was designed in a way to provide learners with chances to develop communicative competence at their own pace. The researcher stated that information technologies are very helpful in teaching and learning a language and can enhance learner autonomy, specifically for more advanced learners, especially when learners are provided with guidance and support.

### **2.6.7 Technology integration and TPACK**

Nowadays, TPACK is a well-accepted and popular framework and a way to measure teachers' and learners' technological competencies and technology-related needs. Along with generic TPACK scales, for almost all teaching departments, field-specific TPACK scales have been developed (Yurdakul et al., 2012; Bilici et al., 2013; Başer et al., 2016; Önal, 2016). In one of the early studies, Angeli and Valanides (2005) conducted a study with 227 teacher candidates and found out that by training preservice teachers on instructional technologies, their skills in selecting topics to teach with ICT, adapting course content with ICT, using ICT to support teaching strategies, and integrating ICT in classroom activities can be improved.

Tseng et al. (2022) reviewed 51 studies and classified TPACK studies on language teaching and learning into four groups: exploring, assessing, developing, and applying TPACK. In summary, exploring studies examine teachers' self-perceived TPACK and how it often translates into traditional, teacher-centered practices; assessing studies focus on developing tools to measure TPACK; developing studies investigate how TPACK can be enhanced through interventions such as modeling and collaborative lesson design; and applying studies evaluate the effectiveness of TPACK-based language learning platforms and teaching practices. The authors added the following remarks: exploring studies revealed that even in the cases with high scores of TPACK, teachers tend to use technology in traditional teacher-centered ways; developing studies revealed that effective implementations require teachers' understanding and involvement in the process; and applying studies revealed that it is effective and helpful to include TPACK in teaching and learning process. Tondeur et al. (2020) tried to enhance pre-service teachers' TPACK by including six strategies: using role models, discussing the role of the technology, encouraging authentic experiences, enabling collaboration, scaffolding, and providing feedback. Their results indicated the usefulness of these strategies in

boosting teacher candidates' TPACK, however, they also indicated that these strategies are not sufficiently covered in the participants' teacher training process. The authors additionally emphasized the growing requirement for more integrative and interconnected pre-service teacher experiences to facilitate effective technology integration. Lachner et al. (2021) implemented subject-specific TPACK modules within the standard curriculum to enhance the TPACK of pre-service teachers. The results revealed that participants who receive instruction on using technology for subject-specific teaching exhibit a significantly higher level of TPACK compared to those who do not participate in these modules. Additionally, it was observed that following the TPACK modules, pre-service teachers display a notable increase in their self-confidence and ability in utilizing technology for educational purposes. In the Turkish education context, Pehlevan (2023) conducted a study with 118 pre-service English teachers and found that digital literacy is a predictor of TPACK and that there is a positive correlation between digital literacy and TPACK, which means that improving teacher candidates' digital literacy is an effective way of increasing their TPACK scores. The author additionally mentioned a statistically meaningful difference between participants who did and did not undertake educational technology training in the past regarding digital literacy or TPACK.

#### **2.6.8 Emerging concepts regarding technology integration in language teaching**

Although online learning has always been a popular field of study and considered to be directly related to using technology in language teaching, with the global pandemics and emergency online education scenarios, researchers' interest in the topic shifted from optional online education scenarios to compulsory scenarios and readiness of teachers and learners. This shift occurred because of the COVID-19-related global lockdown and every teacher and student taking part in online education, regardless of their volition, experience, or readiness. Blake (2011) highlighted that what online education offers (especially in terms of social networking and gamification) can be very compatible with language teaching, provided that educational technologies are properly integrated into the curriculum. Howard et al. (2020), after gathering data from 222 in-service teachers, claimed that teachers are not ready for online education scenarios and need support related to digital online technologies and the type of tasks to carry out in online education. In a study with 739 higher education teachers from 58 countries, Scherer et al. (2021) specified three groups of teachers with different levels of readiness: low readiness ( $n =$

291), inconsistent readiness ( $n = 385$ ), and high readiness ( $n = 63$ ). When combined together, a total of 676 participants (low readiness and inconsistent readiness groups) are reported to have low levels of readiness for online teaching and learning scenarios and low levels of TPACK self-efficacy scores. Ji et al. (2022) investigated the relationship between readiness, engagement, and satisfaction in online education scenarios. Their results revealed that at the beginning of a course readiness is a better predictor of satisfaction, while near the end of the course, engagement is a better predictor of satisfaction. Furthermore, the authors stated that using engagement strategies, most of which incorporate technology use (using online dictionaries, using additional software and applications, and technical preparations, etc.), can enhance engagement, which leads to more satisfaction. The authors concluded by stating that it is inevitable for teachers to be ready for the challenges of online teaching.

Mobile-assisted language learning (MALL), considered an extension of CALL (Thomas et al., 2012), is another recently popular field of study regarding using technology in language education. Kukulska-Hulme (2013) defines MALL as the use of mobile and portable devices in the language teaching and learning process, especially in situations when mobility and portability have an advantage. These advantages could be related to the availability of these devices, their capacities of processing and storing information, and their informal and spontaneous nature (Duman et al., 2015). MALL became popular in the 2010s with the advancement of mobile devices and their functions. Saran et al. (2009) investigated the role of mobile devices on participants' pronunciation, and they found positive effects of MALL on participants' pronunciation scores and additionally, on their motivation. Cavus and İbrahim (2017) compared two different 4-week implementations of storytelling: an experimental group supported by mobile learning and a control group of standard storytelling activities using the course book. Their results indicated statistically significant differences in reading, listening, vocabulary, and pronunciation scores of the experimental group and that they outperformed the control group in every measured aspect. Morgana (2018) examined the role of using mobile devices in supporting participants' speaking skills. The results revealed that students are more likely to benefit from mobile devices when the teacher is able to comprehend the tool and use it effectively, and individual learners tend to benefit more from mobile technologies since they encourage self-paced learning. Garcia Botero et al. (2018) studied the acceptance and usage of MALL by higher education learners. They found out that

attitude is the most determinant factor in MALL use, and suggested that educational communities should facilitate conditions for MALL engagement.

Finally, Artificial Intelligence (AI) is increasingly being integrated into language teaching and learning, with numerous advantages for both teachers and learners. One of the most prominent advantages of integrating AI is reported to be the personalized learning experiences and supporting diverse needs (Woolf et al., 2013; Hashim et al., 2022). According to Vall and Araya (2023) by providing personalized feedback and practice according to different learning styles, AI tools enhance the effectiveness of language learning. Similarly, Rugaiyah (2023) claimed that, through AI, teachers can make use of adaptive learning and feedback according to the individual pace of the learners. Moreover, when AI tools are supported with different technologies such as Augmented Reality (AR) and Virtual Reality (VR), they can create interactive online learning environments. In a review study, Son et al. (2023) mentioned that the diverse resources provided by AI, such as automatic speech recognition (ASR), intelligent tutoring systems (ITSs), automated writing evaluation (AWE), and chat bots have the potential to enhance language teaching and learning to a great deal. These technologies can also support teaching and learning different language areas and skills. For example, Almelhes (2023) mentioned that ASR systems have a great potential to enhance speaking and pronunciation skills, by providing chances for practice, real-time evaluation, and feedback. Similarly, AWE systems may help learners in writing skill by providing grammar checks, and instant feedback, and by improving engagement, motivation, and learner autonomy (Bai & Hu, 2017; Wei et al., 2023). In summary, as also stated by Huang et al. (2023) and Nazari et al. (2021) emerging technologies such as AI tools not only offer some significant benefits for language teaching and learning, but they also make the process more enjoyable and engaging. As they continue to evolve, AI tools will continue assisting and enhancing language teaching in more effective and innovative ways.

### **2.6.9 Studies in the Turkish context**

Technology integration in language teaching has also been a popular field of study in the Turkish context. Although there are many studies, they are comparably recent studies and clustered around a few topics. The most frequently studied topics are language skills teaching, perceptions and attitudes toward technology integration, self-efficacy beliefs of

teachers, motivation, learner autonomy, and teacher readiness. Although many studies stated a clear need for a course or program to enhance pre-service and in-service teachers' technology integration skills, very few studies aimed to design such a course and implement it. This section focuses on studies that conduct a needs analysis for technology integration in language teaching, or aim to design, develop, and implement courses or training programs tailored to these needs.

Uzundurdu (2022) investigated the technological readiness of 108 EFL teacher candidates from 18 different universities in Türkiye. The author found out that teacher candidates are dissatisfied with their training and requested additional training regarding the integration of technology in the language teaching process. The author concluded that teacher training programs should provide courses on the use of technology in language teaching.

Kılıçkaya (2012) conducted a study on the effects of CALL instruction on participants' use of technology in language teaching with 35 EFL teacher candidates. The author also aimed to determine the factors affecting technology integration. After the instruction, it was found that participants adapted CALL materials and tools to their own teaching practices. The author also reported that the factors affecting the integration of technology in language teaching are the school environment, curriculum, and national exams. The author further explained that because of the time pressures and stress caused by national exams, some learners do not want to participate in the lessons, no matter how interactive or enhanced they are with the use of technology.

Bostancıoğlu (2017) designed a CALL course and implemented it for 22 third-year EFL teacher candidates. The author analyzed field notes, feedback from students, and lesson plans to design the course. As a result, the author claimed that teacher candidates' self-confidence and self-efficacy concerning using technology for teaching languages increased after the course. Yet, this increase was not reflected in teacher candidates' lesson plans, since, in the author's words, "participants' use of technology in their lesson plans was superficial, rather than integrated". The author concluded his remarks by highlighting the importance of technology integration in language teaching courses in teacher training programs.

Kırmav (2019) designed a 10-week blended in-service technology training program and tested it with 12 university-level English Language lecturers. His results indicated that

participants had opportunities for interaction, collaboration, discussion, and hands-on practice, and that the participants found effective support when they needed it, and that their needs and expectations from the program were met. The author suggested that by developing the program based on participants' needs, it was easy for the participants to establish a connection between their needs and the activities. Overall, the participants gained skills regarding creating online assessments and digital learning materials (word clouds, interactive videos, voice recordings, and animations); and their attitudes towards the program were found to be positive.

In conclusion, integrating technology into language education is not only beneficial but increasingly essential for addressing the evolving needs of learners and teaching environments. Many studies suggest that teachers should be aware of technological developments and should be ready to implement them, since the integration of technology in education is not a matter of “why” anymore, it is a matter of “how”. There is a gap in the context of EFL teacher education in Turkey on designing, implementing, and evaluating technology integration in language teaching courses, and this study aims to contribute to the literature in this sense, taking the local needs into account.

### **3 METHODOLOGY**

This chapter presents the research design, participants, procedure, instruments, and data collection and data analysis of the study. Additionally, the course design process, and course implementation process are presented in detail.

#### **3.1 Research Design**

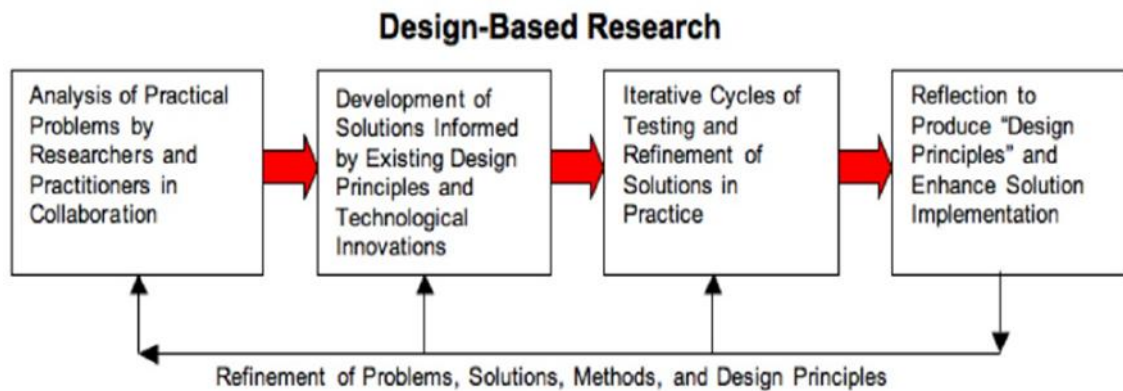
A design-based research methodology (DBR) is adopted in this study. DBR is defined as a practical research methodology that brings together research and practice in formal education (Anderson & Shattuck, 2012). The authors summarize DBR as a methodology that is situated in a real educational context, focuses on the design and testing of an intervention, uses mixed methods, and involves a collaboration between the researcher and practitioners.

The conceptual foundations of DBR can be traced back to John Dewey's ideas (Bell et al., 2013). The authors state that Dewey's ideas pioneered a research model (DBR) that combines the study of teaching and learning with complex interventions. They also claim that Dewey's attempts at creating systematic, structured, and experiential learning processes paved the way for DBR. According to the authors, DBR is a research design that is useful in studying complex interventions that incorporate intentionally designed materials, technological tools, curriculum sequences, activities, and assessments.

A focus on the design of interventions that are theoretically based and aimed to address particular educational challenges is one of the fundamental characteristics of DBR (Barab & Squire, 2004). The interventions are put to test in actual situations, which enables researchers to observe how they function in action and make iterative adjustments to increase their efficiency. To evaluate the effectiveness of the intervention and to gain insights into the mechanisms underlying it, DBR also involves the gathering and analysis of qualitative and quantitative data (Reeves et al., 2004). Reeves (2006) summarizes the 4 steps of DBR in the following figure (Figure 3.1.).

**Figure 3.1**

*Design-Based Research Process*



*Source: Reeves, 2006*

As can be seen in the figure, the process of DBR starts with the analysis of practical problems, a need for a course in the ELT curriculum in this case. The second step is the development of solutions, which is addressed by designing and developing a course, tailored for a specific group of learners. Regarding the third step, iterative cycles of testing and refinement, the study refers to expert opinions, class discussions, debriefing sessions with colleagues, and focus group interviews with course participants. In the final reflection step, gained insights are used to enhance the implementation of the solution. Throughout the process, to ensure that the study is responsive to real world educational challenges, there is continuous refinement of problems and solutions.

Barab and Squire (2004) mention that DBR assigns the researcher with a joint role of designer and researcher. Although undertaking this joint role can be challenging, it is also considered valuable because this approach is efficient for local practices. According to Barab and Kishner (2001), DBR researchers go beyond observing the interactions, to actually causing them, which is consistent with Dewey's ideas. Overall, DBR is flexible and adaptable in designing educational interventions, which is why it is well-suited for this study since this study aims to design a course based on teacher candidates' needs, implement it in a real educational context, and evaluate its effectiveness.

### **3.2 Participants**

This study consisted of three major phases: the course design and development phase, the course implementation phase, and the course evaluation phase. Data were collected during the design and development phase (e.g., through expert input and needs analysis)

and during the evaluation phase (e.g., through scale data and focus group interviews). The implementation phase served solely for delivering the instructional content and did not involve any direct data collection; therefore, no new participants were recruited specifically for this phase.

In summary, 41 TCs, eight ISTs, and eight experts took part in the Phase 1 of the study. In phase 3, the participants were 42 TCs for the scale implementation and eight TCs for the focus group interviews. All participants were involved on a voluntary basis and were thoroughly informed about the purpose and procedures of the study. Informed consent was obtained from all participants using consent forms (Appendix 5). A summary of the participant groups across the phases of the study is presented in Table 3.1.

**Table 3.1**  
*Participants of the Study*

|                           | Type of Data                           | Target Troup                   | Instrument                      | n  |
|---------------------------|----------------------------------------|--------------------------------|---------------------------------|----|
| Phase 1<br>Needs Analysis | Needs Analysis                         | EFL Teacher Candidates         | Open-ended online questionnaire | 41 |
|                           | Needs Analysis                         | In-Service English Teachers    | Semi-Structured Interviews      | 8  |
|                           | Expert Opinion                         | Instructors of Similar Courses | Semi-Structured Interviews      | 3  |
|                           | Expert Opinion                         | Online Education Experts       | Semi-Structured Interviews      | 2  |
| Phase 3<br>Evaluation     | TPACK-EFL Scores                       | EFL Teacher Candidates         | TPACK-EFL Scale                 | 42 |
|                           | Opinions and Suggestions on the Course | EFL Teacher Candidates         | Focus-Group Interviews          | 8  |

The target group for the course under development was EFL teacher candidates from Muğla Sıtkı Koçman University. The ELT department provides a range of courses that adhere to the curriculum set by the Council of Higher Education (CoHE, 2018). This curriculum primarily focuses on courses related to language teaching methodology, pedagogy, and various elective courses. These courses aim to equip students with the theoretical knowledge and practical skills required for effective language teaching. However, there is a notable absence of a course on technology integration in language

teaching. While digital literacy and the use of technology in education are increasingly becoming essential components of modern education, the current curriculum lacks a specialized course that specifically addresses how technology can be integrated into language teaching practices. The only technology related courses in the curriculum are the Information Technologies course for the 1<sup>st</sup>-grade students (focuses on basic computer skills), and the Instructional Technologies course (emphasizes material development and instructional design). However, both courses lack coverage of advanced, current technologies, and language-specific applications in language teaching. (A comprehensive list of courses offered in the English Language Teaching Undergraduate Program by the Council of Higher Education can be accessed through the official curriculum document available at the following link: [https://www.yok.gov.tr/Documents/Kurumsal/egitim\\_ogretim\\_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Ingilizce\\_Ogretmenligi\\_Lisans\\_Programi.pdf](https://www.yok.gov.tr/Documents/Kurumsal/egitim_ogretim_dairesi/Yeni-Ogretmen-Yetistirme-Lisans-Programlari/Ingilizce_Ogretmenligi_Lisans_Programi.pdf))

For the needs analysis, 70 2<sup>nd</sup> year EFL TCs were informed about the study and 41 of them agreed to take part in the process. 2<sup>nd</sup> year TCs were selected for the needs analysis as potential participants of the course. They filled out online open-ended questionnaires regarding their needs and expectations from the “Technology Integration in Language Teaching Course” (see Appendix 1).

ISTs were also selected to take part in the needs analysis. As active teachers, they have practical as well as theoretical awareness of primary - secondary, and high school students’ needs and expectations regarding technology integration in language teaching. ISTs were included in the study since they were actively teaching English to digital native students and can provide valuable insight in this regard. Teachers from each educational stage (primary school – secondary school – high school) were selected to differentiate the data. For the same reason, each teacher was selected from a different school. The teachers were selected based on their experience with mentoring teacher candidates during teaching practicum. In selecting these teachers, the aim was to gather data from teachers who were familiar with TCs as a group, their needs, and possibly their digital literacies.

For gathering expert opinions in the course development phase, two sets of experts were predetermined: Instructors of Similar Courses (ISCs), and Online Education Experts (OEEs). 3 ELT instructors who have experience in designing and teaching a similar course (Technology Integration in Language Teaching or CALL) in ELT departments,

and two online education experts with ELT backgrounds accepted to take part in semi-structured interviews. A table summarizing the experts' fields of study and the issues they were consulted about are presented below (Table 3.2).

**Table 3.2**

*Experts, Fields of Study, and Consulted Issues*

| <b>Expert</b>   | <b>Field of Study</b>       | <b>Consulted Issue</b>                         |
|-----------------|-----------------------------|------------------------------------------------|
| Experts 1, 2, 3 | ELT, Technology Integration | Suggestions for Course Development and Content |
| Experts 4, 5    | Online Education, ELT       | Suggestions for Course Development and Content |

In selecting the participants for Phase 1, namely, the needs analyses (TCs and ISTs), and expert consultations (ISCs and OEEs), criterion sampling was used, which is a type of purposive sampling. Criterion sampling involves selecting individuals who meet a specific set of predetermined criteria (Patton, 1990), which allows for deeper and more relevant data collection (Baltacı, 2018). The criteria were defined as follows:

- TCs: Being a second-year EFL teacher candidate.
- ISTs: Actively teaching English, having experience mentoring teacher candidates during their practicum, and working across different educational stages and school types to ensure data diversity.
- ISCs: Teaching a technology-integrated language teaching course at the university level.
- OEEs: Specializing in online education as a field of study and having an academic background in ELT.

As for the course implementation phase, in the first week of the term, 64 TCs enrolled in the course were informed about the study thoroughly. Out of the original 50 voluntary participants, 42 provided data for the TPACK-EFL scale in a pre-post-test design. The reduction in participants was due to the elimination of those with missing data or those who did not participate in the post-test implementation. To explore participants' opinions and suggestions on the course, two focus group interviews were held. Eight participants agreed to take part in the focus group interviews. In phase 3, convenience sampling was

used for both the scale implementation and focus group interviews, as participants were selected from among students already enrolled in the course. While participation was voluntary, the accessible nature of the group justifies the classification as convenience sampling.

### 3.3 Instruments

Seven different data collection tools were used to gather data for this study. These instruments involve an open-ended online questionnaire (needs analysis with EFL teacher candidates; see Appendix 1); three sets of semi-structured interviews (needs analysis with ISTs (see Appendix 2), expert opinions from instructors of similar courses (see Appendix 3), and online education experts (see Appendix 4); two sets of focus group interviews (opinions and suggestions of EFL teacher candidates; see Appendices 7a and 7b); and a TPACK-EFL scale (see Appendix 6). Table 3.3 below summarizes the instruments.

**Table 3.3**

*Data Collection Instruments of the Study*

| Research Question | Sample                                                           | Instrument                                                  | Timeline                            |
|-------------------|------------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------|
| RQ 1 - 2          | In-service EFL Teachers / EFL Teacher Candidates                 | Semi-Structured Interview / Open-ended Online Questionnaire | Before Developing the Course        |
| RQ 3              | In-service EFL Teachers / EFL Teacher Candidates / Field Experts | Semi-Structured Interview                                   | Before Developing the Course        |
| RQ 5              | EFL Teacher Candidates                                           | TPACK-EFL Scale                                             | Before and After the Implementation |
| RQ 6              | EFL Teacher Candidates                                           | Focus Group Interview                                       | During and After the Implementation |

The first draft of the open-ended questionnaire, the semi-structured interview questions, and focus group interviews were created by the researcher following a literature review. The aim of the open-ended questionnaire was to gather a wide range of participant perspectives, allowing them to freely share their experiences and views on key topics such as their expectations and needs regarding technology integration (see Appendix 1). The semi-structured interviews aimed to obtain in-depth, personalized insights of ISTs, instructors of similar courses, and online education experts regarding their individual

experiences with technology, as well as their suggestions for and expectations of the course (see Appendices 2, 3, and 4). Finally, the focus group interviews were designed to gather participants' opinions and suggestions regarding the course, to revise the course accordingly (see Appendices 7a and 7b). These instruments were finalized after a debriefing session with three experts from the ELT department, who provided valuable insights to ensure the relevance, clarity, and validity of the questions.

To measure TCs TPACK, the TPACK-EFL scale (see section 2.4. for a detailed description) by Baser et al. (2016) was used in a pre-test and post-test design. It is a 9-point Likert scale with seven sub-factors: Technological Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). Although all the factors were implemented and analyzed, only the four factors relating to technology integration in EFL contexts (TK, TCK, TPK, and TPACK) were mainly focused on in the study since the implementation will not cover CK, PK, and PCK in detail.

There are several reasons for using this particular scale in the study. First, the scale was developed specifically for the EFL teacher candidates, therefore, it involves subject-specific pedagogies and technologies rather than generic teaching pedagogies and technologies. Second, the scale was developed in the Turkish context, meaning it is expected to be culturally appropriate for the participants of this study. Finally, TPACK is reported to be a good indicator of teachers' intentions to use technology in their lessons (Joo et al., 2018); TPACK results are consistent with general ICT skills and pedagogical competencies using ICT (Koh et al., 2010) and TPACK is closely related with selecting and using appropriate technologies and the TPACK framework serves as a tool for measuring technology integration competencies of pre-service teachers (Kabakci Yurdakul, 2018), all of which are closely related with the goals of the current study.

The TPACK-EFL Scale was piloted before the study to measure its internal consistency, which was found to be  $\alpha = .96$ . This indicates that the items on the scale are highly reliable and measure the same underlying construct consistently. Additionally, Table 3.4 summarizes the reliability coefficients of the scale in the original study (Baser et al., 2016).

**Table 3.4***The Reliability Coefficients of the TPACK-EFL Scale*

| Sub-Factor                                          | Number of Items | Cronbach's Alpha Value |
|-----------------------------------------------------|-----------------|------------------------|
| Technological knowledge (TK)                        | 9               | .89                    |
| Content knowledge (CK)                              | 5               | .88                    |
| Pedagogical knowledge (PK)                          | 6               | .92                    |
| Pedagogical content knowledge (PCK)                 | 5               | .91                    |
| Technological content knowledge (TCK)               | 3               | .81                    |
| Technological pedagogical knowledge (TPK)           | 7               | .91                    |
| Technological pedagogical content knowledge (TPACK) | 4               | .86                    |

### **3.4 Data Collection**

To design, implement, and evaluate the TIELT course, seven sets of data were gathered. All the required permissions were obtained from the ethical committee of the university before gathering any type of data (Appendix 16).

The first set of data was a needs analysis with 2<sup>nd</sup> year EFL teacher candidates in the form of an open-ended online questionnaire. This format was preferred to access as many teacher candidates as possible, to contribute to the representability of the needs and expectations. The questionnaire was conveyed through Google Forms. The questions addressed to the teacher candidates are presented in Appendix 1. The data was collected in the classroom following one of their courses after the participants were informed thoroughly about the study. The participants were also handed out relevant consent forms. The implementation took 20 minutes on average. Another needs analysis was carried out with ISTs in the form of semi-structured interviews. The interviews were held online through Zoom software and they approximately lasted 20 minutes. The questions are presented in Appendix 2. Both groups contributed to the study regarding what an IST might need to efficiently integrate technology into language teaching. They also stated their expectations from the course. Table 3.5 summarizes the ISTs' interview data.

**Table 3.5***Summary of the ISTs Interview Data*

| Participants | Date & Time | Interview Length | Word Count |
|--------------|-------------|------------------|------------|
| IST1         | 13.09.2022  | 11:21            | 922        |
| IST2         | 08.09.2022  | 12:24            | 1306       |
| IST3         | 13.09.2022  | 14:47            | 1548       |
| IST4         | 14.09.2022  | 12:16            | 1449       |
| IST5         | 07.09.2022  | 15:46            | 1610       |
| IST6         | 07.09.2022  | 11:35            | 1539       |
| IST7         | 15.09.2022  | 32:58            | 3227       |
| IST8         | 12.09.2022  | 32:46            | 2745       |

In the next step, semi-structured interviews were conducted with two groups of experts: instructors of similar courses and online education experts. These interviews were held online through the Zoom software and they approximately lasted 25 minutes. The questions addressed to these groups are presented in Appendices 3 and 4, respectively. These groups contributed to the study with their suggestions on course content and development. Tables 3.6 and 3.7 summarize ISCs and OEEs interview data.

**Table 3.6***Summary of the ISCs Interview Data*

| Participants | Date & Time | Length | Word Count |
|--------------|-------------|--------|------------|
| ISC1         | 27.10.2022  | 35:25  | 3347       |
| ISC2         | 16.11.2022  | 18:19  | 1867       |
| ISC3         | 10.11.2022  | 36:18  | 2503       |

**Table 3.7***Summary of the OEEs Interview Data*

| Participants | Date & Time | Length | Word Count |
|--------------|-------------|--------|------------|
| OE1          | 15.11.2022  | 14:41  | 1224       |
| OE2          | 14.11.2022  | 20:36  | 2721       |

Finally, to examine participants' opinions and suggestions regarding the course, two focus group interviews were conducted. Participants of the course were frequently informed about the focus group interviews, so that they could decide whether to take part in the interviews or not, at any point of the course. In the middle of the term, just after their midterm exam, eight participants volunteered to take part in the interviews, signing consent forms. Their opinions and suggestions regarding the course, their initial expectations, and strengths and areas that need improvement in the course were asked of the participants. The meeting was held in a classroom around a round table, which enabled participants to have eye contact and interact with each other. The meeting took about 50 minutes and was recorded by a voice recorder and a camera, to ensure the quality of the recordings. Similarly, the final focus group interview was held at the end of the course. Participants were asked to compare the first part of the course with the second part, to detect any improvements or deteriorations. The same group of eight learners took part in the interview in the same classroom. This meeting also took about 50 minutes and was recorded with the participants' consent. Table 3.8 provides descriptive information regarding the focus group interview data.

**Table 3.8**  
*Descriptive Information on Focus Group Interviews*

| Focus Group Interviews | First Interview |        |            | Second Interview |        |            |
|------------------------|-----------------|--------|------------|------------------|--------|------------|
|                        | Date            | Length | Word Count | Date             | Length | Word Count |
|                        | 29.03.2024      | 48:15  | 5822       | 23.05.2024       | 50:07  | 5379       |

All of the interviews were held between the researcher and the participants, without any outside interference, so that the participants could freely express their ideas without any disturbances. All of the interviews were held in the native language of the participants, Turkish, to ensure the comfort and fluency of the participants. Before the interviews, the interview questions were shared with all participants to overcome any possible confusion, or to clarify if the participants had any questions regarding the interviews.

To measure the effects of the course on participants' TPACK, a TPACK-EFL scale was implemented in a pre-posttest design. In the first week of the course, participants were informed thoroughly about the study and the scale. They were handed out consent forms,

and 42 participants provided data for the study. The implementation process took about 25 minutes on average.

### **3.5 Data Analysis**

Needs analysis and expert opinion data were analyzed with thematic analysis (Braun & Clarke, 2006) following the in-vivo framework (Saldana, 2016) to form initial themes and codes. In-vivo coding, also known as verbatim coding or literal coding, uses participants' actual spoken words to create codes and themes. The reason for using in-vivo coding for this process is because its verbatim nature is found to be useful in representing participants' voice and tone, which is ideal for a needs analysis.

To conduct the thematic analysis, six phases mentioned by Braun and Clarke (2006) were followed. These phases involve, familiarizing with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report. For the first step, the data was transcribed, thoroughly read, member-checking was conducted, and initial ideas were noted. In the second step, systematic coding was applied to create initial codes. These initial codes were then grouped together to form potential themes for the third step. During the fourth step, the initial themes were reviewed and cross-checked to ensure consistency with the existing codes and other themes. In the fifth step, a final review led to the refinement and naming of themes and codes, and finally, a report was produced in the sixth step.

To ensure inter-coder reliability, the needs analysis and expert opinion data were analyzed by the researcher and 10% of the data was rated by a colleague, who had experience in qualitative data analysis. Miles and Huberman's (1994) formula was used to measure the inter-rater reliability. The percentage agreement was found to be .81, which is considered to be a good degree of reliability.

Similarly, qualitative data from the focus group interviews were analyzed with thematic analysis. To ensure inter-coder reliability 10% of the data was rated by the same colleague, and percentage agreement was found to be .86, which is considered to be a good degree of reliability. Sample coding schemes for each type of qualitative data of the study can be found in Tables 3.9, 3.10, and 3.11 below. These tables include relevant participant statements, relevant codes, a brief description of the codes, relevant themes, and a brief description of the themes.

All qualitative data were transcribed and reviewed by the researcher, then shared with the participants for member checking, to make sure that the final transcriptions accurately reflect their words, thoughts, and intentions.



**Table 3.9***Sample Coding Scheme for the Needs Analysis Data*

| Sample Statement                                                                                                                                                                                                                                                                                                                         | Code                                       | Code Description                                                                                                                                             | Theme                               | Theme Description                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| IST3: <i>“In times of need, I can instantly benefit from Web 2.0 tools to design an extra activity. I think my strength in this regard is to know what tools to use in which cases. I have a wide network of technological tools at my disposal.”</i>                                                                                    | <b>Readiness to Use Technology</b>         | This code reflects participants' overall readiness to adopt and integrate technology into their teaching/learning process.                                   | <b>Personal Strengths</b>           | This theme reflects participants' self-perceived strengths to engage with technology in language teaching and learning context, and their personal attitudes, aptitudes, and skills. |
| IST1: <i>“It (using technology) keeps me away from things that will cause me to waste time, for example, even writing a grammar structure on the board will take a lot of time, while it is possible to provide them in a much more compact way with the e-content of the book you follow. This way, I can spare time for practice.”</i> | <b>Time Saving</b>                         | This code reflects the efficiency and time-saving nature of technology, thanks to automation of simple tasks, or quicker access to information or resources. | <b>Reasons for Using Technology</b> | This theme reflects participants' reasons for using technology, particularly concerning learning or completing tasks.                                                                |
| IST8: <i>“I would expect more practice than theory. You can make a presentation in PowerPoint, but there are many more alternative presentation tools. But the teacher should first demonstrate their use and then the learners should practice.”</i>                                                                                    | <b>Chances of Practice with Technology</b> | This code reflects participants' desires or expectations for hands-on experience with technology during the course.                                          | <b>Expectations from the Course</b> | This theme reflects participants' anticipations and expectations regarding the course and helps understand what participants are looking for.                                        |

**Table 3.10***Sample Coding Scheme for the Expert Opinion Data*

| Sample Statement                                                                                                                                                                                                                                                                                                                                                                                          | Code                                               | Code Description                                                                                                                          | Theme                            | Theme Description                                                                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>OEE2: “If you have an LMS interface or a Moodle, you can collect weekly tasks there and ask students to upload them there. The evaluation can be done very comfortably and very quickly, it will not be a burden on the teacher. I think it will be something like a win-win for everyone. Alternatively, blogs are also used for this purpose.”</i>                                                   | <b>E-Portfolio</b>                                 | This code reflects experts’ preferences for e-portfolios as a useful assessment tool, especially for collecting and compiling their work. | <b>Evaluation and Assessment</b> | This theme reflects suggested methods and tools of evaluation and assessment.                                                                           |
| <i>ISC2: “Of course, technically, this course can also be taught online. However, I am teaching how to use some technological tools in class. Being in an actual classroom would be helpful in this case. So, there must be a specific reason for teaching this course online. Unless there is a pandemic or a similar situation, I prefer face-to-face courses.”</i>                                     | <b>Face-to-face</b>                                | This code reflects the perceived benefits of face-to-face instruction concerning online, blended, or hybrid methods.                      | <b>Mode of Instruction</b>       | This theme reflects suggested instructional methods and delivery formats, with a general focus on the importance of personal contact with the learners. |
| <i>OEE1: “In such a course, we expect learners to make optimum use of technology and technological tools in language teaching and to use some tools for teaching four skills. Therefore, we expect this course to provide students with the tools that can be used in English language teaching, especially in subjects such as speaking, writing, listening, and grammar, and how they can be used.”</i> | <b>Integrating Technology in Language Teaching</b> | This code reflects experts’ statements regarding the possible outcomes related to technology integration in language teaching.            | <b>Outcomes</b>                  | This theme reflects experts’ ideas on the necessary outcomes of the course.                                                                             |

**Table 3.11***Sample Coding Scheme for the Focus Group Interview Data*

| <b>Sample Statement</b>                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>Code</b>                       | <b>Code Description</b>                                                                                                                | <b>Theme</b>                         | <b>Theme Description</b>                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>P6: “I am satisfied with the way the course is conducted. Traditional classes have their effective methods, but there's always a gap, a deficiency without practical application. We learn things in the first lesson, and in the second lesson, we move on to application. So, in a way, this format addresses potential gaps of knowledge.”</i>                                                                                        | <b>Course Structure</b>           | This code applies to learner statements concerning the course structure.                                                               | <b>Teaching and Learning Process</b> | This theme reflects learners’ perceptions regarding how course content is organized and delivered, focusing on the structure and flow of a course. |
| <i>P1: “...it is great that the course includes not only the basic applications that we all know but also many lesser-known applications. Even though we have taken similar courses before, it is great to see new applications. For example, you showed us a website for social bookmarking, which is very useful and I use it in my daily life. Additionally, Google Jamboard was very beneficial for interaction and collaboration.”</i> | <b>Emerging Technologies</b>      | This code applies to statements in which learners specify the use of emerging technologies (AI, MALL), or novel, unknown technologies. | <b>Strengths of the Course</b>       | This theme reflects the ideas of learners regarding the positive attributes of the course.                                                         |
| <i>P1: “Overall, the topics were enjoyable, but some weeks were difficult to follow, especially during the initial weeks when mostly educational technology-related terms or theories were covered. The language used during those weeks was also challenging; perhaps those weeks could be revised and simplified.”</i>                                                                                                                    | <b>Complexity of the Language</b> | This code includes statements that reflect the difficulties participants face with the complex language used in the course.            | <b>Areas for Improvement</b>         | This theme reflects learner statements focusing on the experiences that can be enhanced or simplified.                                             |

Quantitative data from the TPACK-EFL Scale were analyzed through paired samples t-test on SPSS, to compare the means of the initial and final versions of the participants' answers. Before the paired samples t-test, assumptions of normality were assessed using Shapiro-Wilk tests, which is considered as an appropriate and powerful test for small sample sizes ( $n < 50$ ) (Razali & Wah, 2011). Effect sizes were calculated to determine the practical significance of the findings. Descriptive statistics, such as means and standard deviations, were also calculated to summarize the data.

The scale was analyzed on three different levels. First, the overall mean scores of the scale were calculated, to have an overall understanding of the course's impact on learners' TPACK scores. Second, the initial and final mean scores of each sub-factor were compared to assess the effects of the course on technology specific sub-factors. Finally, the mean scores of individual items within these technology specific sub-factors were analyzed, providing detailed insights into how the course affected specific aspects of TPACK.

### **3.6 Instructional Design**

In this section, the methodological aspects of course design, development, and implementation processes are presented. As this section focuses on outlining the instructional design process from a methodological standpoint, detailed explanations, weekly applications, and various samples of course implementation and evaluation are provided in the Findings chapter (see Chapter 4).

To design the course, the ASSURE model among the instructional design models was adopted. The model has six steps, and each step and the corresponding actions are presented in the sub-sections below. The steps of the ASSURE model were presented previously in Figure 2.4.

To summarize this process, in the first step, semi-structured interviews with in-service EFL teachers and open-ended online questionnaires with EFL teacher candidates were conducted. In this step, problems faced regarding technology integration, and their expectations from and suggestions for the TIELT course were investigated. Additionally, expert opinions were gathered to gain further insights into designing such a course. For the second, third, and fourth steps, outcomes of needs analyses, expert opinions, and literature review were taken into account, and expert opinions were consulted to finalize each step. To ensure learner participation, learners were included in the process from the

beginning, since the course was built on their needs. Active learning opportunities, weekly discussions, hands-on activities, and process evaluation were also found to be useful for learner participation. Evaluation and revision of the course were based on midterm and final exam results, focus group interview data, and the TPACK-EFL results. Additionally, the researcher held constant in-class discussions regarding the course content and structure and revised the course accordingly.

The design process was also influenced by principles of Design-Based Research (DBR), emphasizing iterative refinement of the instructional intervention. In a DBR approach, educational interventions are evaluated and improved through cycles of implementation and feedback. Embracing DBR principles meant that the course was not a static design; instead, it was open to adaptation based on formative evaluations and participant input throughout the implementation. The combination of the ASSURE model and a DBR provided a flexible methodology to design a course that could evolve in response to learner needs and contextual factors.

### **3.6.1 Needs analysis and expert consultation**

A thorough needs analysis was the first step, aligning with the “Analyze Learners” phase of ASSURE. This step was critical to ground the course design in the actual requirements and expectations of its intended audience. The target learners were second-year EFL teacher candidates at the Muğla Sıtkı Koçman University. To capture their needs, an open-ended online questionnaire was administered to as many teacher candidates as possible. Out of 70 contacted pre-service teachers, 41 volunteered, providing insights into their prior experiences with educational technology, perceived skill gaps, and expectations for a course on technology integration.

Alongside this, a needs analysis was conducted with in-service EFL teachers to reflect the perspectives of experienced teachers. Eight volunteer English teachers (across primary, middle, and high schools) participated in online semi-structured interviews. As practicing teachers, they held a dual perspective; facing the challenges of integrating technology firsthand in their own classrooms, while also observing the technology integration readiness of TCs in teaching practicum. ISTs’ insights were gathered with the aim of making the course content relevant to real, not ideal, classroom situations.

Alongside the needs analyses, expert consultations were carried out to strengthen the course design. Three university instructors who had experience teaching similar

“technology integration in language education” courses and two experts in online education (all with ELT backgrounds) were interviewed. These experts contributed to the preliminary ideas for course scope, content, and assessment, drawing from their own experiences. Their recommendations reinforced the findings of the needs analysis and guided the design decisions.

In summary, early feedback from both learners, teachers, and field experts made it clear what the course needed. All these insights were synthesized to inform the course objectives, content selection, and instructional strategies.

### **3.6.2 Learning outcomes**

With an understanding of learner needs, the next step (corresponding to ASSURE’s “State Objectives” phase) was to define what the participants should achieve by the end of the course. Learning outcomes were drafted based on the needs analysis results, expert input, and relevant literature on educational technology competencies. While formulating these objectives, Bloom’s Taxonomy was used as a guiding framework. Applying Bloom’s taxonomy ensured the outcomes addressed multiple cognitive levels from remembering and understanding key concepts to applying and creating with new technological tools. This alignment with Bloom’s levels helped a progress from basic knowledge to higher-order thinking skills in the course design (e.g. starting with recalling terminology and leading up to designing technology-integrated lesson materials). Using this taxonomy led to a comprehensive set of objectives addressing diverse cognitive skills, which is important for a balanced learning experience.

Each learning outcome was written to be clear and measurable. For quality assurance, a draft list of these outcomes was reviewed collaboratively with three faculty colleagues and refined based on their feedback. This peer review helped ensure the objectives were realistic for the timeframe and aligned with departmental expectations. The final set of learning outcomes was documented in the course syllabus (see Appendix 11 for the full syllabus, including detailed policies and assessment criteria). In summary, creating thorough learning objectives early on provided a target for content development and established criteria for evaluating the effectiveness of the course.

In terms of assessment planning, conceptual outcomes were primarily aligned with the midterm exam, while practical and skill-based outcomes were addressed through the final blog-based e-portfolio. Additional formative assessments, such as ungraded weekly

quizzes and in-class digital tool practice, supported the evaluation of ongoing learning. In summary, creating thorough learning objectives early on provided a target for content development and established criteria for evaluating the effectiveness of the course.

### **3.6.3 Course content and tool selection**

With the objectives determined, the course content and learning materials were designed to fulfill those objectives, guided by the ASSURE steps of selecting methods, media, and materials. Content selection was driven by the needs analysis findings, expert recommendations, and literature review. Based on what the pre-service teachers and experts indicated, the course curriculum was aimed to cover a broad range of topics that would equip the participants with both theoretical knowledge and practical skills. To address the theoretical aspect, the course included content on basic concepts of technology integration, a brief history of technology use in language education, an overview of CALL approaches, and discussions of ethical issues in educational technology. These topics provided a foundation so that students understood not just how to use a tool, but why and when it is pedagogically appropriate to use it.

On the practical side, the course was designed to introduce many emerging, free, and easy-to-use technologies relevant to language teaching. The content was organized by weekly themes focusing on different pedagogical purposes or language skill areas. For example, one week centered on technologies for computer-mediated communication (CMC) in the classroom, another on mobile-assisted language learning (MALL), another on digital games and gamification for language practice, etc. Over the span of the course, topics included tools and strategies for teaching all the main language skills (listening, speaking, reading, and writing) and areas (grammar, vocabulary, pronunciation). Additionally, the syllabus covered technologies for broader educational tasks such as online testing and assessment, providing feedback to students via digital platforms, facilitating communication and collaboration through forums or other relevant tools, and managing online discussions. Contemporary areas like mobile learning, artificial intelligence applications, and educational blogging were included to ensure the course kept pace with current trends. By covering a wide range of topics, it aimed to ensure that every participant could find value, whether they needed to strengthen basic technology integration skills or explore more up-to-date tools.

Selecting specific tools and resources for each topic was a comprehensive process. The researcher first consulted the instructor of the “Instructional Technologies” course that the teacher candidates had taken prior to this course. This was done to avoid any overlap and repetition, ensuring that the tools covered in this course would extend beyond what students had already learned, keeping the content fresh, and maximizing new learning. After identifying which technologies were already familiar to the students, a list of additional tools and platforms across various categories (communication tools, mobile apps, content creation tools, assessment platforms, etc.) were compiled. The selection criteria for these technologies were multi-dimensional: priority was selecting tools that matched the expressed needs and interests of the participants, those that had been suggested by experts or used successfully in similar courses elsewhere, and those frequently cited in the research literature as being effective for language teaching. In practice, this meant a strong emphasis on Web 2.0 tools for education. A variety of Web 2.0 tools (tools of content creation, collaboration, sharing, and community building) were integrated throughout the course. For instance, the syllabus included experiences with tools like online collaboration boards, quiz generators, video creation or sharing platforms, and social bookmarking sites, among others. The intent was to build a repertoire of digital tools for the teacher candidates, exposing them to many tools, so they could select the most appropriate ones in their own teaching practice.

In addition to hands-on tools, the course also curated open educational resources and online repositories to encourage self-directed exploration. Participants were introduced to sources such as free multimedia libraries, open-access databases, and Massive Open Online Courses (MOOCs) related to language teaching. By including these resources, the course not only taught specific tools but also aimed to encourage learners to continue discovering and learning new technologies on their own. With this approach, it was aimed to guide students in learning about new technologies, finding quality resources, and engaging in communities of practice.

Once the content areas and tools were defined, the next step involved determining a coursebook, the instructional materials, and delivery methods.

### 3.6.4 Instructional materials and learning activities

This step corresponds to preparing materials and planning learner participation (the “Select/Utilize media and materials” and “Require learner participation”) steps of ASSURE.

First of all, in line with the learning outcomes and weekly topics, a course book was selected (Shannon & Shapelle, 2017). The book was suggested to be used in the course by one of the experts teaching a similar course at a different institution, during gathering expert insights step. One educational technology expert and three colleagues working in the same department were consulted regarding the selected course book, which was considered appropriate for the course. Table 3.12 summarizes the expert consultation process regarding the course book.

**Table 3.12**

*Summary of Expert Consultations for the Course Book*

| Expert          | Field of Study                | Consulted Issue                                                       |
|-----------------|-------------------------------|-----------------------------------------------------------------------|
| Expert 1        | Educational Technologies, ELT | -Alignment with Learning Objectives<br>-Included Technologies         |
| Experts 2, 3, 4 | ELT                           | -Alignment with Learning Objectives<br>-Relevance and Appropriateness |

Then, a detailed syllabus and weekly lesson plans were created to structure the learning experience. Each week’s lesson plan included the specific content to cover, the demonstration of related technology tools, and interactive activities or assignments to reinforce learning.

The course content was created by the researcher and shared with a team of relevant experts, including a curriculum development expert, an educational technology expert, and three field experts. Making use of the experiences of these field experts, the course content was aimed to be both practical and relevant to the modern needs of modern learners. The aim to provide learners with a well-rounded and comprehensive learning experience was tried to be ensured with this detailed expert consultation process. Table 3.13 summarizes the expert consultation process for the course content.

**Table 3.13***Summary of Expert Consultations for Course Content*

| <b>Expert</b>   | <b>Field of Study</b>       | <b>Consulted Issue</b>                                                |
|-----------------|-----------------------------|-----------------------------------------------------------------------|
| Expert 1        | Curriculum Development, ELT | Course Design and Content Development                                 |
| Expert 2        | Educational Technologies    | Technology Selection and Integration                                  |
| Experts 3, 4, 5 | ELT                         | Content Creation and Refinement<br>Final Material Review and Approval |

### 3.6.5 Assessment design and evaluation methods

In line with the expert suggestions and the ASSURE model's emphasis on evaluation, the course's assessment strategy was designed to measure both theoretical understanding and practical competence. Multiple evaluation methods were incorporated to align with the diverse learning outcomes. First, a traditional written exam (consisting of multiple choice, short answer, and open ended questions) was included to assess students' understanding of fundamental concepts, and theories related to technology integration. This addressed the more knowledge-based objectives such as definitions of key terms, or discussing the principles of CALL. Two Educational Measurement and Evaluation experts and two ELT field experts were consulted during both the design and finalization process. Table 3.14 summarizes the expert consultation process for the written exam. Samples of the final versions of mid-term exam questions can be seen in Appendix 12.

**Table 3.14***Summary of Expert Consultations for Mid-Term Exam*

| <b>Expert</b> | <b>Field of Study</b>                  | <b>Consulted Issue</b>                    |
|---------------|----------------------------------------|-------------------------------------------|
| Experts 1, 2  | Educational Measurement and Evaluation | Exam Design and Development Process       |
| Experts 4, 5  | ELT                                    | Instruction Clarity<br>Construct Validity |

Complementing this, a practical assessment (e-portfolio) was implemented to evaluate applied skills. The main practical assessment was a term project that is used as a final exam. This project consisted of an online language teaching blog, an infographic, and a podcast, all of which were covered in the course. They were given choices in how to carry out this project to accommodate their interests and strengths, an approach discussed more

under Inclusivity subsection. For this final assessment, learners might choose to use one of three suggested blogging platforms (e.g., WordPress, Wix, or Blogger), or even propose another platform they were comfortable with, so long as it met the requirements. They also had freedom to choose the specific topic or theme of their blog. By allowing these options, the assessment could cater to different preferences while still evaluating the core skills of planning, content creation, and pedagogical reasoning with technology.

Additional homework and class assignments contributed to assessment, though these were low-stakes (ungraded) and formative in nature. For example, participation in forum discussions, or short reflective quizzes on the LMS helped track ongoing engagement, revise the course content, and provide feedback when necessary. However, they also provided the instructor (researcher) with insight into who might need extra help or which topics might require revisiting, feeding into the continuous improvement process. The aim was to implement different aspects of formative assessment to provide chances for practice and constant feedback (Evans et al., 2014; Kulasegaram & Rangachari, 2018), while also providing various examples of online quiz creation tools.

Each section of the final portfolio (the infographic, podcast, and blog) was evaluated individually with different evaluation rubrics. To ensure clarity and transparency in the evaluation process, these rubrics were provided to the learners beforehand. The aim was to help learners understand the specific criteria and expectations for their performance. The blog evaluation rubric was adapted from Pascual (2019) (see Appendix 8), the infographic evaluation rubric was adapted from Jones et al. (2019) (see Appendix 9), and the podcast evaluation rubric was adapted from Bell (2007) (see Appendix 10). The rubrics were tailored for the study as a result of a debriefing session with three ELT department experts, and finalized after consulting three Educational Measurement and Evaluation experts. Table 3.15 summarizes the expert consultation process regarding the evaluation rubrics.

**Table 3.15***Summary of Expert Consultations for Evaluation Rubrics*

| <b>Expert</b>   | <b>Field of Study</b>                  | <b>Consulted Issue</b>                                                                                         |
|-----------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Experts 1, 2, 3 | Educational Measurement and Evaluation | Rubric Customization and Alignment<br>Criteria Development and Specification<br>Language Precision and Clarity |
| Experts 4, 5, 6 | ELT                                    | Construct Validity of the Rubrics<br>Language Precision and Clarity                                            |

In summary, the course implementation included a midterm written exam to test theoretical knowledge and a final practical project (plus ongoing participation tasks) to test applied skills. This mixed assessment approach was directly derived from the identified need to balance theory and practice. It provided students with multiple means to demonstrate their learning and aligned with the course's dual focus on knowing about technology integration and being able to do it.

### **3.6.6 Expert review and course finalization**

After developing the course components (objectives, content outline, weekly plans, materials, and assessments), a final round of expert review was conducted to finalize the design. At this stage, one curriculum development expert (with an ELT background) and two ELT field experts were engaged to evaluate the overall course design and its materials. These experts examined all aspects of the course package: the syllabus (with learning outcomes and weekly topics), sample lesson plans, lecture slides or notes, activity descriptions, and assessment instruments. Their role was to provide an external check on the course's consistency, depth, and practicality before it was delivered to students. Table 3.16 summarizes the expert consultations for overall course evaluation.

**Table 3.16***Summary of Expert Consultations for Overall Course Evaluation*

| <b>Expert</b> | <b>Field of Study</b>       | <b>Consulted Issue</b>                                    |
|---------------|-----------------------------|-----------------------------------------------------------|
| Expert 1      | Curriculum Development, ELT | Course Design and Development Process<br>Course Materials |
| Expert 2      | Educational Technologies    | Technology Selection and Integration                      |
| Experts 3, 4  | ELT                         | Course Design and Development Process<br>Course Materials |

Incorporating the final suggestions, the researcher finalized all course documents and prepared for delivery. At this point, the TIELT course design was complete, having passed through iterative stages of analysis, design, and evaluation. The next step was to implement the course with the actual participants, as described in the following sections.

### **3.6.7 Implementation context and setting**

The course was implemented in the spring semester of the 2023/2024 academic year as a regular offering in the English Language Teaching Department of the Faculty of Education. The course took place over 15 weeks in total, which included 14 weeks of instruction and activities, plus 1 week allocated for exams (faculty exam period). Each week, the class met for a 2-hour session. The sessions were scheduled in a computer laboratory on campus, meaning that every student had access to an individual desktop computer during class. This setting was deliberately chosen: since the course required students to try out digital tools and complete tasks online, having personal computer access was considered essential for effective implementation. The availability of individual computers allowed students to follow along with demonstrations and practice in real time, which supports active learning. It also ensured that technical issues could be addressed on the spot, with the instructor and peers present to assist, rather than expecting students to figure things out later on their own. In addition, the Computer laboratory was equipped with an overhead projector, which was used to display presentations and provide tool instructions. This allowed the instructor to demonstrate software tools in real time while learners followed along on their own computers. Prior research indicates that providing adequate technological infrastructure and access is an important factor in successful technology integration training. In the context of this study, the laboratory

setting removed a potential barrier (lack of devices) and created an authentic environment for learning about educational technology.

The course was offered to third-year English Language Teaching department students as an elective course. A total of 62 teacher candidates enrolled and participated in the implementation. The class size of 62 was somewhat large for a technology-intensive course, but manageable within the lab space which was equipped for that number. To handle the large group, the instructor sometimes divided students into smaller working teams for activities, or circulated around the room to provide individual support as needed. Additionally, online forums and the use of a WhatsApp group helped manage communication and questions outside of class hours.

No significant issues were encountered with the physical setting, the computers and internet access in the laboratory were generally reliable throughout the semester. However, one consideration was accessibility outside of class: not all students had strong internet or personal computers in their dormitories or homes. To address this issue, at the start of the course, learners were informed of the availability of the university's computer laboratories outside class hours (including the Faculty of Education laboratory and the Distance Education Center's facilities). They were encouraged to use these resources to practice with course tools, review materials on the LMS, or complete assignments if they lacked the necessary technology at home. This ensured that all learners, regardless of personal circumstances, could fully participate in and complete the course.

### **3.6.8 Course structure and instructional approach**

The course was delivered following a consistent weekly structure that balanced instruction with hands-on practice. Each 2-hour class session was generally divided into two main segments:

**First Hour - Theoretical and Conceptual Focus:** In the first half of each class, the instructor introduced the week's topic, which often involved explaining key concepts or pedagogical frameworks related to that topic. This often took the form of a mini-lecture or guided discussions.

**Second Hour - Technological Demonstration and Practice:** The latter half of the class was devoted to practical, hands-on engagement. The instructor would demonstrate one or more technological tools aligned with the week's topic, often for about 15 to 20 minutes.

For instance, continuing the mobile apps example, the instructor might showcase a specific language learning app or walk through how to create a simple activity using a mobile platform. Students could follow along on their own computers or devices as appropriate. After the demonstration, the remaining time (typically 30+ minutes) was allocated as practice time for students. During this practice period, students were tasked with trying the tools themselves, either completing a guided exercise or exploring the tool's features freely to accomplish a small task or project. They might work individually or in pairs/groups depending on the nature of the task. The instructor circulated in the lab to assist with technical issues or questions. This structure, conceptual learning followed by immediate practice, was chosen to reinforce learning by application. It also caters to adult learning principles by allowing learners to "learn by doing" soon after they learn by hearing/seeing, which keeps engagement high.

The overall instructional approach was designed to be interactive and learner-centered. Students were not only recipients of information but active participants in the learning process. They engaged in frequent peer discussions, collaborative projects, and had some degree of choice in their learning activities (as noted under inclusivity). This student-centered approach was adopted because it has been shown to enhance motivation and learning outcomes in higher education. By giving learners agency such as flexibility in completing assignments at their own pace within given deadlines, or choice in project topics the course aimed to create a sense of ownership of learning. Most homework and assignments were given with a long lead time (often assigned early and due by the end of the term) so that students could plan their work according to their schedules and explore topics of interest in greater depth at their own pace.

In summary, the implementation was characterized by a repeating weekly flow of theory - demonstration - practice, all delivered in an interactive format. This structure was intended to create an active learning environment that keeps learners engaged and maximizes the application of knowledge. By the end of each session, students had not only learned about a new aspect of technology integration but had also experienced it firsthand, thereby reinforcing their learning and building confidence in their ability to use the tools outside the instructional context.

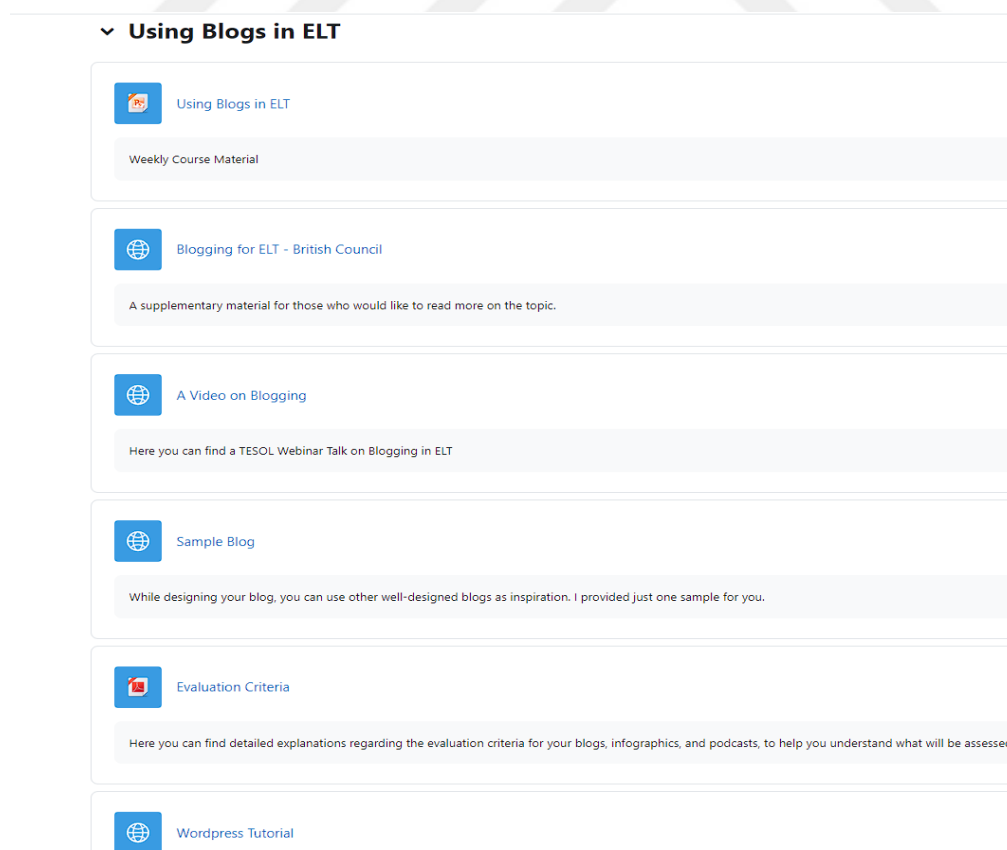
### 3.6.9 Accessibility and inclusivity measures

Because this course centered on technology, ensuring accessibility and inclusivity in its design and implementation was a priority. Accessibility refers to making the course content and activities reachable and usable for all learners, regardless of varying needs or contexts, and inclusivity refers to creating a learning environment where everyone feels valued and able to participate fully. Several measures were taken to support these principles:

**Diverse Content Formats:** The course materials were presented in multiple formats (text, video, audio) on the LMS to accommodate different learning styles and any disabilities that might make one format preferable. By providing multimodal content, the course aimed to improve its overall accessibility, and also keep learners engaged by mixing media. Figure 3.2 below presents a sample week from the LMS.

**Figure 3.2**

*A Sample Week in the LMS*



The screenshot displays a list of resources under the heading "Using Blogs in ELT". Each resource is represented by a blue icon, a title, and a brief description.

- Using Blogs in ELT** (Icon: Document with 'PS')  
Weekly Course Material
- Blogging for ELT - British Council** (Icon: Globe)  
A supplementary material for those who would like to read more on the topic.
- A Video on Blogging** (Icon: Globe)  
Here you can find a TESOL Webinar Talk on Blogging in ELT
- Sample Blog** (Icon: Globe)  
While designing your blog, you can use other well-designed blogs as inspiration. I provided just one sample for you.
- Evaluation Criteria** (Icon: Document with 'PS')  
Here you can find detailed explanations regarding the evaluation criteria for your blogs, infographics, and podcasts, to help you understand what will be assessed.
- Wordpress Tutorial** (Icon: Globe)

**Flexible Assessment Options:** Inclusivity was emphasized in how students could demonstrate their learning. Wherever possible, choice was built into assignments. An example was the final project (blog creation), students were actively involved within each step of evaluation, meaning they had input or options at each stage. For instance, they were allowed to choose the platform for creating their blog from several suggested options or even propose new ones, as long as the final output met the criteria. They could also choose their own topic for the blog project based on their personal interests or teaching context (within the scope of language teaching and technology). This flexibility acknowledged that learners have different strengths, one might excel in video editing and incorporate that into their project, while another might shine in writing and focus on rich text content, therefore it was aimed to let them leverage their strengths. The guiding philosophy was to avoid standardized approach when assessing diverse learners.

**Inclusive Environment and Support:** The instructor aimed to set a tone that every question was welcome and every student's perspective was valuable. Effort was made to ensure that quieter or more introvert students had ways to contribute (e.g. via the forum discussions if they were less interested speaking in class). The instructor paid attention to group dynamics to ensure nobody was left out in the group works. Additionally, recognizing that not all students start with the same level of digital literacy, extra support was provided for those who needed it. The instructor made themselves available outside class (through email, scheduled office hours, LMS chat function, and the WhatsApp group) to handle individual issues or questions. If a student was struggling with a tool or had difficulty understanding a concept, they could get help promptly, preventing them from falling behind. The inclusive strategy also meant respecting student feedback and agency. For example, if multiple students reported that a particular tool was too difficult or a resource was not helpful, the instructor would consider adjusting the course accordingly, either by providing an alternative tool or additional guidance. With this responsiveness it was aimed to made students feel heard and valued in the course.

**Addressing Technological Barriers:** As mentioned under the context, arrangements were made for students who might not have had reliable technology access personally. Additionally, all required software or tools in the course were free to use or openly available, which was a conscious decision to avoid financial barriers. In case some tools

had accessibility issues, the instructor either provided workarounds or chose alternative tools if needed.

#### **3.6.10 Role of the researcher**

In this study, the researcher was also the course instructor. This dual role required careful management but also offered certain advantages. It is common in design-based interventions that the researcher is deeply involved in implementation, which can yield insider insights and the ability to make timely adjustments on the design.

From a teaching perspective, the researcher took on the role of the course instructor, guide, and mentor for the participants. This meant preparing and delivering all instructional content, facilitating activities, and providing feedback on assignments and assessments. During class sessions, the researcher was the primary facilitator, presenting new concepts, demonstrating tools, and moderating discussions. In the hands-on practice segments, the researcher circulated around the classroom to assist students individually, troubleshooting technical problems, or clarifying instructions as needed. The researcher also provided extensive feedback to learners: for example, after the midterm exam, a review session was held to go over common difficulties; on the LMS, the researcher commented on forum posts to acknowledge good ideas or gently correct misconceptions; and for the blog project, the researcher offered initial feedback on proposals or drafts submitted by students so they could improve before final submission. Additionally, outside the scheduled class time, the researcher maintained communication channels to answer questions and give guidance. The intent was to create a supportive mentorship atmosphere, where students felt the instructor was approachable and invested in their success. Given that many students were experimenting with unfamiliar technologies, this support was critical to keep them motivated and confident.

From the research perspective, the instructor had to simultaneously be mindful of data collection and objectivity. Responsibilities here included administering the research instruments (the TPACK-EFL scale in the pre-test and post-test) and conducting focus group interviews for evaluation, all while managing the class logistics. Balancing these dual roles can be challenging, however, measures were taken to handle this: the survey was given at the very start and end of the term as a standard procedure without discussing its content in depth, and an effort was made to create an open environment in the focus

groups so students would feel free to critique the course despite the researcher also being the teacher.

Furthermore, the researcher's background and preparation played a role in how the course was taught. Prior to this study, the researcher had served as a teaching assistant in an "Instructional Design" course for two semesters, which provided foundational experience with educational technologies and material design. The researcher also actively engaged in professional development by attending workshops and conferences on language teaching with technology. These experiences helped in designing a field-specific technology course and gave the researcher a reservoir of practical knowledge to draw upon during implementation. It meant the instructor was not only theoretically knowledgeable but also fairly comfortable handling the tools introduced, which is crucial when students encounter technical difficulties or advanced questions.

In summary, the dual role of instructor-researcher was managed through careful planning, mentorship, and reflexivity. This deliberate balance enabled the instructor-researcher to remain responsive to learners' needs while simultaneously preserving academic standards, and methodological transparency, both essential for the integrity of a design-based research study.

#### **3.6.11 Iterative improvement and adaptation**

Some mechanisms to continuously evaluate and refine the course during its implementation was built by the researcher. This reflects the "Evaluate and Revise" step of the ASSURE model and the iterative cycles emphasized in Design-Based Research. In practice, this meant that feedback from participants was gathered at multiple points and used to make adjustments to the course in real time.

One formal mechanism for feedback was the use of focus group interviews with the students. Two focus group sessions were conducted during the semester: one around the mid-point (after Week 7) and one at the end of the course. The mid-term focus group was aimed at capturing participants' perceptions while there was still time to implement changes. Students were asked about what they found useful, what challenges they were facing, and any suggestions they had for improving the course. In essence, the course "evolved and improved as a result of learners' feedback". This mid-course correction is a strength of iterative design: minor tweaks (like pacing, additional clarification on difficult topics, or swapping out a planned tool for a more requested one) were made to

enhance the learning experience for the rest of the term. In the second focus group held at the end of the course, students were asked similar questions to reflect on their overall experience and to compare their perspectives before and after the course adjustments. This session also explored their views on the second half of the course, which had been shaped in part by their earlier feedback.

Beyond the formal focus groups, feedback channels were open continuously. The LMS forum and WhatsApp group often yielded insights; for instance, if multiple students raised the same concern or confusion online, the instructor would address it promptly in the next class or via an announcement. The researcher also held in-class discussions occasionally, e.g., at the end of a class, asking students informally how they felt about the activity or tool learned that day. All these inputs were fed into ongoing adjustments. While major structural changes were not needed, these smaller adjustments ensured the course stayed responsive to student needs.

Finally, it's important to note that the technology landscape itself can shift even during a semester. One of the challenges was staying up-to-date with rapidly evolving tools (discussed more under Challenges below). The iterative approach addressed this by allowing real-time content updates. For instance, if a tool changed its interface or a new relevant feature was launched, the instructor would inform the class and adjust the activity if needed. In one case, a software used for a collaborative activity introduced a new limitation on free accounts; upon discovering this, the instructor quickly found an alternative tool and provided it to students so their learning would not be disrupted. While such changes were minor, they illustrate the readiness to revise course plans as necessary to keep the course relevant and functional.

In summary, the course implementation was not fixed but responsive. Participant feedback (via focus groups, discussions, and direct communications) and expert/colleague input were continually integrated to refine the learning experience. This iterative improvement ensured that the course remained aligned with learner needs, addressed any emerging issues swiftly, and took advantage of opportunities to enhance learning that were identified along the way. By the end of the term, the version of the course delivered was essentially an improved iteration of the initial design, having been shaped in part by the learners themselves. This approach reflected the core principle of

DBR, treating the intervention as a flexible process that evolves through cycles of implementation and reflection.

### **3.6.12 Challenges and solutions during design and implementation**

The researcher faced some potential challenges during the course development and implementation process. One of the main challenges was to stay up-to-date in a rapidly changing field. The course required continuous updates, especially for the technological tools. These tools, since they were mostly free to use, required certain funds and attention to keep online, otherwise they might become unavailable. To tackle this, the researcher continuously reviewed the course content and technologies, to keep them current. Ultimately, this challenge reinforced the value of the course's iterative approach: constant monitoring and willingness to revise were necessary to handle the fast pace of technological changes.

Another potential challenge was to keep the course flexible enough to address the needs of its diverse participants, regardless of their experience or proficiency in using educational technologies. To overcome this, constant feedback from the participants was referred, and two focus group interviews were carried out. The findings were utilized to update and revise the course content. Similarly, to keep learners with lower technological proficiencies interested and engaged in the course, constant monitoring was required. To overcome this, the researcher kept an open communication with all learners, encouraging them to seek clarification or help when necessary.

Learners who did not have access to the Internet or personal computers were informed about the computer laboratories of both the Faculty of Education, and the Distance Education Application and Research Center. They were informed that they could practice technologies, review course content, and complete their assignments and tasks in these laboratories in their free time, in addition to the practice time allocated to them during the courses.

In conclusion, while designing and implementing the course, some challenges were encountered related to content currency, learner diversity, resource access, and logistical management. By anticipating these challenges and addressing them through continuous monitoring, flexible planning, and support mechanisms, the course was able to meet its objectives.

The complete and detailed description and samples of the finalized course structure, comprehensive objectives, weekly syllabus, specific tasks, activities, and evaluation outcomes are provided in the Findings Chapter.

### 3.6.13 Reliability and validity

In Design-Based Research, the researcher makes use of both quantitative and qualitative data to design, implement, and evaluate the educational intervention (Anderson & Shattuck, 2012). For this study, quantitative data was used for the evaluation of the effects of the course on learners' TPACK scores. To this end, the TPACK-EFL scale was used in the pre/post-test design.

First, the scale was pilot tested before the implementation, and Cronbach's Alpha score was reported ( $\alpha = .96$ ). This indicates that the items on the scale measure the same underlying construct. After the pilot testing, teacher candidates were asked if they had any questions or confusion regarding the items of the scale. No confusions were mentioned. The participants during the actual implementation were also asked if they had any questions about the scale. Additionally, the construct validity of the scale was tried to be ensured by consulting three experts in the language teaching department, who reviewed the TPACK-EFL scale items for relevance and comprehensiveness. Table 3.17 summarizes this process.

**Table 3.17**

*Summary of Expert Consultations for the TPACK-EFL Scale*

| Expert          | Field of Study              | Consulted Issue                                      |
|-----------------|-----------------------------|------------------------------------------------------|
| Experts 1, 2, 3 | ELT, Technology Integration | Relevance to Language Teaching<br>Construct Validity |

### 3.6.14 Trustworthiness

Qualitative data were also gathered and analyzed for the study to find out the needs and expectations of in-service and pre-service teachers, and suggestions of relevant field experts. Moreover, to examine participants' perceptions of the course, focus group interviews were conducted. To ensure the trustworthiness of the study, the principles of Lincoln and Guba (1985) were followed.

The first of these principles was credibility. To ensure credibility, the researcher pursued prolonged engagement. Being the course instructor, the researcher had a natural advantage in establishing relationships with the learners and interacting with the participants over an extended period of time. Additionally, the researcher aimed to maintain reflectivity by conducting repetitive formal and informal discussion sessions. Moreover, the researcher aimed to ensure triangulation by making use of a diverse range of data for developing the course, including needs analyses, expert opinions, and literature review. For the ISTs' needs analysis, teachers from different educational stages, and different schools were selected. Similarly, to reach a wide range of perspectives, consulted experts were chosen from different fields of study and institutions. Member checking and interrater reliability were also employed in the study. Expert opinions were consulted for the design and development of the course, course content including the weekly materials and technologies, and evaluation methods. Finally, the role of the researcher was described in detail.

For transferability, a thick description was provided regarding the course design and implementation process, and the participants, allowing for other researchers to assess the applicability of the process for other similar contexts. Additionally, the findings of the study were compared and related to the existing literature to highlight any similarities and differences. By presenting and discussing the findings in detail and supported with participant statements, the study was aimed to be made more comprehensible for other researchers, to increase its transferability.

For confirmability and dependability, peer debriefing for the data transcription and analysis was referred to. Along with member checking, a colleague was referred to check the transcriptions, and the initial codes and themes.

To overcome data collector bias, some precautions were taken. The researcher used blinding when managing and analyzing the data, and an external reviewer was involved in the process. Member checking was also implemented, to ensure unbiased transcription of the data. Participants of the study were frequently reminded of the voluntary nature of the study, and they were informed that the data of the study were irrelevant to their achievement. Participants who did not want to take part in the study or those who wanted to opt out were allowed without any persistence or penalty, leaving a total of 42 participants out of 64 enrollers in the course.

### **3.6.15 Ethical precautions**

Various measures were taken to ensure compliance with the principles of scientific research ethics. First, the researcher obtained the necessary approval document from the Ethical Committee to conduct the research (Appendix 16).

Additionally, respect for participants' autonomy was ensured throughout the research process, and consent for voluntary participation was obtained at each section of data collection. The participants were noticed that they could leave the study whenever they wanted. Furthermore, while reporting the research findings, data integrity was ensured, participants' privacy was protected, and their identities were concealed using representative numbers instead of their actual names, and finally, the collected data were stored solely by the researcher, and were not shared with third parties.

## **4 FINDINGS**

This chapter presents the findings of the study, organized into three phases aligned with the research methodology. These phases build upon each other, illustrating how empirical and theoretical insights were transformed into practical instructional outcomes for the course, and evaluated for effectiveness.

The first phase, the course design phase, covers the initial stages of the ASSURE instructional design model: Analyze Learners, State Objectives, and Select Methods, Media, and Materials. It begins by thoroughly reporting the results of comprehensive needs analyses carried out with two groups: ISTs teachers and TCs. This section identifies these groups' perceptions, expectations, and practical needs regarding technology integration in language teaching. Following this, findings from structured expert consultations are presented, highlighting recommendations and insights from the specialists of relevant fields of study, whose input was essential in ensuring the course's relevance, practicality, and theoretical coherence. After presenting this empirical data, the chapter outlines how the findings from needs analyses and expert input were transformed into practical design decisions through the ASSURE model's initial stages (demonstrating how learner needs guided the formulation of measurable learning objectives, and informed the selection of instructional methods, media, and materials for the course). Finally, the last section of this phase aims to link these decisions to the core theoretical frameworks guiding the study, namely Connectivism and TPACK, demonstrating how theory shaped instructional choices.

The second phase, course implementation, addresses the subsequent ASSURE stages: Utilize Media and Materials, and Require Learner Participation. This section provides information regarding how the course was practically structured, delivered, and experienced by participants. It moves from initial planning into active delivery, describing how the course syllabus, weekly instructional content, learning activities, assignments, and digital tools were utilized in practice. It provides illustrative examples of weekly sessions, collaborative activities, integration of digital resources, and instructional methodologies, revealing how participants actively engaged with course materials and activities.

The third and final phase addresses the Evaluate and Revise stage of the ASSURE model. It presents findings related to course evaluation and effectiveness, reporting specifically

on the extent to which the implemented course met its stated objectives and enhanced teacher candidates' TPACK. This evaluation brings together data from multiple sources, including midterm assessment results that provided formative insights into learners' progress, analyses of participants' e-portfolios, quantitative findings from the TPACK-EFL scale measuring changes in participants' self-perceptions regarding their technological competencies, and qualitative participant feedback concerning their perceptions, satisfaction, and suggestions for course improvements. Overall, this phase evaluates the instructional design's impact, addressing the research question (RQ4) about the course's effectiveness.

Each of these phases aim to demonstrate how instructional design (via ASSURE stages), empirical evidence (needs analysis, expert consultations, and evaluation), and theoretical grounding (Connectivism and TPACK) were integrated to develop, implement, and evaluate a technology integration in language teaching course.

#### **4.1 Findings of Phase 1: Course Design**

This phase focuses on designing the course tailored to the needs of EFL teacher candidates. In this phase, the foundation of the TIELT course is established by identifying what content and skills are needed by the TCs, by presenting the findings of two sets of needs analyses (ISTs and TCs), and expert opinions regarding the TIELT course. This directly addresses the first three research questions, which ask about TCs and ISTs expectations for such a course, expert insights, and the intended aims, content, teaching methods of the course. By establishing the design in needs analysis and expert input, Phase 1 aims to ensure that the course is goal oriented to meet the local needs, and aligns with the Design-Based Research methodology that emphasizes context-aware design and development.

The findings of the study are presented with sample quotations of participants where possible. However, the EFL teacher candidates' data was collected through open-ended online questionnaires to obtain data from as many participants as possible, and they provided short answers to the questions rather than detailed answers to form participant quotes. Therefore, the needs analysis section with EFL teacher candidates is presented without sample participant quotations.

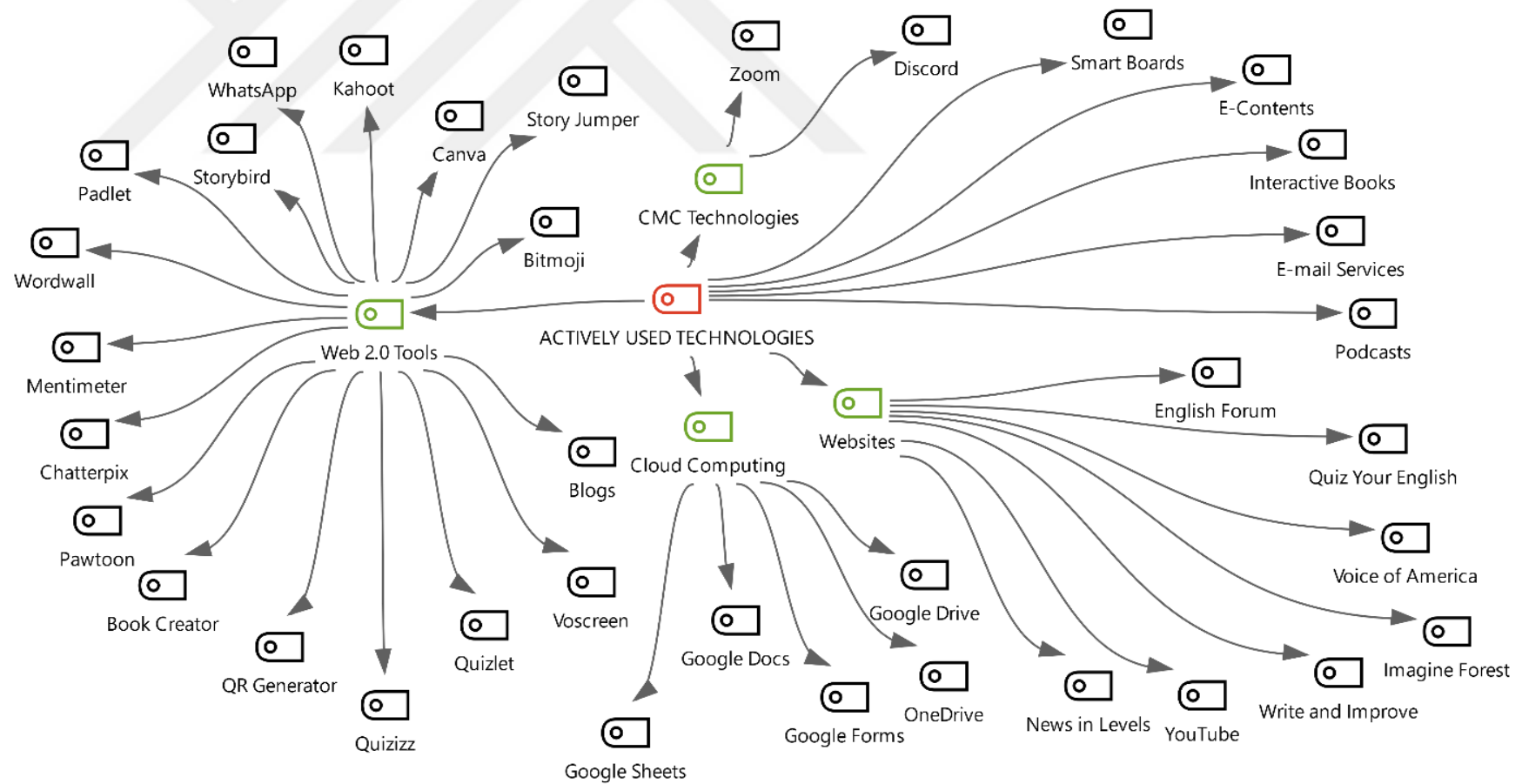
#### **4.1.1 Needs analysis with in-service teachers**

One part of the needs analysis involved ISTs, as they had valuable insights due to their dual familiarity: first, with the ELT curriculum, through their own teacher education backgrounds; and second, with EFL teacher candidates, through their role as mentors or cooperating teachers during the practicum phase of pre-service teacher training. Their extensive experience in the classroom and direct involvement in mentoring teacher candidates positioned them well to provide informed feedback on the competencies needed for effective language teaching. Eight teachers took part in online semi-structured interviews (Appendix 2) and the analysis of the data revealed the following themes and codes.

First of all, all of the teachers stated using technology for language teaching. The tools and applications they mention using for language teaching are summarized in Figure 4.1 below.

**Figure 4.1**

*Actively Used Technologies by ISTs*

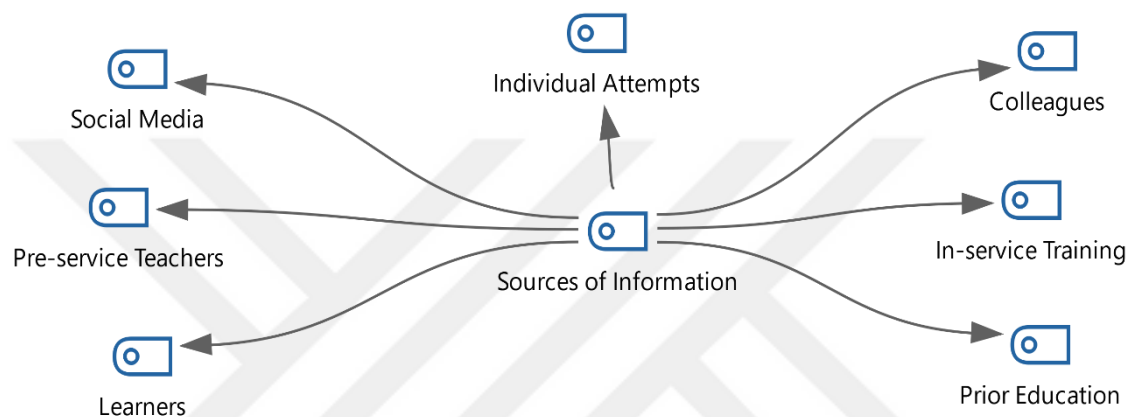


#### 4.1.1.1 ISTs' sources of information

ISTs mentioned seven different sources of information when they were asked where or how they acquired the technologies they use in their teaching. Figure 4.2 summarizes these sources.

**Figure 4.2**

*ISTs' Sources of Information*



Although ISTs stated using a wide variety of tools, they became familiar with most of these technologies during their teaching years and the role of their teacher training was rarely mentioned. Their most common source of information was reported to be ISTs' own interest and curiosity, with most of them learning these tools via individual attempts. The following extracts provide samples of information sources:

IST2: "Frankly, it was a little late, but I became familiar with the use of technology in 2019. Then, I attended certain certificate programs. At Open, the training program of the American Embassy, I attended a conference on Using Educational Technology in English Classrooms. I also received a certificate at Iowa State University this year. At the same time, I actively use the information I have gained from social media. I am a member of certain educational forum sites."

IST4: "I am a curious person and I like to improve myself, so I have taken part in many projects. When you participate in a project or training, you learn a lot of things during that period. To be honest, I learned technology mostly from projects. Apart from that, there are also seminars by the MoNE. ... I took part in a seminar on the use of technology..."

Following individual attempts, their colleagues and social media were the second most mentioned sources of knowledge. IST6 stated "We learn a bit from our colleagues. We

keep in touch with our colleagues from abroad, I ask them what they use and vice versa.”  
IST1 added:

IST1: “I came across some technological tools on social media. You know, we are all members of some social media communities. For example, in a social media community called ‘The Platform of High School English Teachers’, I may learn something, or recommend things to other teachers, and I keep track of recent developments.”

Some teachers even mentioned learning technologies from EFL teacher candidates during their practicum and from their students. IST7 stated, “...Even from the teacher candidates during their teaching practicum, I have seen not only Kahoot but many e-content that I can use, and I have used them from time to time.”

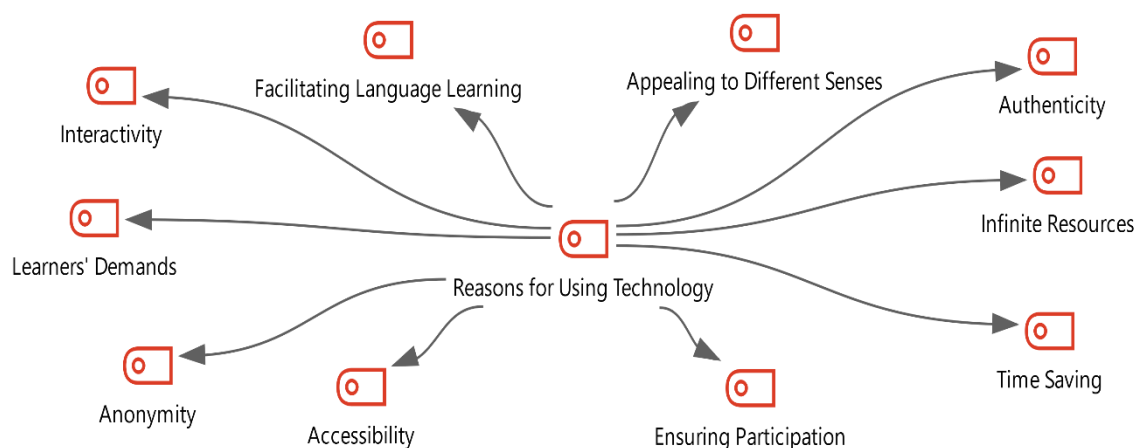
Only one of the teachers mentioned learning useful technologies during teacher education. IST3 mentioned “I think the main source is the materials design course I took at university. Through that course, I have learned many Web2.0 tools and what web2.0 means, the basis of it.”

#### 4.1.1.2 *ISTs’ reasons for using technology*

ISTs’ reasons why they prefer to use technology in their teaching process can be seen in Figure 4.3.

**Figure 4.3**

*ISTs’ Reasons for Using Technology*



The most frequently mentioned reason for using technology was to address the differences between learner types (visual learners, auditory learners, etc.) and appeal to as many senses as possible. The participants particularly complained about their course

books' limitations in capturing learners' attention. IST4 pointed out that: "Our learners do not want to look at the books for a long time, they want to see different things, and they want to listen. Therefore, I use technology to better attract their attention." Similarly, IST3 added:

IST3: "As students, we were always taught never to appeal to a single sense, it was important to appeal to multiple senses at once, and it is probably technology that enables this in the most intense and best way because the learners can see, hear and apply at the same time. When things are put into practice, the learners remember the best."

Along with ensuring learner participation and engagement, according to ISTs, using technology also enhances interactivity in the classroom. IST5 stated that "Learners prefer to do some of their writing tasks with the help of Web 2.0 tools because they are more interactive." Some teachers mentioned using technology since it is basically an infinite source of educational materials and sources. IST7 shared the following on this issue:

IST7: "This is because digital learning materials can offer different content at different levels, rather than the single text that the course book offers to the learners. While technology offers listening and reading texts at the A1 level, it also offers listening and reading texts at the B2 level. The learners in my school have a wide range from A1 to B2."

Teachers also accepted using these technologies because of their learners' demands or to address their needs as digital natives, as stated by IST2.

IST2: "I think our learners are digital natives, they were born into technology and they use technology at every stage of their lives. My personal opinion is that the absence of technology in the classroom of a learner who has technology in their daily life basically means isolating the learning environment."

Another reason was to create authentic learning opportunities, which were reported to be much easier thanks to technology. IST2 added: "I think that if our main aim is to provide learners with authentic learning environments, we have to make use of technology." As stated by IST6, technology also provides a multitude of tools and resources for teachers (websites, Web 2.0 tools, and online language communities) that facilitate language learning.

IST6: "I mean; I think it is supportive. For example, the MoNE sends us certain materials. Technology is not integrated into those materials. As teachers, we have to fill in some gaps. Of course, the things we use to fill those gaps have evolved, so we have gone beyond the days of learning from cassettes or CDs. So we try to improve ourselves so that we can keep

up with the level of the students. Web 2.0 tools also help us in this regard, in terms of integrating technology into the classroom.”

Some teachers mentioned that technology provides constant accessibility to all materials for all learners and teachers. Additionally, according to ISTs, using technology saves time in some tasks, and teachers can utilize this extra time in other useful ways. The ideas of IST1 support this concept.

IST1: “It keeps me away from things that will cause me to waste time, for example, even writing a grammar structure on the board will take a lot of time, while it is possible to provide them in a much more compact way with the e-content of the book you follow. This way, I can spare time for practice.”.

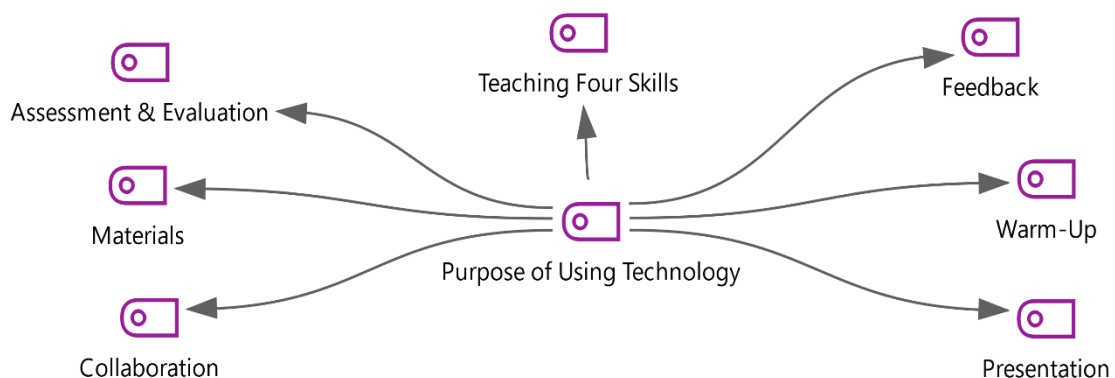
Finally, a teacher mentioned receiving honest feedback from the learners thanks to technology and anonymous communication.

IST7: “It is very important to collect feedback anonymously. Even though I asked the students to write their opinions, feelings, and thoughts anonymously, they might have been worried about me recognizing their autograph or the type of paper they used. But now, online data allows me to access more sincere or accurate feedback because it provides anonymity.”

#### 4.1.1.3 ISTs’ purposes of using technology

A summary of the purposes of technology use by ISTs can be seen in Figure 4.4.

**Figure 4.4**  
*ISTs’ Purposes of Using Technology*



The most mentioned purpose by teachers was to use technology to teach and support four skills. IST6 provided the following information:

IST6: “I think that the writing skills of children are overlooked in general. That is why I try to use tools that will make writing fun. Apart from that, some applications will make reading fun. For example, more animations, or some websites animate novels in the form of different

characters, I try to integrate them. For listening skills, I try to bring applications into the classroom environment where they can write their own songs, listen to different topics, or talk with friends from abroad.”

With the help of technologies that make tracking learners’ progress and providing feedback easier, providing and receiving feedback from learners was also a frequently mentioned purpose. IST7 stated, “I use Google Documents for many purposes; for mutual peer assessment or to collect feedback in almost every course.” Similarly, technology makes assessment and evaluation easier, more fun, and more accurate, especially in terms of small quizzes. IST3 conveyed that “I think I use it more in different forms of competitions to check their understanding.”

Teachers also use technology as a warm-up tool to begin classes and find out learners’ attitudes towards the topic, or activate their prior knowledge. Additionally, they use technology to provide their learners with rich and up-to-date materials and engaging presentations. IST2 stated, “I try to use technology in the lead-in and warm-up stages to understand what students know or their attitudes towards the lesson.” IST1 added:

IST1: “But there are interactive book contents that we usually use, and using them both increases the efficiency of the lesson because it is interactive and affects the participation positively, so I am definitely in favor of keeping myself up-to-date on that subject. In summary, I utilize technology for using digital course materials.”

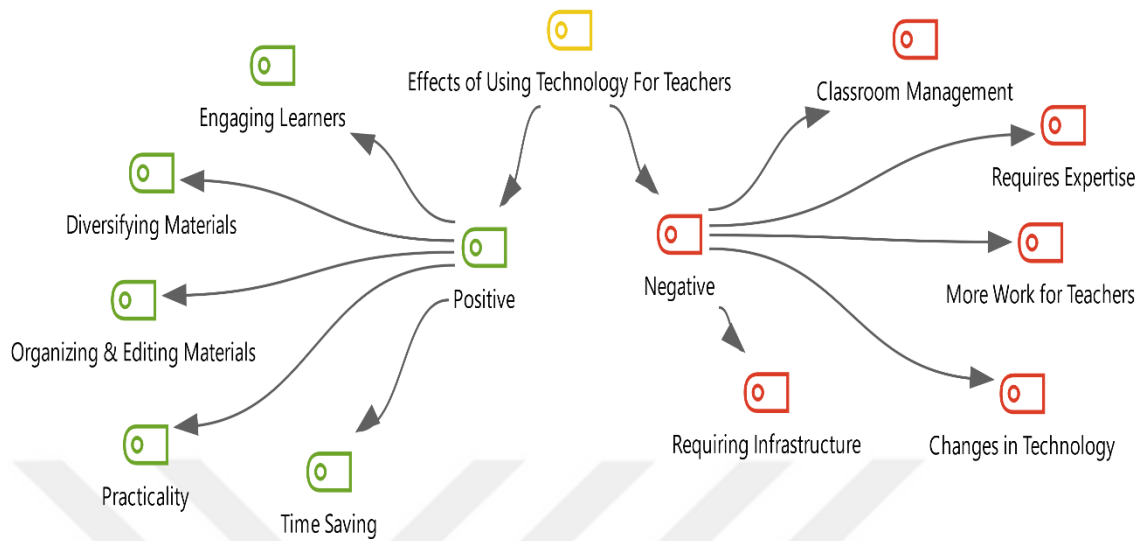
Finally, according to teachers, technology facilitates collaboration among learners and teachers by enabling online and asynchronous communication and cooperation, allowing them to work together on homework, share ideas, and engage in group activities. IST7 stated: “I use Google Docs, each student has a Google Docs account and they upload all their writing there. This provides us with chances of mutual editing of their writing.”

#### ***4.1.1.4 ISTs’ views on the effects of using technology for teachers***

When they were asked about the effects of using technology in their lessons, drawing from their experiences, ISTs provided many effects, including some perceived negative effects. Figure 4.5 summarizes the effects of using technology.

**Figure 4.5**

*ISTs' Views on the Effects of Using Technology for Teachers*



ISTs' focal point regarding the benefits of using technology was learning materials. They pointed out that they can find many different online materials and it would be easy for them to organize and edit these materials when compared to the printed versions. They can also share these materials with their learners a lot easier with the help of technology. IST1 explained that: "For example, enlarging the book page on the Smart Board and allowing children to respond quickly with one-to-one interaction avoids wasting time writing on the board."

The participants also added that technology is practical and time-saving, and with the inclusion of interactive multimedia, and games, it may help engage learners. Overall, teachers claimed that technology use can prove useful for both teachers and learners when used correctly, even during emergency online education, as stated by one of the teachers.

IST1: "Using technology definitely makes the process more practical, It keeps me away from things that will cause me to waste time, for example, even writing a grammar structure on the board will take a lot of time, while it is possible to provide them in a much more compact way with the e-content of the book you follow."

Although ISTs mention various advantages of using technology, it is also mentioned to be potentially challenging in terms of classroom management by IST8, especially for inexperienced teachers or during the introduction of new technologies.

IST3: "It is very useful in getting the learners' attention, but if we look at its disadvantages, as I mentioned before, learners can sometimes sabotage the lesson. For example, they raise

their hands just to get to the board and touch or press something on the board that has nothing to do with the lesson.”

IST8: “Although I do not have any problems regarding classroom management since it is my 17<sup>th</sup> year in the profession and I can control them when they, let’s say, take out their mobile phones for an activity, however, it might be a little harder for inexperienced teachers. Learners sometimes lose focus and start doing other things with their phones.”

Some ISTs claimed that using technology requires a certain level of expertise because it is constantly changing and progressing. It was also mentioned that teachers should stay up to date with the rapid changes in technology. In addition, integrating these technologies into teaching requires more work from the teachers, especially during the initial stages of using those particular technologies.

IST2: “Frankly, I think it means more work for teachers. Because teachers have to deal with classroom management to a certain extent, but they also have to encourage autonomous learning. So it requires a certain level of expertise on the part of the teachers.”

IST6: “It is exhausting, of course. As a teacher, you make more effort. For example, you spend more time outside the classroom than a teacher who does not deal with technology. You always need to plan, ‘How can I do this, how can I ensure its safety, etc.? Can learners abuse this in any way? Or are there any advertisements, and are those advertisements safe? Of course, it is necessary to try them beforehand. It actually means doing overtime to eliminate some risks.”

Finally, even in cases when ISTs were willing or ready to use educational technologies, they noted that effective use requires certain infrastructure, tools, and gadgets, which could potentially cause additional problems.

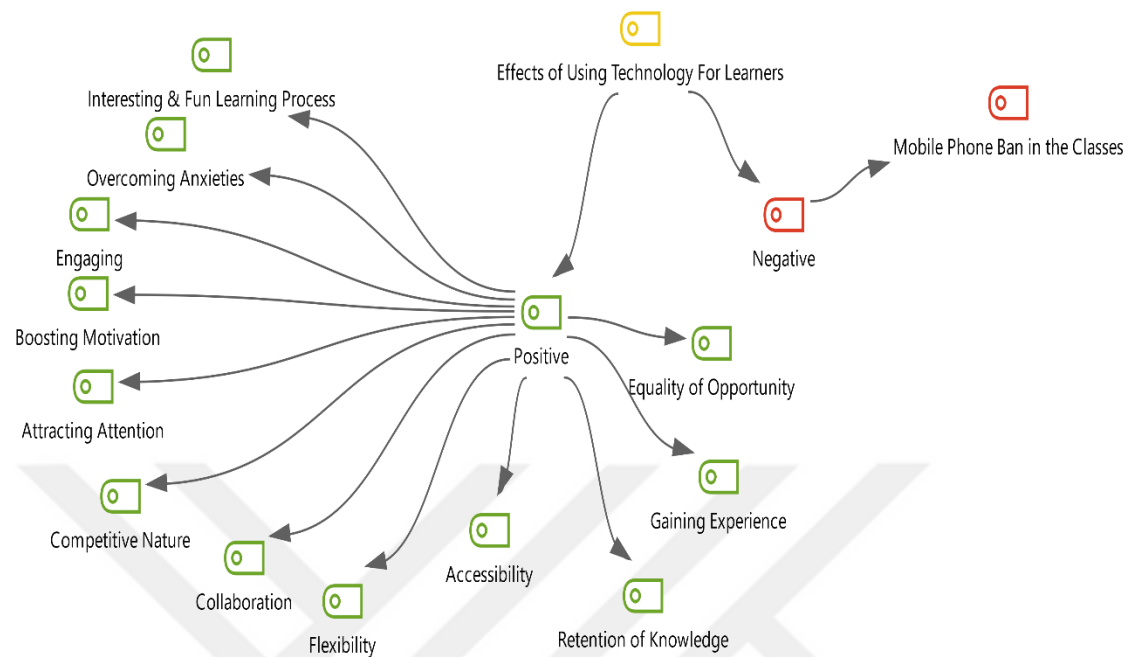
IST5: “As with any lesson plan, there may be technical issues and malfunctions. There can be power blackouts, the internet may be cut off, or the learners may not have internet at all. So, we can say technical impossibilities and possible momentary technical issues are troublesome.”

#### ***4.1.1.5 ISTs’ views on the effects of using technology for learners***

A summary of the opinions of ISTs on the effects of using technology for their learners can be seen in Figure 4.6.

**Figure 4.6**

*ISTs' Views on the Effects of Using Technology for Learners*



When it comes to the effects of using technology for learners, ISTs mentioned that using technology helps them to attract learners' attention, and ensure learner engagement through educational games, rich multimedia content, and authentic materials. Additionally, by attracting learners' attention and interest, technology use may motivate learners. IST5 pointed out that "Some of the learners prefer doing their writing assignments through web 2.0 tools because they are more interactive and increase learners' motivation." On learner engagement, IST1 mentioned: "I think it is easier to engage the learners in the lesson when there are visual materials, I think their interest lasts longer and I see that they can concentrate for longer when these visual materials are on the Smart Board." IST3 added:

IST3: "Because, especially the current generation, the generation Z, with whom we are dealing, is born right in the middle of the age of computers, mobile phones, and information. These technologies are also the most effective ways you can address a learner. It is very effective in terms of capturing their attention."

Using technology was reported to be useful in overcoming anxieties since online learning environments might provide more anonymity and flexibility to those who need them. IST5 mentioned this issue:

IST5: “Zoom was actually useful for us in terms of overcoming some barriers such as the anxiety experienced by children in English lessons, especially speaking anxiety, anxiety regarding their facial expressions while speaking, anxiety of being mocked by their friends, and so on.”

On the other hand, technology was mentioned as a provider of chances for collaboration through cloud services and CMC tools, and even competition through online quizzes and games to those who prefer group work and competition. IST2 and IST8 provided their views as follows:

IST2: “I think that online learning environments are beneficial for the learners since the concepts of space and time have become more flexible for the learners and their chances of collaborative learning have increased.”

IST8: “Even when they felt incompetent and felt like they did not understand a topic, they enjoyed competing and beating their friend by one score at the last moment. I think we enjoy playing games no matter how old we are.”

Accessibility, and therefore, equality of opportunity were also mentioned by teachers. Technology provides accessibility to infinite online sources and flexibility for all learners to study their preferred type of multimedia at their own pace. IST8 stated that:

IST8: “The concepts of space and time are now outdated in learning. Learners can practice what they have learned on their own. I, as a teacher, need to ensure that they can use those websites and applications at home without me. This ensures equality of opportunity. If each learner is guided by their teachers to practice in their own time by their learning pace, equality of opportunity can be ensured.”

According to teachers, the aforementioned advantages might cause better retention of what is learned, especially when learning is supported with interactive applications and practice chances. For all these reasons, technology was also mentioned to be an interesting and fun addition to traditional teaching settings. Finally, teachers stated that by engaging with technology, learners become familiar with the applications of certain technologies in education and gain valuable experience that may be useful later when dealing with unfamiliar technologies, as indicated by IST2 and IST8.

IST2: “I think it is also useful in terms of retention of learning. Students can use these websites and applications at home without me. They can improve their learning. They can also feel more free. They make their own applications, blogs, etc. With technology, they can practice and re-experience the things they learned.”

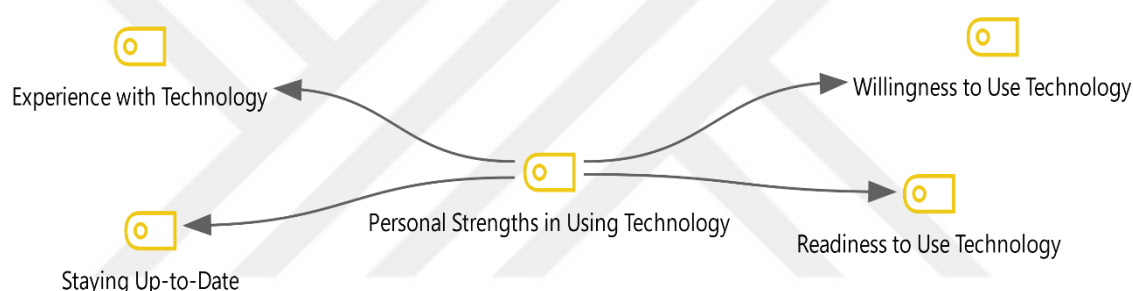
IST8: “Some parents do not allow their children to spend much time on their computers, tablets, or phones. They consider it harmful. They do not believe that their children can study with software. They think that they will only play more games. That is why students need to experience technology in the classroom. In other words, they can both be playing and learning. For some learners, I can say that even pressing a button on the smartboard is incredibly effective. At least it is an experience.”

#### 4.1.1.6 *ISTs’ personal strengths in using technology*

Teachers claimed to possess several personal strengths that helped them utilize technology in their teaching. A summary can be seen in Figure 4.7.

**Figure 4.7**

*ISTs’ Personal Strengths in Using Technology*



The most mentioned strength was teachers’ willingness to use technology. Teachers asserted that technology is useful and necessary while teaching English, therefore they are eager to explore and experiment with new technologies. IST7 mentioned, “I can say that I was interested in technology use and tried to use it 15-20 years ago, way before the internet was so widespread and rich in content.”

Similarly, readiness to use technology was mentioned as a strength. The participants declared that readiness to use technology stems from being well-prepared and having a clear understanding of integrating technology into their courses, as mentioned by IST3.

IST3: “In times of need, I can instantly benefit from Web 2.0 tools to design an extra activity. I think my strength in this regard is to know what tools to use in which cases. I have a wide network of technological tools at my disposal.”

Some teachers considered their previous experience with technology as their strength, claiming that their experience might provide them insights into new technologies. IST6 shared the following details.

IST6: “I have been using technology for years. For example, some of my friends are just starting, but I have been using it for many years. I mean, I have been a teacher for 12 years, and I have been using technology for 12 years. I started with one or two tools at the beginning, then they have increased over time. Now I know what tools I can use and how I can use them.”

Finally, a group of teachers stated that they try to stay up-to-date regarding educational technologies, and their continuous attempts help them make informed decisions about using recent technologies. IST1 pointed out: “As I said, I have been working as a teacher for, let's say, 19 years, and in the last 10 years of it, I have tried to stay up to date in terms of technology use.”

#### **4.1.1.7 Areas that need improvement**

An overview of the key areas requiring improvement in the integration of technology in language teaching is presented in Figure 4.8.

**Figure 4.8**

*Areas that Need Improvement*



Regarding the areas that need improvement, teachers mostly mentioned Web 2.0 tools, which was not surprising since Web 2.0 tools are so vast that there is always room for improvement. IST2 informed that: “There are so many Web 2.0 tools out there. But why and where should I use them? I still need to improve in this respect.” Another frequently mentioned area for improvement was found to be basic coding skills. However, although having a basic understanding of coding might be helpful for teachers, most of the teachers’ reasons for requesting coding could be achieved with Web 2.0 tools and websites. IST7 added:

IST7: “I feel a need to improve in coding. Because although I use ready-made tools, sometimes these are insufficient for my own needs. For this reason, I would like to code my software. There are two things that I want to create: the first of these is an archive of question

banks, and the second is to make a website for teachers that involves interactive classroom activities or classroom games or speaking activities, etc.”

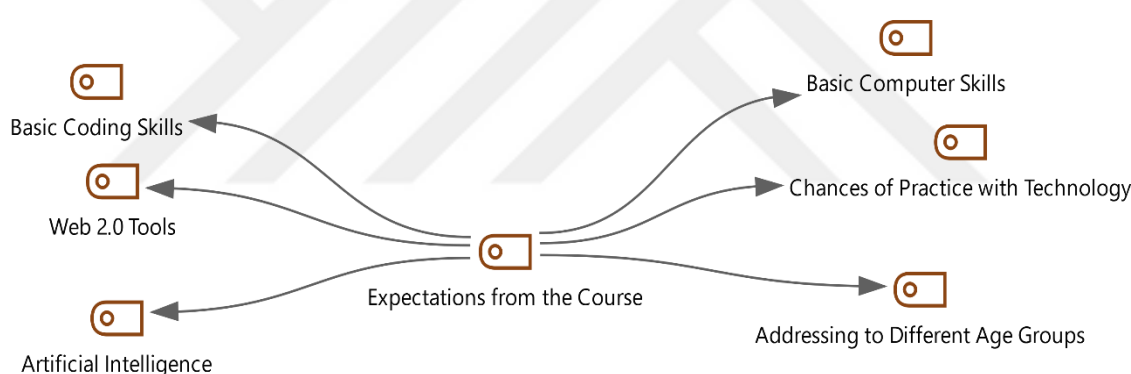
Some of the less frequently mentioned areas that need improvement were found to be classroom management, and finding reliable and efficient sources of information and materials. IST1 stated: “I feel that I need to improve a lot more in the area of classroom management, which I think is definitely due to the fact that I am a digital immigrant.”

#### ***4.1.1.8 ISTs’ expectations from the course***

ISTs’ were also asked about what they would expect from a course titled “Technology Integration in English Language Teaching”. A summary of their answers can be seen in Figure 4.9.

**Figure 4.9**

*ISTs’ Expectations from the Course*



The most common expectation from the course was to involve very basic computer skills and software. This finding contrasts with the frequent references to Gen Z learners, including teacher candidates, as digital natives. IST3 mentioned:

IST3: “I would definitely expect the course to start by teaching the basic use of a computer. Unfortunately, there are teachers, both young and old, who have problems with even the most basic computer use such as writing a text in Word, indenting a paragraph, using bold or italicized fonts, let alone using any web2.0 tools.”.

Being familiar with Web 2.0 tools (including content creation, collaboration and interaction) and having lots of practice chances with these tools were some of the other popular expectations, as stated by IST8.

IST8: “I would expect more practice than theory. You can make a presentation in PowerPoint, but there are many more alternative presentation tools. But the teacher should first demonstrate their use and then the learners should practice.”

As mentioned before, the teachers also expected the course to involve basic coding skills, however, the reasons they requested coding could be resolved without coding skills, via Web 2.0 tools. Finally, a teacher stated that the course should cover the use of artificial intelligence in language teaching, placing an emphasis on covering the ethical uses of AI. IST6 elaborated briefly:

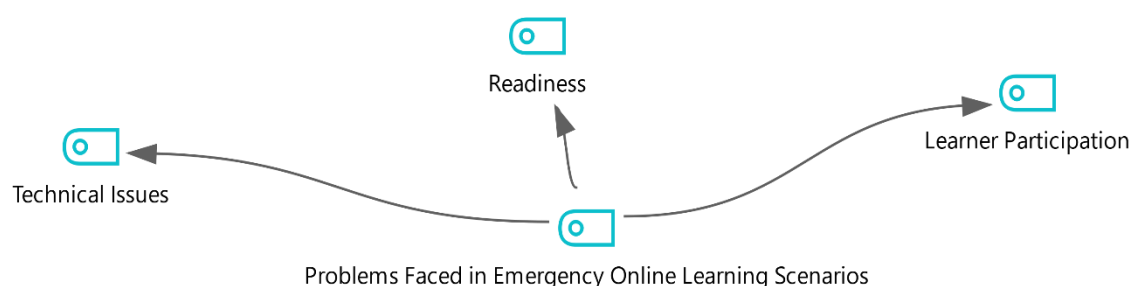
IST6: “I think Artificial Intelligence should definitely be a part of it. Such as ChatGPT, and there are many other systems and applications. When we ask learners to write an original story, what will we actually encounter, ChatGPT or the learners’ original works? It would be very good for me if there were a few clues about this because I think our learners started to use it slowly.”

#### **4.1.1.9 Problems faced in emergency online learning scenarios by ISTs**

Finally, ISTs were asked about the problems they faced during emergency online education. Figure 4.10 below summarizes these problems.

**Figure 4.10**

*Problems Faced in Emergency Online Learning Scenarios by ISTs*



The most common problem was reported to be the readiness of both teachers and learners for online learning. IST6 and IST1 provided the following remarks.

IST6: “I did not have any personal problems but our learners were not ready at all. I even had problems when I asked them to get an email address. They could not sign up for websites. They could not set up even the simplest software.”

IST1: “I had a lot of difficulties in the first transition phase, but the next year I became more qualified, and I could solve the problems I faced, and the Education Information Network

(EBA) also developed more in that process, so I somehow overcame it even though it was difficult.”

Following the readiness, technical problems regarding underdeveloped LMSs, momentary technical issues, and lack of computers and internet connection were mentioned. Finally, problems regarding learners’ participation in online education were stated.

IST3: “Unfortunately, the main problem was the lack of infrastructure. We could not contact the learners, some of whom were far away. Some learners did not have phones or computers. We are talking about regions where there was no service or reception of the internet or learners’ phones. In that sense, we experienced a lot of technical problems.”

IST7: “I can say that my biggest problem was that although the learners gave me feedback by producing something; with their web cameras being switched off, I often could not predict whether they were actively participating in the learning process.”

In summary, ISTs noted that they found the technology useful while teaching. Their sources of acquiring these tools were mostly mentioned to be personal efforts, along with colleagues, and social media. They mentioned using technology to address diverse learner needs, engage learners through interactive games, and software, and the flexibility it offers. Some challenges were also mentioned such as classroom management, and skill and infrastructure requirements. They expected the course to include lots of Web 2.0 tools along with a focus on practice to improve technology integration.

#### **4.1.2 Needs analysis with EFL teacher candidates**

EFL teacher candidates were another group of participants for the needs analysis. To analyze their needs, expectations, strengths, and the areas that needed improvement, teacher candidates were asked a series of questions (Appendix 1) regarding their tendency to use technology while teaching, their reflections on the use of technology, and the problems they faced. They provided data via an online open-ended questionnaire. After the analysis of 41 teacher candidates’ needs analysis data, the following themes and codes emerged.

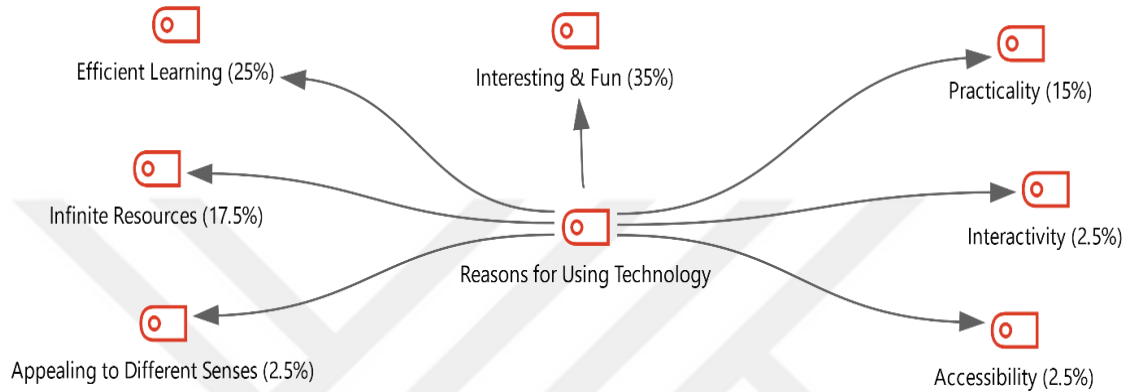
First of all, when they were asked if they prefer to use technology in their teaching practices in micro-teaching, teaching practicum, or in-class presentations, 95% of the participants reported that they actively use technology.

#### 4.1.2.1 TCs' reasons for using technology

When they were asked why they preferred to use technology while teaching, TCs provided the following reasons (Figure 4.11).

**Figure 4.11**

*TCs' Reasons for Using Technology*



The most mentioned reason was that using technology is interesting and fun (35%) for both teachers and learners. Another frequently mentioned reason was that using technology while teaching promotes efficient learning (25%). For some TCs, technology is a practical tool since it is easy to use, and time-saving, and digital learning materials are more long-lasting than handcrafted materials (15%). Some TCs reported using technology as a means to diversify their course content and provide their students with various materials and activities since it offers infinite resources. Technology is also reported to be used to ensure both in-class and online interaction. To some participants, technology guarantees easy access to resources and materials. One TC stated using technology since it is useful in appealing to different senses of learners.

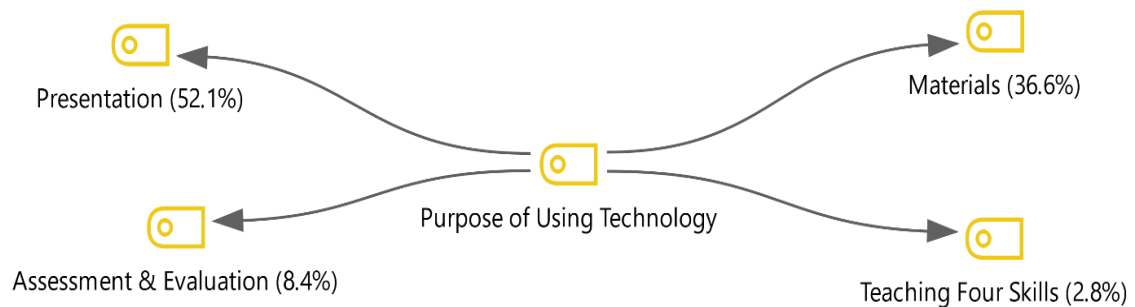
Only two of the participants (5%) reported that they prefer not to use technology. They conveyed that it is not necessary to use technology in language teaching. TC27 clarified the reason for not using technology as “inadequacy in terms of facilities and not being necessary.”

#### 4.1.2.2 TCs' purposes of using technology

While most of the participants claimed using technology in language teaching, their purposes of using it remained overly limited. Related findings are presented in Figure 4.12.

**Figure 4.12**

*TCs' Purposes of Using Technology*



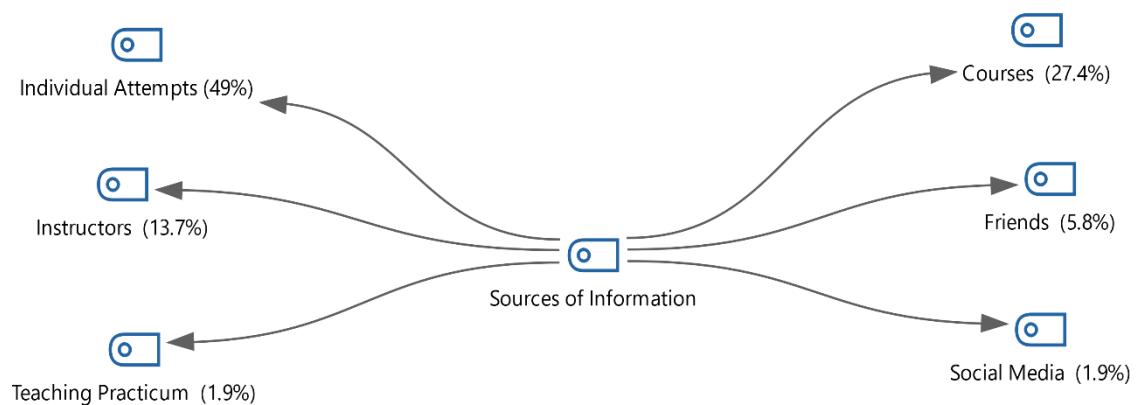
Almost 90% of the participants mentioned using technology for preparing presentations and digital learning materials. Only 8% of participants stated using technology for evaluation and measurement purposes, and 3% of the participants mentioned teaching four skills with technology. When compared to the ISTs, teacher candidates did not prefer to use technology for providing feedback, collaboration chances, or as a warm-up tool.

#### **4.1.2.3 TCs' sources of information**

TCs mentioned many different sources of information regarding the technologies they use while teaching. Figure 4.13 summarizes these findings.

**Figure 4.13**

*TCs' Sources of Information*



Regarding the technologies they use, most of the TCs reported being self-taught through individual attempts (49%). Although some participants (40%) stated that they had seen these technologies from various courses and instructors, they were mostly limited to

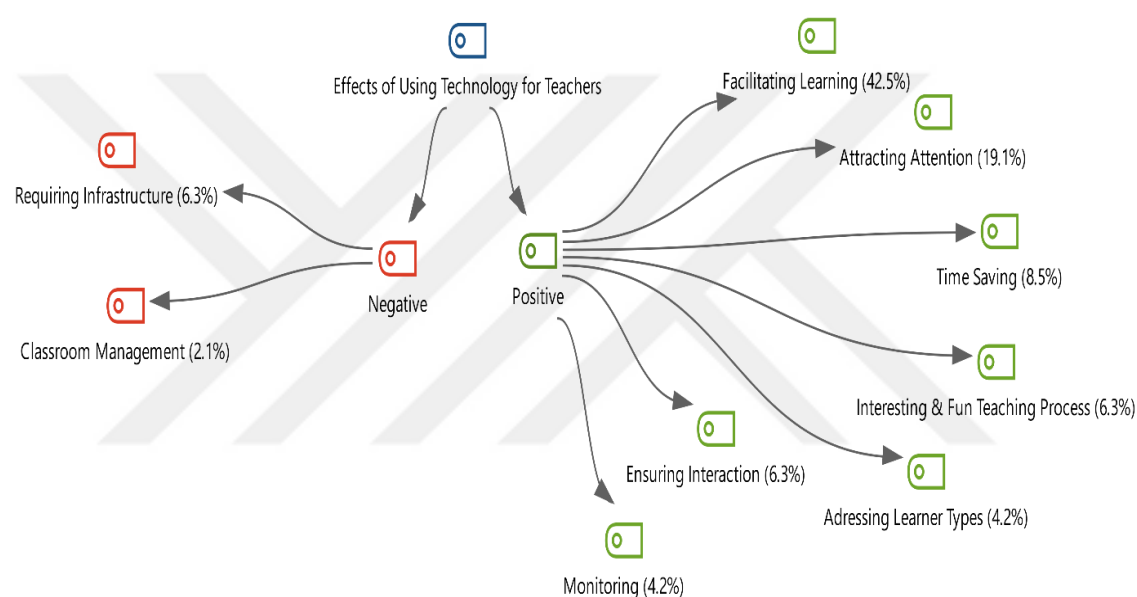
materials development courses. Other less frequent sources were reported to be their classmates (5%), social media (2%), and mentor teachers during teaching practicum (2%).

#### 4.1.2.4 TCs' views on the effects of using technology for teachers

TCs considered technology to be a useful tool for teachers when used correctly. Figure 4.14 summarizes the effects of using technology in terms of teachers.

**Figure 4.14**

*TCs' Views on the Effects of Using Technology for Teachers*



Although it was mentioned that technology use can sometimes hinder classroom management, especially when a new tool is introduced, and it requires high-quality infrastructure to use efficiently, generally it was considered to be a useful tool to promote the teaching and learning process.

In terms of positive effects for teachers, technology is frequently mentioned as a tool to facilitate the language teaching process (42%). TCs also added that using technology attracts learners' attention and, thus, enhances participation. Using technology was also mentioned to be helpful in terms of encouraging interaction, boosting learners' motivation, and being an interesting and fun addition to traditional teaching settings.

Thanks to technology, monitoring students' development was reported to be more achievable. Its long-lasting and easy-access properties can be time-saving, as reported by TCs. Participants also stated that technology can be used to diversify the course content

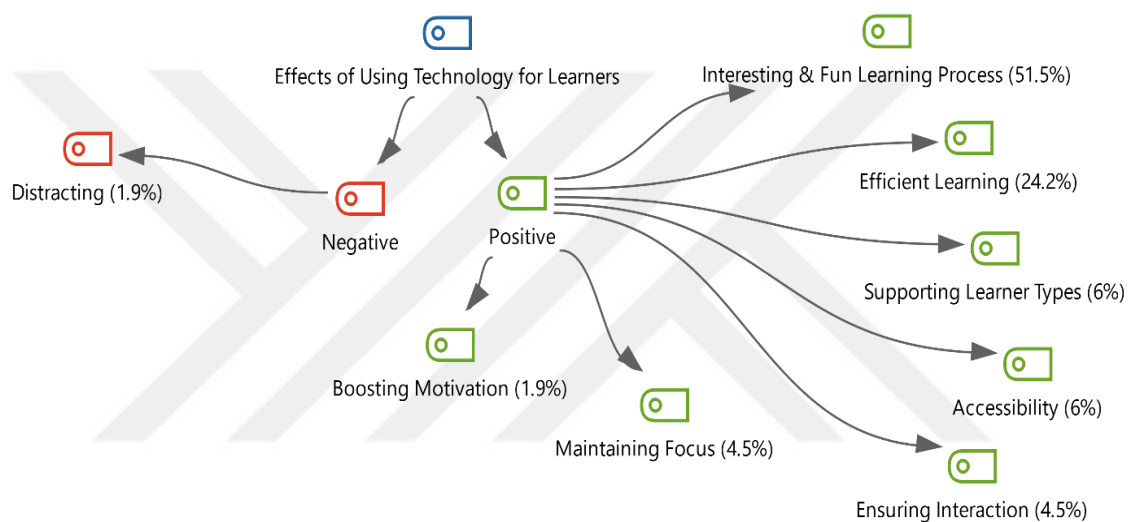
to a great degree, therefore making the courses more appropriate for addressing different learner types (visual learners, auditory learners, etc.).

#### 4.1.2.5 TCs' views on the effects of using technology for learners

Alongside its benefits for teachers, TCs mentioned some benefits of using technology for the learners. Figure 4.15 summarizes these findings.

**Figure 4.15**

*TCs' Views on the Effects of Using Technology for Learners*



Some of the positive effects of using technology mentioned by TCs' were found to be common for both learners and teachers. These common points included technology being interesting and fun, improving the effectiveness of the teaching and learning process, being more appropriate for addressing different learner types, and increasing classroom interaction.

The most frequently mentioned learner-specific benefit of using technology was reported to be helping learners stay focused since technology use makes the content more interesting and attention-grabbing. Technology was also reported to be beneficial in terms of accessibility and boosting learners' motivation.

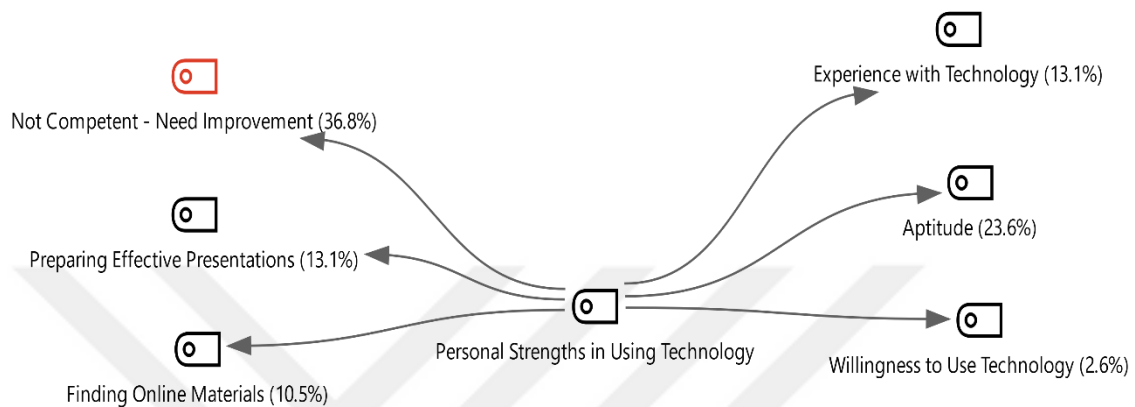
#### 4.1.2.6 TCs' personal strengths in using technology

When the TCs were asked to what extent they consider themselves competent in terms of technology use in language teaching, %40 stated that they did not feel competent at all,

and needed overall improvement. Their personal strengths in using technology are summarized in Figure 4.16.

**Figure 4.16**

*Personal Strengths of TCs in Using Technology*



As for their strengths, 23% of the TCs claimed to have a natural aptitude for using technology, often associated with being digital natives. While some participants considered their previous experience with technology as a strength, others claimed that their willingness to use technology makes them more accomplished in this matter. 10% of the participants considered their ability to find online materials when they needed them as their strength.

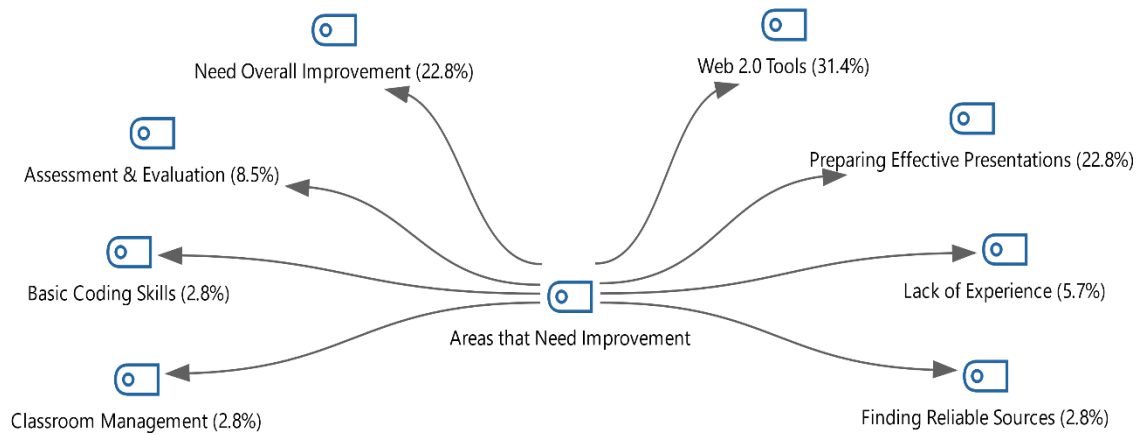
Only 13% of the participants stated that one of their strengths was to prepare effective presentations. It is surprising that even though TCs' most common purpose of using technology was to prepare presentations (52% of all reported purposes), only 13% considered presentations as one of their strengths.

#### **4.1.2.7 Areas that need improvement**

Along with their strengths, participants were also asked about the areas they need improvement regarding technology use. Figure 4.17 summarizes these areas.

**Figure 4.17**

*Areas that Need Improvement*



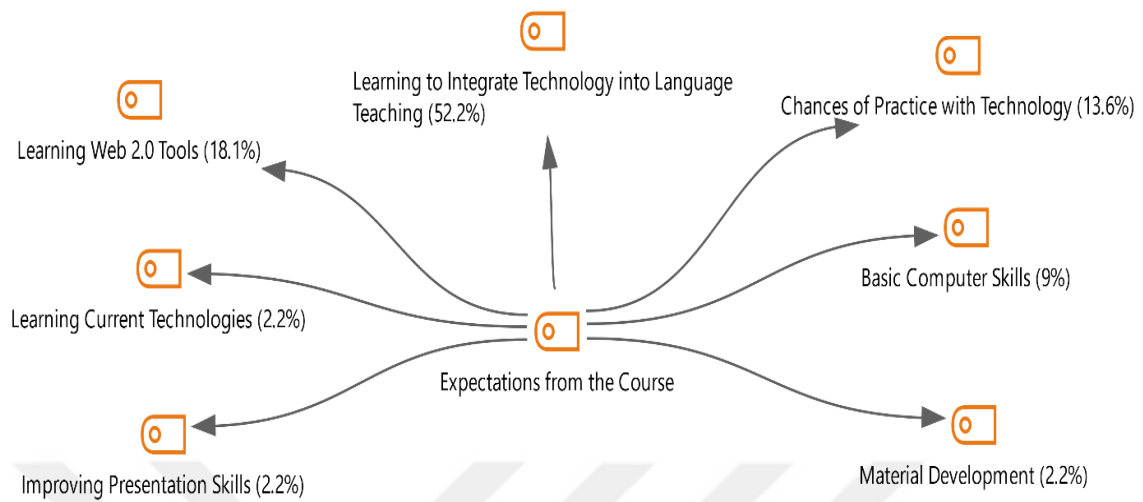
30% of the participants stated that they need overall improvement in every aspect of technology use. Apart from that, the most mentioned area was learning new Web 2.0 tools and new websites that they can use for language teaching and learning. While also mentioned as a strength, some TCs (%22) considered preparing effective presentations as an area that they need improvement. Some participants (11%) stated a need to be better in assessment and evaluation with technology. 7% of the participants stated that they need more experience and practice in using technology. Classroom management skills, finding reliable online sources, and basic coding skills were the least mentioned topics, each mentioned by only one participant.

**4.1.2.8 TCs' expectations from the course**

When the participants were asked about their expectations from the TIELT course, the most common answer was to learn how to effectively integrate technology overall in their lessons (52%), without mentioning a specific skill. Figure 4.18 indicates the expectations of TCs from the TIELT course.

**Figure 4.18**

*TCs' Expectations from the Course*



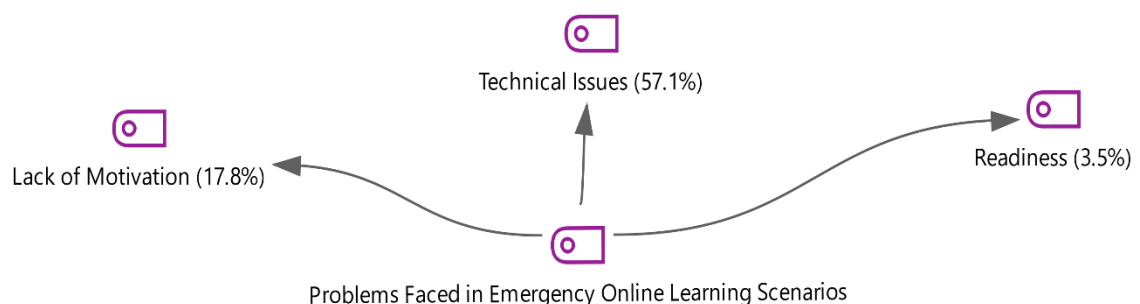
Learning new Web 2.0 tools was also frequently mentioned by teacher candidates. 13% of the participants anticipated chances of practicing with technological tools rather than a mere theoretical course. A general improvement in digital literacy and basic computer skills was expected by four participants. Materials development, improving presentation skills, and learning about current technologies were other expected outcomes of the course.

#### **4.1.2.9 Problems faced in emergency online learning scenarios by TCs**

When TCs were asked about the problems they faced during emergency online education, they mentioned experiencing difficulties mostly in terms of momentary technical issues. These findings are summarized in Figure 4.19.

**Figure 4.19**

*Problems Faced in Emergency Online Learning Scenarios by TCs*



In addition to the momentary technical issues including lack of computers and internet connections, and problems regarding LMSs; TCs stated having problems regarding their lack of motivation and readiness during the emergency online education period.

In summary, the majority of TCs claimed using technology in language teaching and learning, referring to its practical, engaging, and efficient nature. Their main purposes include preparing, finding, and sharing course materials, and presentations. Similar to the ISTs, TCs noted that they are mostly self-taught. They consider technology to be efficient in improving interaction, and accessibility. Even though they stated being highly motivated and willing to use technology, many TCs felt that they needed overall improvement regarding technology integration. They expected the course to include many Web 2.0 tools, presentation skills, and online assessment methods.

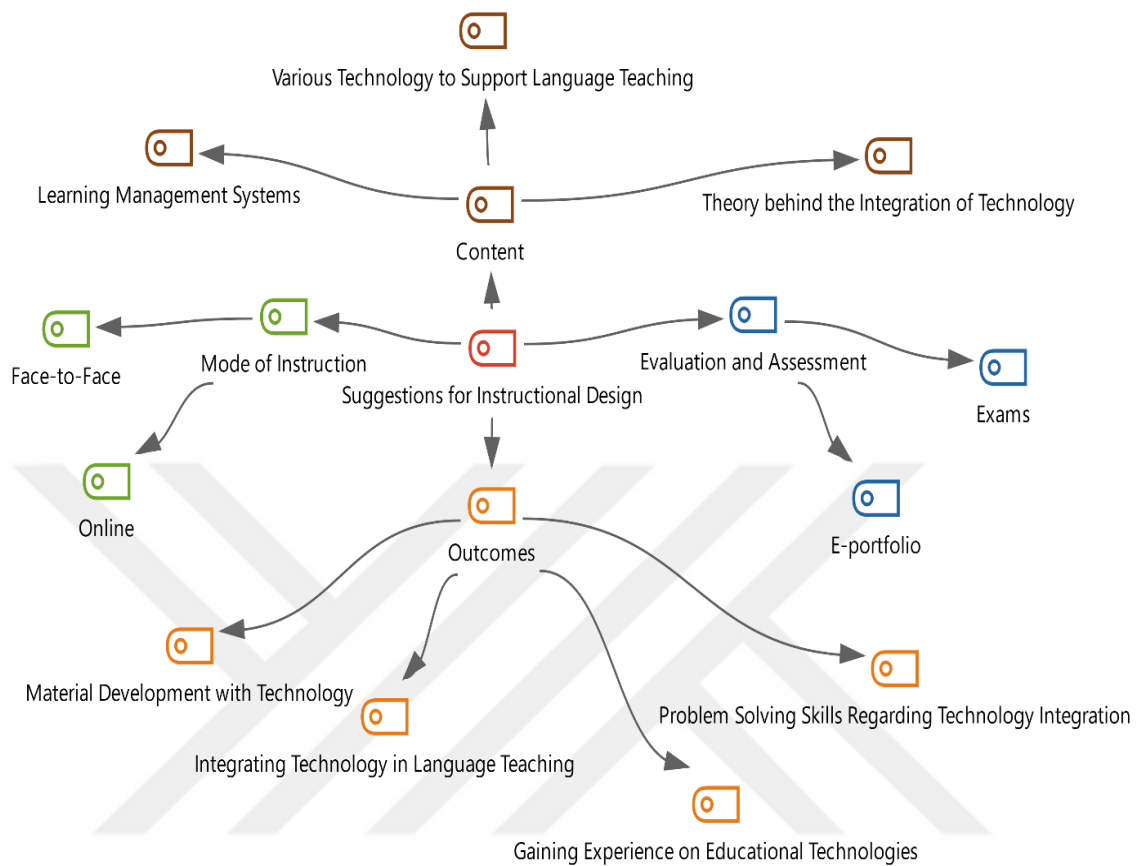
#### **4.1.3 Insights from instructors of similar courses**

Two sets of expert opinions were conducted for this study. The first group consisted of 3 instructors who were actively teaching a similar course in different institutions. The second group involved 2 distance education experts with an ELT background.

Three instructors from different universities who were actively teaching a technology integration / CALL course took part in the online semi-structured interviews. They were asked about their opinions and suggestions regarding the development of the Technology Integration in English Language Teaching course (Appendix 3). The analysis revealed the following themes and codes (Figure 4.20).

**Figure 4.20**

*ICSs' Suggestions for Instructional Design*



First, they were asked about the benefits of a technology integration course in ELT curriculums. All the experts stated that such a course is perfectly suitable for language teaching because technology and language teaching are two very compatible fields. All the experts also stated that it was a necessity to include such a course in teacher training programs if we were to aim to train competent teachers of the 21<sup>st</sup> century. ISC3 and ISC1 provided the following details.

ISC3: “At the beginning, we did not have this course in our curriculum. However, we made a revision later and added this course because we realized that this was inevitable. Because the teacher candidates who would be working with the new generation needed to be familiarized with technology in some way.”

ISC1: “The development of teachers' digital competencies is a very popular topic in the literature, if not the most popular. Therefore, if our goal is to train global teachers, we need to educate them to adapt to the requirements of the 21<sup>st</sup> century. Therefore, I think the course also serves our mission of training global teachers.”

Finally, the experts pointed out that this course was also a necessity for 21<sup>st</sup>-century learners. Since the learners were digital natives, they were surrounded by technology anyway, and it was natural to make use of it. ISC2 added:

ISC2: “Because learners already have access to all kinds of content through mobile phones, especially through mobile phones. It is not only accessing the content, they also produce the content and communicate with their friends. Not utilizing this in language learning is not an option.”

All experts stated that they taught a similar course during the emergency online education and received positive feedback from their learners. ISC3 and ISC1 further elaborated:

ISC3: “During the pandemic period, I did not make any major changes in terms of the content of the course. On the contrary, students actually started to use the tools I introduced actively in their courses, that is, to complete that course successfully. Zoom was one of them. Zoom was both within the content of the course, and one of the tools I introduced, and students had to use it to attend other courses. Therefore, I can say that conducting the online course during the pandemic did not cause a big problem and I think it also enabled them to use technology more actively.”

ISC1: “This course was fun during the pandemic since the learners already had to use the technologies I was teaching. Through an online course, learners realized that they were capable of teaching online. They learned through experience. They had so much fun.”

When they were asked whether they conducted a needs analysis or consulted expert opinions when developing the course, only one of them mentioned conducting a formal needs analysis and expert opinion. The other two experts, while still benefiting from their previous experiences, colleagues, and syllabi of similar courses, did not conduct any formal needs analysis or consult expert opinions. All instructors mentioned making revisions to the course content constantly according to the changes in learners’ needs or the changes in technology.

Finally, the experts were asked about their suggestions regarding different aspects of the course. They suggested running the course face-to-face in a computer laboratory if possible or designing it as a blended course. ISC2 offered that:

ISC2: “Of course, technically, this course can also be taught online. However, I am teaching how to use some technological tools in class. Being in an actual classroom would be helpful in this case. So, there must be a specific reason for teaching this course online. Unless there is a pandemic or a similar situation, I prefer face-to-face courses.”

As per the skills learners should gain from this course, the experts stated materials development with technology. This skill would help learners to create and implement digitally created materials with the help of Web 2.0 tools. Secondly, according to the experts, learners should gain some basic problem-solving skills regarding technology use. Furthermore, as mentioned by ISCs, TCs should be able to implement various technologies into their teaching practices, therefore enhancing the learning experience of their learners, as an outcome of the course. ISC1 provided the following insights.

ISC1: “When we think of technology integration, we always think of classroom technologies first. Naturally, they should be able to use them and they should use them at the right stages of the lesson. Unfortunately, there is a problem in technology use, which is when a technology becomes popular, there is an effort to apply it everywhere like a band-aid. However, not every technology is suitable for every goal or every group, we need to gain that perspective. The perspective that the technology will change two years later, the same web 2.0 tools will not be available or they will change. Therefore, it is necessary to teach which kind of technologies can be used in language teaching and for what purpose.”

Finally, the experts suggested that it was just as important to provide learners with theoretical knowledge as it was to provide them with chances to practice with technology, preferably in a computer laboratory with individual computers for each learner.

The experts recommended that the course content should involve various technologies to support language teaching, and learners should be exposed to a diverse mix of educational technologies. In addition to these technologies, according to ISCs, the course should provide learners with basic theoretical knowledge about technology integration in language teaching, and pedagogical principles that encourage effective technology integration. ISC3 mentioned:

ISC3: “They need to understand why the use of technology is necessary in language acquisition. For this, they need to read a lot. So, let’s say we are talking about task-based language teaching. In TBLT collaboration is important, and social interaction is important. Can we use technology to help students to be more interactive or to be more exposed to the language? Therefore, at the end of the course, they should be able to make these kinds of decisions.”

Finally, as an evaluation and assessment method of the course, the experts suggested gathering e-portfolios in addition to the exams. ISC2 noted:

ISC2: “As the assessment and evaluation method, I want them to create a portfolio. For example, they can create a blog. That blog will be their portfolio. In that blog, they introduce the tools. Apart from that, since there is also the theoretical side of the work, we had to do a midterm. So there is also a pen and paper exam. There are Chapter Presentations. There are Tool Presentations. These are essential.”

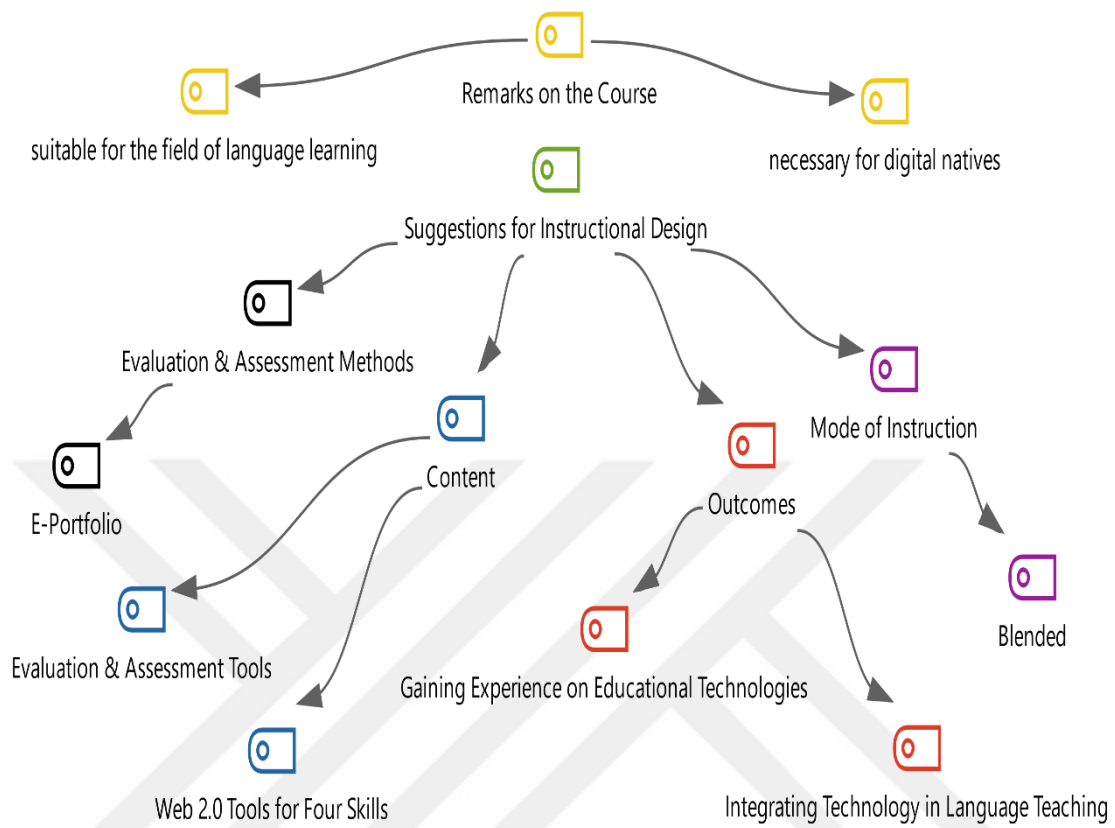
In summary, the experts considered the course to be essential for language teaching curriculums. They stated that technology integration is vital for both digital native learners and teachers since both groups are deeply connected with technology. They expected the course to balance practical applications with theoretical knowledge. Key skills to be developed included understanding the appropriate use of technology for various contexts, using Web 2.0 tools, and problem solving. They suggested using e-portfolios as evaluation methods since it would involve actualization and application of what is learned in the course.

#### **4.1.4 Insights from online education experts**

Two experts with an ELT background who focused on online education as a field of study took part in online semi-structured interviews regarding their opinions and suggestions on the Technology Integration in English Language Teaching course (Appendix 4). The analysis revealed the following themes and codes (Figure 4.21).

**Figure 4.21**

*OEEs' Suggestions for Instructional Design*



Firstly, the experts stated their remarks on the Technology Integration in English Language Teaching course. They mentioned that technology integration is suitable for language teaching/learning and it is an efficient facilitator of the language learning process. OEE1 explained:

OEE1: “Because ELT in general is a very interdisciplinary and complex field and we do not only teach English, we also teach the culture of that language, or we deal with many texts, for example, related to biology and history. So, supporting this interdisciplinary aspect of language teaching with technology would have positive effects.”

Additionally, technology integration was mentioned to be inevitable and necessary thanks to digital native students. OEE2 provided the following ideas on this matter.

OEE2: “Most of the students are digital natives, or, they can be called Generation Z of the digital age, Generation Alpha, or children of the digital age, etc. All of them are ready to learn with technology. Of course, their proficiency with technology does not necessarily lead to competency, some of them have limited proficiencies only regarding games or social media. However, in cases where the teacher integrates digital learning into the course in the right way, many studies already show the positive effects on learning.”

In line with the instructors of similar courses, online education experts suggested that the ideal implementation of this course would be in a computer laboratory, where students would have chances to practice with technology. According to OEE2:

OEE2: “The emergency online education has made people get used to online education, but I think I prefer a blended design so that the ‘human touch’ can be felt. Especially when you have laboratory facilities, face-to-face designs will be more beneficial for students, it can even be blended, that is, learners can be asked to make their implementations in the laboratory and present them in the online section.”

As an outcome of the course, the experts suggested that learners should be able to integrate technology into language teaching, and should gain experience on educational technologies by practicing with them thoroughly. OEE1 further elaborated:

OEE1: “In such a course, we expect learners to make optimum use of technology and technological tools in language teaching and to use some tools for teaching four skills. Therefore, we expect this course to provide students with the tools that can be used in English language teaching, especially in subjects such as speaking, writing, listening, and grammar, and how they can be used.”

The experts also recommended that the course content should involve various Web 2.0 tools to support four language skills and, in addition to teaching and practice, the use of online tools for assessment and evaluation should be emphasized in the course. OEE1’s ideas supported this.

OEE1: “The course could focus on the integration and efficiency of tools for teaching English skills... However, there is also a need for assessment and evaluation tools, which is a particularly popular issue, and a problem for almost everyone. Therefore, this course also should focus on the integration of tools for formative and summative assessment. In addition to teaching and practice, the use of online tools for assessment and evaluation should be emphasized in the course.”

Finally, as the evaluation and assessment method of the course, using e-portfolios was suggested. OEE mentioned:

OEE2: “If you have an LMS interface or a Moodle, you can collect weekly tasks there and ask students to upload them there. The evaluation can be done very comfortably and very quickly, it will not be a burden on the teacher. I think it will be something like a win-win for everyone. Alternatively, blogs are also used for this purpose.”

In summary, OEEs similarly emphasized the necessity and importance of technology integration in the language teaching profession. They recommended that the course

content should be based on learners' needs, and include Web 2.0 tools to teach four language skills. They stated that the course should take place in a computer lab where learners can experience what they learn. OEEs similarly suggested using e-portfolios as an evaluation method.

#### **4.1.5 Applying the initial ASSURE steps**

This section outlines the initial stages of course design using the ASSURE model, focusing specifically on the steps of analyzing learners (A), stating instructional objectives (S), and selecting instructional media and materials (S). ASSURE model provides a structured framework for integrating technology into educational settings, ensuring alignment between learner needs, learning objectives, and technological tools. In this study, these steps served as guiding principles to ensure the designed course was both theoretically based and practically relevant, responding directly to the expressed needs of TCs and ISTs. Subsequent subsections detail how learner characteristics were analyzed, objectives formulated, and media and materials chosen, drawn from the previously reported empirical findings and expert insights.

##### **4.1.5.1 Analyze learners**

In line with the first step of the ASSURE model, an analysis of the learners and context was conducted as a starting point. The target learners are EFL teacher candidates who are familiar with basic educational technologies. However, their backgrounds and skill levels vary; some have only fundamental technological skills while others seek exposure to more advanced tools. To capture these diverse needs and expectations, a comprehensive needs analysis was carried out with two related groups: the TCs and ISTs.

Out of 70 TCs invited, 41 volunteered, providing their needs and motivations for using technology, and what they hoped to learn from a technology-integration course. To summarize, TCs had a positive attitude toward technology but lacked experience in applying it in real classrooms. Moreover, they were familiar with digital tools as learners but had limited knowledge of instructional applications of these tools. They have reported using technology for basic tasks such as PowerPoint presentations but lacked experience with tools designed for collaboration, gamification, or formative assessment. There was a clear demand for a practice-oriented, ELT-specific course that would go beyond theory and focus on real classroom applications and practices, leading to a course design that focused on hands-on activities.

ISTs were included because of their firsthand experience with integrating technology in real classrooms and mentoring TCs during practicum. Eight ISTs from various stages of education volunteered for online semi-structured interviews. Their input highlighted practical challenges and needs observed in current classrooms (e.g. managing digital tools in teaching, addressing online teaching emergencies) and what new teachers should be prepared for. They have stated that a lack of formal training led them to self-learn technology integration, often through trial and error.

Additionally, expert consultations were used to broaden the perspective of the design. Five experts were interviewed: three university instructors who teach similar technology-integration courses in other universities, and two specialists in online education with ELT backgrounds. These experts provided guidance on course structure, content selection, and effective use of educational media based on both research and their experience. A modular syllabus was recommended, covering technology for all four language skills and incorporating learner-centered instructional strategies.

By triangulating data from TCs, ISTs, and field experts, the researcher aimed to ensure a learner-centered approach. Common themes from the needs analysis included the desire for more practical training in using digital tools for language teaching, guidance on designing online learning activities, and ways to blend technology with pedagogy effectively.

#### ***4.1.5.2 State objectives***

The second step of the ASSURE model involves specifying learning objectives for the course. Based on the needs analysis findings, expert input, and relevant literature, a set of learning outcomes was created to address the identified gaps in the TCs' knowledge and skills. In constructing these objectives, Bloom's Revised Taxonomy was applied to ensure that a range of cognitive levels were covered – from understanding foundational concepts to creating and evaluating with technology. This alignment with Bloom's taxonomy helped balance lower-order knowledge with higher-order skills, resulting in a comprehensive skill set for the course.

The overarching goal of the course is to prepare EFL TCs for effective technology integration in language teaching. From this broad aim, specific learning outcomes have been established. By the end of the course, participants are expected to be able to explain core concepts and principles of technology integration in education, and to discuss key

historical and theoretical CALL approaches along with their practical uses. They should be able to evaluate the advantages and limitations of various technology-enhanced language learning methods and integrate digital tools effectively to enhance language instruction and learner engagement. Participants are also expected to identify appropriate digital materials aligned with specific language teaching goals and to design original digital learning materials for their lessons. Additionally, they are required to create educational blogs to support professional growth and enrich language instruction, as well as to develop online quizzes and exams for language assessment purposes. Finally, the course is intended to foster participants' understanding of digital licensing and intellectual property, including considerations such as copyright, data privacy, and academic honesty in online educational contexts.

In addition to these core objectives, the course was designed to create a mindset of continuous professional development among TCs. Rather than placing great emphasis on individual technologies, tools, or websites, the course was designed to highlight the use of various technologies interchangeably according to the context and the needs of the learners and to adapt to changes that are natural and frequent in this era. Participants were encouraged to approach technology integration as an ongoing process of experimentation rather than a one-time effort.

In this framework, the first draft of the learning outcomes of the course was consulted and finalized together with three colleagues working in the same department. The final version of the learning outcomes can be seen below.

- 1- Explain core concepts and principles of technology integration in education.
- 2- Discuss key historical and theoretical CALL approaches and their practical uses.
- 3- Evaluate advantages and limitations of technology-enhanced language learning methods.
- 4- Integrate digital tools effectively to enhance language instruction and learner engagement.
- 5- Select appropriate digital materials aligned with specific language teaching goals.
- 6- Design original digital learning materials for language teaching.
- 7- Create educational blogs for professional growth and language instruction.
- 8- Develop online quizzes and exams for language assessment.

- 9- Demonstrate understanding of digital licensing and intellectual property in education.

The learning outcomes of the course were primarily informed by the results of the needs analysis and expert consultations. The articulated needs such as practical training in digital tool use, instructional material development, theoretical awareness, and ethical considerations, formed the core of the design. To ensure a comprehensive and context aware structure, these insights were aligned with findings from the literature review and by examining the learning outcomes of similar courses in other ELT departments. With this multi-source approach, it was aimed to ensure both local relevance and theoretical grounding.

Regarding the conditions and standards of these learning outcomes, LO1, LO2, LO3, and LO9 were evaluated through a written midterm exam, while LO4, LO5, LO6, LO7, and LO9 were assessed through a final blog-based e-portfolio. The standard for all learning outcomes was set at 80% accuracy, in line with Nitko and Brookhart (2014), who identify it as a commonly used benchmark for demonstrating proficiency in educational assessments.

To examine how the intended learning outcomes were reflected in student performance, a combination of formative and summative assessment tools was employed. Conceptual understanding (e.g., theoretical frameworks, benefits and challenges of CALL) was evaluated through a written midterm exam, while the application of skills (e.g., blog creation, digital material development) is assessed via the final blog project. This dual assessment structure ensures alignment between learning outcomes, instructional strategies, and evaluation methods, providing both theoretical depth and practical authenticity in measuring the course's success. Table 4.1 below summarizes the rationale behind each learning outcome and the related assessment methods used in the course. Detailed information regarding the content of the written exam and e-portfolio assignments are presented in section 4.3. Findings of Phase 3: Course Evaluation.

**Table 4.1***Alignment of Learning Outcomes with Assessment Methods*

| <b>Learning Outcome</b>                                                                        | <b>Informed By</b>                                 | <b>Assessment Method</b>                                                        |
|------------------------------------------------------------------------------------------------|----------------------------------------------------|---------------------------------------------------------------------------------|
| 1. Explain core concepts and principles of technology integration in education.                | expert consultations                               | Written exam - Open Ended Questions<br>Written exam - Short Answer Questions    |
| 2. Discuss key historical and theoretical CALL approaches and their practical uses.            | expert consultations                               | Written exam - Open Ended Questions                                             |
| 3. Evaluate advantages and limitations of technology-enhanced language learning methods.       | expert consultations                               | Written exam - Open Ended Questions<br>Written exam - Multiple Choice Questions |
| 4. Integrate digital tools effectively to enhance language instruction and learner engagement. | expert consultations<br>needs analysis (TCs)       | Final Assignment – Blog Portfolio<br>Written exam - Short Answer Questions      |
| 5. Select appropriate digital materials aligned with specific language teaching goals.         | expert consultations<br>needs analysis (TCs, ISTs) | Final Assignment – Blog Portfolio<br>Written exam - Multiple Choice Questions   |
| 6. Design original digital learning materials for language teaching.                           | expert consultations<br>needs analysis (TCs, ISTs) | Final Assignment – Blog Portfolio                                               |
| 7. Create educational blogs for professional growth and language instruction.                  | expert consultations<br>needs analysis (TCs, ISTs) | Final Assignment – Blog Portfolio                                               |
| 8. Develop online quizzes and exams for language assessment.                                   | expert consultations<br>needs analysis (TCs, ISTs) | Formative In-Class Activities<br>Final Assignment – Blog Portfolio              |
| 9. Demonstrate understanding of digital licensing and intellectual property in education.      | expert consultations<br>needs analysis (ISTs)      | Written exam - Multiple Choice Questions<br>Final Assignment – Blog Portfolio   |

#### 4.1.5.3 Select methods, media and materials

With the learner analysis and objectives in place, the next step was to select the appropriate media, technology, and materials to achieve those objectives. Each weekly topic and activity were deliberately chosen to reflect the actual needs of the participants, as a result of a data informed process that included needs analyses with both TCs and ISTs, expert input, and a thorough review of the relevant CALL and technology integration literature. The decisions related to weekly content, tool selection, instructional strategies, and assessment were all aligned with this multi-source evidence. Table 4.2 below summarizes key course design decisions and their corresponding justifications.

**Table 4.2**

*Key Course Design Elements and Underlying Justifications*

| Course Element              | Design Choice                                                                                                            | Justification                                                                                                                                                        |
|-----------------------------|--------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weekly Structure            | Theoretical foundations emphasized in the first half; practical tool integration in the second half                      | <ul style="list-style-type: none"> <li>Based on TC preference for hands-on practice</li> <li>Expert backed theory-to-practice scaffolding</li> </ul>                 |
| Integration of Gamification | Included Kahoot, Quizizz, Wordwall, Educaplay                                                                            | <ul style="list-style-type: none"> <li>Supported by research highlighting engagement and interactivity (e.g., Kapp, 2012)</li> </ul>                                 |
| Integration of MALL         | Introduced tools such as Call Annie, WordUp, Habitica, Mobile Assistants                                                 | <ul style="list-style-type: none"> <li>Emphasized by ISTs</li> <li>Literature notes accessibility and flexibility benefits (Kukulska-Hulme, 2021)</li> </ul>         |
| Blog as Final Assessment    | Required TCs to create and maintain an educational blog                                                                  | <ul style="list-style-type: none"> <li>Encouraged reflective practice and professional growth (Pascual, 2019)</li> </ul>                                             |
| Web 2.0 Tool Focus          | Most weekly sessions built around collaborative, user-friendly Web 2.0 tools                                             | <ul style="list-style-type: none"> <li>Frequently cited by TCs, ISTs, and experts as essential for participatory, collaborative learning</li> </ul>                  |
| Digital Literacy and Ethics | Covered copyright, licensing, data privacy, academic honesty                                                             | <ul style="list-style-type: none"> <li>Addressed IST concerns;</li> <li>Literature supports ethics instruction (Tseng &amp; Warschauer, 2023)</li> </ul>             |
| “Tech of the Week” Concept  | Introduced 1 - 2 new tools weekly tied to the topic and lesson objective                                                 | <ul style="list-style-type: none"> <li>Informed by Connectivist theory, emphasizing learning through ongoing interaction with digital networks and tools.</li> </ul> |
| Assessment Design           | Midterm for theoretical knowledge; final blog for applied skills                                                         | <ul style="list-style-type: none"> <li>Aligned with outcomes; Midterm for theory (LOs 1, 2, 3, 9), blog for application (LOs 4, 5, 6, 7, 8, 9)</li> </ul>            |
| Tool - Pedagogy Alignment   | Each week’s tools selected to match the language skill and pedagogy (e.g., Quizlet for vocabulary, Readlang for reading) | <ul style="list-style-type: none"> <li>Grounded in TPACK; ensured purposeful, not decorative, technology use.</li> </ul>                                             |

The final syllabus covered a wide range of content, structured into two main modules: foundational concepts followed by applied skills. Table 4.3 provides a week-by-week breakdown of the TIELT course, illustrating how each session was structured around a specific pedagogical theme. For each week, the table outlines the main instructional focus, the digital tools introduced and practiced, and the data sources that informed these design decisions. The finalized version of the course syllabus, including the detailed instructions, grading details, recommended sources, and policies and procedures can be seen in Appendix 11.

**Table 4.3**

*Initial Course Syllabus*

| <b>Weeks</b> | <b>Course Content</b>                                                                                                                                                                                                                                                                                                                                     | <b>Informed By</b>                                                                                                      |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| I. Week      | Introduction to the Course <ul style="list-style-type: none"> <li>• Basic Concepts<br/>(Web 1.0, Web 2.0, Web 3.0, Web 4.0)<br/>(Digital Citizenship)<br/>(CALL)<br/>(Modes of Learning)</li> <li>- YouGlish</li> <li>- Google Ngram</li> <li>- TinyWow</li> </ul>                                                                                        | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| II. Week     | Technology & English Language Teaching <ul style="list-style-type: none"> <li>• A Brief History of Using Technology in Language Teaching</li> <li>• CALL Approaches</li> <li>• The Role of Technology in Language Teaching</li> <li>- Social Bookmarking (Symbaloo)</li> <li>- Mentimeter</li> <li>- AnswerGarden</li> </ul>                              | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| III. Week    | Computer Mediated Communication <ul style="list-style-type: none"> <li>• Interpersonal CMC</li> <li>• Online Conferencing               <ul style="list-style-type: none"> <li>- Wonder.me (no longer active)</li> <li>- Zoom</li> <li>- Microsoft Teams</li> <li>- BigBlueButton</li> </ul> </li> </ul>                                                  | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| IV. Week     | Digital Learning Materials <ul style="list-style-type: none"> <li>• A Brief History of Digital Learning Materials</li> <li>• The Role of Digital Learning Materials in Language Teaching</li> <li>- Thinglink</li> <li>- H5P</li> <li>- iLovePDF</li> <li>• Copyright Issues / Creative Commons</li> <li>- Pixabay</li> <li>- Google Interland</li> </ul> | - EFL Teacher Candidates<br>-Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses |

**Table 4.3 (continued) Initial Course Syllabus**

|            |                                                                                                                                                                                                                                                    |                                                                                        |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| V. Week    | Mobile Technologies & English Language Teaching <ul style="list-style-type: none"> <li>• Defining MALL <ul style="list-style-type: none"> <li>- WordUp</li> <li>- Habitica</li> <li>- Duolingo</li> <li>- Mobile Assistants</li> </ul> </li> </ul> | -In-service Teachers<br>-Syllabi of Similar Courses                                    |
| VI. Week   | Games/Gamification & English Language Teaching <ul style="list-style-type: none"> <li>- Wordwall</li> <li>- Educaplay</li> <li>- Quickdraw</li> </ul>                                                                                              | -In-service Teachers<br>-Syllabi of Similar Courses                                    |
| VII. Week  | Using Blogs in English Language Teaching <ul style="list-style-type: none"> <li>- Wix</li> <li>- Wordpress</li> <li>- Blogger</li> <li>- Linked-in</li> </ul>                                                                                      | -In-service Teachers<br>-Instructors of Similar Courses<br>-Syllabi of Similar Courses |
| VIII. Week | Midterm Week                                                                                                                                                                                                                                       | -Instructors of Similar Courses<br>-Faculty Requirement                                |
| IX. Week   | Technology & Teaching Vocabulary <ul style="list-style-type: none"> <li>• Infographics</li> <li>- Piktochart</li> <li>- Wordlink</li> <li>- Quizlet</li> <li>- Memrise</li> </ul>                                                                  | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| X. Week    | Technology & Teaching Grammar <ul style="list-style-type: none"> <li>- Corpora</li> <li>- Grammar Ninja</li> <li>- Quiz Your English</li> </ul>                                                                                                    | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| XI. Week   | Technology & Teaching Reading <ul style="list-style-type: none"> <li>- Storyboardthat</li> <li>- Beelinguapp</li> <li>- Readlang</li> <li>- EWA</li> <li>- News in Levels</li> </ul>                                                               | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| XII. Week  | Technology & Teaching Writing <ul style="list-style-type: none"> <li>- Storybird</li> <li>- Penzu</li> <li>- Editing, Proofreading, &amp; Feedback (MS Word, Write &amp; Improve, Grammarly)</li> </ul>                                            | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| XIII. Week | Technology & Teaching Listening <ul style="list-style-type: none"> <li>• Digital Storytelling</li> <li>• Podcasts</li> <li>- Riverside</li> <li>- Voscreen</li> <li>- Lyrics training</li> </ul>                                                   | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| XIV. Week  | Technology & Teaching Speaking and Pronunciation <ul style="list-style-type: none"> <li>- Voki</li> <li>- ELSA</li> <li>- Call Annie</li> <li>- Discord</li> <li>- Dictation Features</li> </ul>                                                   | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |
| XV. Week   | Technology & Assessment <ul style="list-style-type: none"> <li>• Online Polls</li> <li>• Online Quizzes</li> <li>• Security Issues</li> <li>- Quizizz / Socrative / Kahoot</li> </ul>                                                              | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses         |

The rationale for including each topic is based on specific considerations, such as requests from TCs or ISTs, recommendations from field experts, or alignment with the syllabi of similar courses offered at other institutions. This structured approach ensures that course content remained aligned with the initial design intentions and the broader goals of fostering digital literacy and Connectivist learning environments for TCs.

In the first half of the course, the focus was mostly on building theoretical understanding and knowledge regarding the technology integration in language education. Topics introduced during these weeks included basic concepts and terminology of educational technology (e.g. CALL, Evolution of Web, Digital Citizenship, and Modes of Learning), the history and evolution of technology use in language teaching (e.g. from CALL's early stages to modern integrative approaches, CALL approaches, the role of technology in language teaching), Computer-Mediated Communication (CMC), Digital Learning Materials (history of digital learning materials, the role of digital learning materials in language teaching), Mobile-Assisted Language Learning (MALL), using games and gamification in education, and how to use tools like blogs for language teaching. These topics were selected to address gaps in foundational knowledge that the TCs and teachers had highlighted, and were validated by expert recommendations and syllabi of comparable courses.

The second half of the course was dedicated to practical application of technology in teaching specific language skills and areas, along with more brief theoretical explanations when compared to the first part of the course. Each week concentrated on integrating technology into a particular domain of English teaching, such as teaching listening, speaking and pronunciation, reading, or writing with technology, as well as a session on technology for language assessment and testing. This structure ensured that by the end of the course, participants had hands-on experience in applying technology across all major areas of their future teaching practice, directly reflecting the diverse needs identified in Phase 1.

A primary course textbook was adopted to provide a backbone for content. After reviewing several candidates, the researcher have selected Shannon & Shapelle (2017), titled "The Handbook of Technology and Second Language Teaching and Learning", focusing on technology integration in language teaching, as the main text. This book was recommended by one of the consulted experts who had used it in a similar course, and it

was reviewed relevant experts for alignment with the course's learning objectives and suitability for the local context. The textbook offered readings, case studies, and examples that supported the weekly topics, ensuring students had access to theory and practical examples in print to complement in-class activities. Beyond the textbook, a variety of media and tools were selected for use during the course sessions, consistent with the goal of familiarizing TCs in educational technology.

Weekly content was conveyed through PowerPoint presentations. The content creation process of the course was comprehensive. Based on the findings of the needs analysis and expert consultations, weekly course materials were developed in line with the course book by the researcher and shared with a team of relevant experts, including a curriculum development expert, an educational technology expert, and three field experts. Making use of the experiences of these field experts, the course content was aimed to be both practical and relevant to the modern needs of modern learners. The aim to provide learners with a well-rounded and comprehensive learning experience was tried to be ensured with this detailed expert consultation process. Appendices 13 and 14 present samples of the weekly course materials (for Weeks 1 and 14).

The majority of tools integrated in the course were Web 2.0 applications, reflecting expert input that emphasized the importance of familiarizing TCs with interactive, online tools. These included collaborative platforms (for example, using Google Docs, Jamboard, or Canva Whiteboard for joint tasks), content creation tools (such as blog platforms, quiz generators, or infographic creation tools), and classroom engagement apps (like online quiz games for gamification, online brainstorming tools). Each tool or platform was chosen to match the topic of the week and to give participants practical experience; for instance, when learning about mobile learning, students might try a language learning app on their smartphones, or in the week on assessment, they might design a quiz using an online quiz tool. In planning these activities, the researcher ensured that necessary equipment and infrastructure were available. The course was scheduled in a computer laboratory so that each student could have access to a computer during class for hands-on practice. Additionally, the university's LMS was utilized for distributing materials, collecting assignments, and hosting online discussions.

In addition to these pedagogical tools, the course also integrated a range of practical tools to support participants in various aspects of lesson planning and material development,

enhancing efficiency, and creativity. These tools were introduced through a recurring segment titled "Tech of the Week," which aimed to systematically expose TCs to diverse applications that could enhance their digital teaching repertoire. For instance, utility tools such as TinyWow and ILovePDF were introduced to help TCs manage and edit digital content efficiently, skills often required when preparing classroom materials or adapting existing resources. To promote digital organization and information management, Symbaloo, a visual social bookmarking tool, was used, allowing participants to compile, categorize, and share useful teaching websites, technologies, and resources in a structured, accessible format. Furthermore, language-specific tools such as Google Ngram Viewer and YouGlish were explored to demonstrate how technology can support data-informed language instruction and authentic pronunciation modeling. These tools offered participants exposure to a variety of digital resources that can enhance both instructional quality and learner engagement, while also encouraging critical thinking about tool selection and appropriateness for specific classroom contexts.

These digital tools were selected based on their accessibility, relevance to language teaching, and insights gathered from needs analysis and expert consultations. Tools such as Quizlet, Readlang, Wordwall, Educaplay, LyricsTraining, and H5P were chosen for their alignment with key pedagogical goals, including vocabulary development, reading fluency, formative assessment, and learner engagement. For instance, Readlang was utilized to support extensive reading and vocabulary acquisition through contextualized input; LyricsTraining was used to enhance listening comprehension via music-based activities; and Wordwall and Educaplay facilitated interactive practice and review through customizable games and quizzes. Tools that encouraged learner autonomy and creativity, such as StoryboardThat for digital storytelling and Write & Improve for writing feedback, were also incorporated to support skill development and reflective practice. Learners were introduced to each tool through live demonstrations and hands-on activities, allowing them to explore the pedagogical affordances of each resource in an applied context.

#### ***4.1.5.4 Bridging theory and practice: a Connectivist approach***

The design of this course was grounded in the theoretical lenses of Connectivism (Siemens, 2005) and TPACK (Mishra & Koehler, 2006), detailed earlier in Chapter 2. Connectivism's emphasis on networked learning informed the decision to incorporate

tasks such as creating educational blogs and engaging with global teacher communities via social media. These activities encouraged participants to actively construct and maintain digital connections beyond classroom boundaries. Likewise, the TPACK framework guided the careful selection of digital tools (e.g., H5P, Quizzizz, WordUp, Educaplay, etc.), ensuring they directly supported language teaching objectives rather than serving as technological novelty. Technological choices made within the ASSURE steps were justified by its pedagogical value in enhancing EFL instruction. Thus, the theoretical frameworks served as practical guides, influencing content selection, activity design, and pedagogical strategies implemented throughout the course.

Connectivism's core principle (learning as a dynamic, networked, and socially mediated process) informed the instructional strategies implemented within the course. To apply Connectivism in a practical context, active participation in online professional communities and networks was introduced and encouraged as a regular part of weekly activities. These activities reflected Siemens' (2005) Connectivist claim that knowledge resides not just within individuals but across diverse networks and external digital resources. The course positioned learners as active nodes within broader professional networks, highlighting the Connectivist principle that "learning and knowledge rest in diversity of opinions", by prompting participants to seek diverse perspectives from online communities.

Participants were guided to establish and nurture digital connections through educational blogging and sustained interactions within global teacher networks, practically applying another key Connectivist principle: "nurturing and maintaining connections is needed for continual learning." Moreover, through structured interactions with digital tools and peer feedback, participants experienced firsthand how "learning may reside in non-human appliances" as their learning experiences were mediated and enhanced through digital tools such as ChatGpt, Google Classroom, and social media platforms. This approach underlined the Connectivist idea that the ability to access, navigate, and critically evaluate digital resources is as essential as internalized knowledge.

The course design emphasized the Connectivist principle that "the capacity to know more is more critical than what is currently known" by equipping learners with skills to update their knowledge bases through professional networks. Constant face-to-face and online reflective opportunities required participants to critically evaluate their evolving digital

networks, reflecting on how engaging with these networks facilitated ongoing professional development and adaptive learning. Moreover, participants were provided with alternative technological tools whenever possible to that week's instructed technological tool and constantly reminded that technologies continuously change and evolve; therefore, understanding what is achievable was emphasized as more valuable than mastery of specific technologies.

Participants were guided to engage with global ELT communities through professional social media channels such as X.com (formerly Twitter), using hashtags such as #ELTchat, #TEFL, and #EdTech; educational Reddit communities including r/Englishlearning, r/TEFL, r/languagelearning, and r/teachingresources; YouTube channels dedicated to language instruction such as BBC Learning English; as well as email subscription services such as A Word A Day, British Council newsletters, and TESOL blogs. Additional platforms recommended included LinkedIn groups (e.g., ELT Professionals and TESOL International Association), Facebook communities focused on language teaching (e.g., Innovative Teachers of English, English Teachers Worldwide), and professional podcasts (e.g., TEFL Commute, The TEFLology Podcast, and Culips ESL Podcast). Additionally, frequent blog evaluation activities were conducted to help participants become familiar with and engage meaningfully with educational blogs.

The aim of engaging participants in these diverse activities was to facilitate their development of authentic and sustainable Personal Learning Networks (PLNs), aligning with Connectivist principles by empowering learners to become active creators, sharers, and collaborators within broader global educational networks.

The TPACK framework also guided the selection, integration, and evaluation of technological tools within the course. Digital resources introduced were carefully chosen to align with specific language teaching objectives, ensuring technology use was pedagogically meaningful rather than merely decorative. For instance, interactive platforms such as Quizizz, Jamboard, Mentimeter, and Thinglink were selected not only because they are engaging but because they actively support collaborative language practice, real-time feedback, and formative assessment aligned with language pedagogy. Mentimeter, specifically, was integrated to facilitate collaborative brainstorming, idea-sharing, leveraging pedagogical affordances such as synchronous collaboration and visual interaction. Similarly, Quizizz was employed for formative assessment and immediate

feedback. LMS provided a structured virtual classroom space for TCs to practice digital class management, resource sharing, and interactive communication, key competencies identified through the needs analysis and fully aligned with TPACK principles of purposeful technological integration.

Furthermore, participants undertook explicit tasks, such as creating original multimedia resources that required deliberate application of TPACK. During these tasks, they justified their choice of technologies, clarifying how these tools effectively supported their targeted language learning objectives. This explicit reflection step ensured that TCs internalized an understanding of how technology, pedagogy, and content intersect meaningfully. For example, when participants were tasked with using Quizlet, they were prompted not only to use the tool but also explicitly discuss why and how Quizlet's digital flashcard capabilities supported effective vocabulary learning strategies, thereby demonstrating deep TPACK-informed reasoning.

In summary, Connectivism and TPACK were not merely theoretical references for the course, they acted as integral guides, shaping explicit pedagogical strategies, specific technology selections, and intentional learner activities. These frameworks significantly contributed to the development of a coherent, theoretically grounded, and practically effective course, positioning TCs to integrate educational technology into their professional practices.

## **4.2 Findings of Phase 2: Course Implementation**

This phase presents the findings related to the implementation of the course, focusing on how the instructional design was realized in practice. Guided by the Utilize Media and Materials, and Require Learner Participation components of the ASSURE model, this phase examines how selected tools, content, and pedagogical strategies were put into action during the course implementation. It explores the ways materials and platforms were used to support active engagement, foster collaboration, and provide hands-on experience with educational technologies. Additionally, it highlights how participants interacted with the content, tools, instructor, and one another to co-construct knowledge and apply new skills in contexts. Drawing on student submissions, and classroom observations, this section provides a detailed account of how the course unfolded, offering insight into both the strengths and challenges encountered during implementation of the course.

#### **4.2.1 Weekly course overview**

This section presents an overview of the weekly progression of the course “Technology Integration in English Language Teaching,” detailing how pedagogical goals, technological tools, and theoretical perspectives were integrated into each session. By structuring the course around evolving themes and skill development areas, the instructional design aimed to scaffold TCs’ digital competence while fostering active and reflective engagement with educational technologies.

Table 4.4 provides a week-by-week breakdown of the TIELT course, illustrating how each session was structured around a specific pedagogical theme. For each week, the table outlines the main instructional focus, the digital tools introduced and practiced, the specific learning outcomes addressed, and the data sources that informed these design decisions. This structured approach ensures that course implementation remained aligned with the initial design intentions and the broader goals of fostering digital literacy and Connectivist learning environments for TCs.

**Table 4.4***Updated Weekly Course Content, Digital Tools, Learning Outcomes, and Justification Sources*

| <b>Week</b> | <b>Main Focus</b>                       | <b>Key Tools Used</b>                         | <b>Learning Outcomes Supported</b> | <b>Informed By</b>                                                                                                      |
|-------------|-----------------------------------------|-----------------------------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
| 1           | Introduction to Technology in Education | YouGlish<br>Google Ngram<br>TinyWow           | 1, 2, 3, 4                         | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| 2           | Technology & ELT + CALL                 | Symbaloo<br>Mentimeter<br>AnswerGarden        | 1, 2, 3, 4                         | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| 3           | CMC                                     | Zoom<br>Teams<br>Wonder.me (no longer active) | 3, 4, 7                            | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| 4           | Digital Materials & Copyright Issues    | Thinglink<br>H5P<br>ILovePDF<br>Pixabay       | 3, 4, 5, 6, 7, 9                   | - EFL Teacher Candidates<br>-Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses |
| 5           | MALL                                    | Duolingo<br>Habitica<br>WordUp                | 3, 4, 7, 9                         | -In-service Teachers<br>-Syllabi of Similar Courses                                                                     |
| 6           | Games & Gamification                    | Wordwall<br>Educaplay<br>Quickdraw            | 3, 4, 7                            | -In-service Teachers<br>-Syllabi of Similar Courses                                                                     |
| 7           | Blogging in ELT                         | Wix<br>WordPress<br>Blogger                   | 3, 4, 5, 6, 7                      | -In-service Teachers<br>-Instructors of Similar Courses<br>-Syllabi of Similar Courses                                  |
| 8           | <b>Midterm Exam Week</b>                |                                               |                                    |                                                                                                                         |
| 9           | Technology & Vocabulary                 | Piktochart<br>Memrise<br>Quizlet              | 3, 4, 5, 6                         | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses                                          |

**Table 4.4 (continued)** *Updated Weekly Course Content, Digital Tools, Learning Outcomes, and Justification Sources*

|    |                                          |                                                             |            |                                                                                                           |
|----|------------------------------------------|-------------------------------------------------------------|------------|-----------------------------------------------------------------------------------------------------------|
| 10 | Technology<br>& Grammar                  | Corpus tools<br>Grammar Ninja<br>AI Tools (DeepL, Quillbot) | 3, 4, 5, 6 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses<br>-Focus Group Interviews |
| 11 | Technology<br>& Reading                  | Readlang<br>EWA<br>Storyboardthat<br>AI Tools (Leonardo.ai) | 3, 4, 5, 6 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses<br>-Focus Group Interviews |
| 12 | Technology<br>& Writing                  | AI Tools (ChatGPT, Stable Diffusion)<br>Grammarly, Penzu    | 3, 4, 5, 6 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses<br>-Focus Group Interviews |
| 13 | Technology<br>& Listening                | Voscreen<br>LyricsTraining<br>Riverside                     | 3, 4, 5, 6 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses                            |
| 14 | Technology<br>& Speaking & Pronunciation | ELSA<br>Call Annie<br>Voki                                  | 3, 4, 5, 6 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses                            |
| 15 | Technology<br>& Assessment               | Kahoot<br>Socrative<br>Quizizz                              | 3, 4, 8, 9 | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses<br>-Focus Group Interviews |

As shown in the table, every week combined hands-on experience with pedagogically relevant technologies and theoretically informed discussion. Tools were not selected arbitrarily but were purposefully matched to weekly objectives and justified through needs analysis data, expert consultation, and a review of similar course syllabi and expert recommendations. The progression of topics, from conceptual foundations in the early weeks to skill-specific integrations in later weeks, aimed a structured learning experience that moved from theory to practice. This structure also allowed for repeated reinforcement of core learning outcomes across different instructional contexts.

To illustrate the structure and pedagogical progression of the course, this section provides a week-by-week summary of course content, technologies introduced, theoretical perspectives addressed, and types of activities implemented. These summaries serve to contextualize how each weekly session built upon prior learning while introducing new skills, tools, and reflective engagements aligned with the course's overall objectives.

**Week I: Introduction to the Course:** This week introduced participants to foundational concepts in educational technology, including distinctions between Web 1.0 to Web 4.0, digital citizenship, and key terms such as CALL and modes of learning in relation to educational practices. Discussions included how technological shifts impact learner identity, access, and participation in digital spaces. Participants explored tools such as *YouGlish*, *Google Ngram*, and *TinyWow*, gaining hands-on experience in using them for classroom content exploration and language input enhancement. This topic supported learning outcomes 1, 2, 3, and 4, helping participants to explain core concepts and CALL approaches, evaluate the advantages and and conceptualize technology integration. The rationale for including this topic stemmed from expert input and reviews of similar course syllabi. Technology was integrated through guided demonstrations and interactive tasks. Assessment included items from the midterm exam, targeting LO1, LO2, LO3, and LO4. These items asked participants to define core technology terms, identify characteristics of Web 1.0 and Web 2.0, evaluate advantages and limitations of various technology-enhanced methods, and explain CALL approaches.

**Week II: Technology and ELT / CALL:** This week focused on the historical development of technology in English language teaching and provided a theoretical grounding in CALL (Behaviorist, Communicative, and Integrative approaches), drawing from Levy (1997) and Warschauer (1996). Participants examined how each phase shaped

language pedagogy and the design of technology-supported tasks. Tools such as Symbaloo, Mentimeter, and AnswerGarden were introduced to demonstrate resource curation, live feedback collection, and collaborative brainstorming. These tools aligned with learning outcomes 1, 2, 3 and 4, encouraging participants to apply theory to technology-enhanced classroom practices. The inclusion of this topic was informed by expert advice and models found in comparable courses. Assessment focused on items in the midterm exam, asking students to describe CALL approaches and relate them to real classroom scenarios.

**Week III: Computer-Mediated Communication (CMC):** The week explored theoretical distinctions between synchronous and asynchronous CMC, rooted in interactionist SLA theory and communicative competence. Students discussed the implications of CMC for promoting negotiation of meaning, social presence, and learner autonomy in virtual interactions. Participants explored synchronous and asynchronous tools for communication in language learning, such as Zoom, Microsoft Teams, and Wonder.me. These platforms helped candidates evaluate the pedagogical potential of virtual conferencing. Activities were designed to model communicative language tasks in digital spaces. The topic supported learning outcomes 3 and 4, as they fostered critical understanding of how communication tools can support engagement. Selection of the topic was based on syllabi of similar courses and expert input. Technology integration was achieved through live simulations, peer tasks, and group discussions. Assessment was formative, including in-class tasks. Additional midterm items presented realistic teaching scenarios to reinforce distinctions between synchronous and asynchronous CMC types.

**Week IV: Digital Learning Materials and Copyright:** This week emphasized how to design and adapt digital learning materials, alongside essential digital ethics concepts. The role of open educational resources (OERs), Creative Commons licensing, and ethical considerations in content creation were discussed with reference to digital equity and access. Participants worked with Thinglink, H5P, and ILovePDF to create and edit multimodal materials, and explored Pixabay and Google Interland to better understand copyright, Creative Commons licensing, and safe content sourcing. These activities addressed learning outcomes 3, 4, 5, 6, and 9. The rationale for the topic emerged from both needs analyses, expert recommendations, and the syllabi of similar courses. Hands-

on tasks allowed participants to build sample materials during class. Assessment was twofold: a set of midterm questions focused on licensing and copyright knowledge, while original material designs were evaluated through the final blog project.

**Week V: Mobile-Assisted Language Learning (MALL):** This week focused on Mobile-Assisted Language Learning (MALL), continuing to develop participants' ability to integrate specific technologies into pedagogical contexts. Theoretical coverage focused on the principles of mobile learning and learner autonomy, including the role of just-in-time access and personalized pacing. Discussions included critical evaluation of MALL through the lens of situated learning and potential digital divides. Participants engaged with tools such as Habitica, WordUp, and Digital Assistants, exploring their affordances for autonomous vocabulary development, motivation through gamified routines, and context-aware learning. The topic was selected to support learning outcomes 3, 4, and 9, helping TCs transition from understanding digital tools to applying them in mobile learning environments. The rationale for inclusion was based on in-service teacher feedback, emphasizing the relevance of mobile apps in contemporary language learning. Integration occurred through guided tool walkthroughs, scenario planning, and participant-led analysis of app strengths and limitations. Assessment was formative in nature, including in-class activities and final blog project.

**Week VI: Gamification and Language Teaching:** This week focused on gamification, exploring how game-based tools can enhance learner engagement and language practice. This week introduced the motivational theories underlying gamification, such as self-determination theory, and examined how reward systems and game mechanics support engagement. Participants explored how these principles align with cognitive load theory and language retention. Participants interacted with platforms such as Wordwall, Educaplay, and Quickdraw to design interactive vocabulary and grammar activities. The topic supported learning outcomes 3 and 4 by encouraging the design of motivating, student-centered digital learning materials. Their selection was informed by in-service teacher preferences and syllabi of similar courses. Integration activities included game creation challenges, and classroom simulation tasks. Assessment was carried out in a formative way, including in-class tasks, and discussions, with a focus on reflective documentation of game design choices and classroom applicability.

**Week VII: Blogging for Language Teaching and Professional Development:** This week introduced the concept of educational blogging as both a pedagogical and professional development tool. The session explored teacher identity formation, reflective practice, and learner agency through the lens of sociocultural theory. The role of blogging in supporting communities of practice and professional learning networks was discussed. Participants created personal teaching blogs using Wix, WordPress, or Blogger, applying core principles of digital content creation and multimodal design. These activities addressed learning outcome 3, 4, 5, 6, and 7, emphasizing the value of blogs for building online professional identity and sharing instructional content. The rationale for inclusion came from the expert recommendations that highlighted blogging as a low-barrier, high-impact tool for digital communication and reflection. Technology integration was structured as a guided creation task with peer review and content planning components. Assessment was through the final blog project, which evaluated design, purpose, and pedagogical relevance.

**Week IX: Technology and Teaching Vocabulary:** Theoretical input covered the role of input frequency, dual coding theory, and multimodal processing in vocabulary retention. The pedagogical implications of spaced repetition systems (SRS) and incidental learning through digital tools were also examined. Focusing on vocabulary development through digital tools, participants explored Piktochart, Memrise, and Quizlet to design visual, gamified, and adaptive vocabulary activities. These tools were chosen to meet learning outcomes 3, 4, 5, and 6, particularly regarding the selection and adaptation of digital materials aligned with language objectives. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Integration included comparative tool analysis, and sample material creation. Evaluation was carried out formatively via in-class activities.

**Week X: Technology and Teaching Grammar:** This week focused on grammar instruction supported by digital tools. Participants discussed whether, when, and how grammar should be taught, examining the interface between explicit and implicit knowledge. The session included a comparison of deductive and inductive approaches and their alignment with CALL tools for form-focused instruction. Participants explored Corpus tools, Grammar Ninja, and Quiz Your English, experimenting with how to

introduce inductive grammar discovery and gamified drills. These tools aligned with learning outcomes 3, 4, 5, and 6, as participants learned to adapt tools for explicit and implicit grammar instruction. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Integration involved participants designing tasks with the tools and receiving peer feedback. Evaluation was carried out formatively via in-class activities.

**Week XI: Technology and Teaching Reading:** This week focused on using technology to support reading comprehension and fluency. Theoretical insights were drawn from schema theory, bottom-up vs. top-down processing, and metacognitive strategies in L2 reading. The benefits and challenges of digital texts for scaffolding comprehension were evaluated. Participants engaged with tools such as Readlang, EWA, and Storyboardthat, experimenting with vocabulary scaffolding, text-to-speech features, and multimodal reading supports. These tools supported learning outcomes 3, 4, 5, and 6 by promoting accessible and engaging reading experiences. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Technology was integrated through lesson activity design and sample implementation. Evaluation was carried out formatively via in-class activities.

**Week XII: Technology and Teaching Writing:** This week addressed writing skills, emphasizing feedback and AI support. Topics such as process writing theory, genre-based pedagogy, and the importance of feedback and revision were discussed. Participants also examined the affordances of AI tools and collaborative platforms for scaffolding drafting, editing, and audience awareness. Participants explored tools such as ChatGPT, Grammarly, Penzu, and Storybird, examining how these tools support process writing, editing, and creativity. Learning outcomes 3, 4, 5, and 6 were supported, particularly the design of original digital materials and integration of assistive technologies. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Activities included AI-assisted writing tasks, peer review of student texts, and scenario-based tool application. Evaluation was carried out formatively via in-class activities.

**Week XIII: Technology and Teaching Listening:** This week focused on using multimedia and podcast platforms to develop listening skills. Discussions centered on

listening comprehension models and the role of multimodal input. The potential of podcasts and audiovisual tools to support bottom-up decoding and top-down inferencing was critically reviewed. Participants worked with Voscreen and LyricsTraining to design authentic listening activities. These tools supported outcomes 3, 4, 5, and 6, as participants selected and adapted content for differentiated instruction. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Integration involved practice tasks and design of scaffolded listening lessons. Evaluation was carried out formatively via in-class activities.

**Week XIV: Technology and Teaching Speaking and Pronunciation:** This week explored digital tools for promoting speaking fluency and pronunciation awareness. Participants explored cognitive and sociocultural theories of oral development, including ZPD and interactionist perspectives. The role of technology in promoting fluency, interaction, and feedback for pronunciation was discussed with reference to both synchronous and asynchronous tools. Participants interacted with ELSA, Call Annie, Voki, and Dictation features to support speaking tasks and pronunciation drilling. These tools addressed learning outcome 3, 4, 5, and 6 by focusing on learner engagement through simulated conversations and feedback. The week's content was grounded in feedback from needs analysis and expert consultations expressing a strong need for engaging various language skills and areas. Participants completed tool tryouts, lesson design tasks, and peer demos. Evaluation was carried out formatively via in-class activities.

**Week XV: Technology and Assessment:** The final instructional week addressed formative and summative assessment through digital tools. Participants discussed computerized assessment, formative and summative use, and digital ethics. They explored Kahoot, Socrative, Quizizz, and Hotpotatoes to design quizzes, polls, and exam items. These activities supported learning outcomes 3, 4, 8, and 9, particularly in creating assessment tools and addressing data privacy and security issues. Rationale was drawn from needs analyses, and syllabi of similar courses. Integration tasks included designing and administering a mini online quiz, as well as analyzing the affordances and limitations of each platform. Assessment took place through relevant midterm questions addressing ethical concerns, and also in-class activities.

As the weekly summaries demonstrate, the course was sequenced to move from conceptual understanding to skill-based application, aligning content and tools with defined learning objectives. To synthesize this alignment more clearly, the following Figure 4.22 presents a visual representation of the distribution of course learning outcomes across the fifteen weeks, further emphasizing how each component of the course was designed to address specific pedagogical goals in a cumulative and integrated manner.

**Figure 4.22**

*Learning outcomes coverage by week*

|           |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Week I    | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   |
| Week II   | 1   | 1   | 1   | 1   | 0   | 0   | 0   | 0   | 0   |
| Week III  | 0   | 0   | 1   | 1   | 0   | 0   | 1   | 0   | 0   |
| Week IV   | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 0   | 1   |
| Week V    | 0   | 0   | 1   | 1   | 0   | 0   | 1   | 0   | 1   |
| Week VI   | 0   | 0   | 1   | 1   | 0   | 0   | 1   | 0   | 0   |
| Week VII  | 0   | 0   | 1   | 1   | 1   | 1   | 1   | 0   | 0   |
| Week IX   | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week X    | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week XI   | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week XII  | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week XIII | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week XIV  | 0   | 0   | 1   | 1   | 1   | 1   | 0   | 0   | 0   |
| Week XV   | 0   | 0   | 1   | 1   | 0   | 0   | 0   | 1   | 1   |
|           | LO1 | LO2 | LO3 | LO4 | LO5 | LO6 | LO7 | LO8 | LO9 |

Figure 4.22 illustrates the weekly coverage of LOs across the TIELT course. The mapping highlights a strong and intentional emphasis on LO3 (evaluating technology-enhanced language teaching methods) and LO4 (effective integration of technology), both of which are addressed consistently throughout the course. This reflects the course's primary aim of fostering critical and practical digital pedagogy. Foundational theoretical outcomes (LO1 and LO2) were emphasized in the initial weeks, while practical design and selection skills (LO5 and LO6) were integrated from Week IV onward. The development of blogs (LO7), assessment tools (LO8), and digital ethics awareness (LO9) were strategically introduced in targeted weeks to support focused exploration and reflection. Overall, the figure demonstrates the course's alignment with its stated learning outcomes and supports its coherence as a technology-rich, outcome-driven instructional design.

#### 4.2.2 Utilize media and materials

Building on the weekly content structure and learning outcome alignment, this section highlights how selected digital tools and materials were utilized to support interactive, and experiential learning throughout the course.

To operationalize these principles in each session, the course followed a consistent yet flexible structure that scaffolded learners' engagement from theory into practice. For example, if the week's theme was using mobile apps for language learning, the instructor would first discuss principles of mobile learning, referencing relevant theories or research findings, and ensure students understood why that category of technology could be effective. Table 4.5 presents a sample lesson plan from Week 3, indicating the usual structure and flow of the lesson.

**Table 4.5**  
*Sample Lesson Plan*

| <b>Date: Week 3 (Computer-Mediated Communication)</b>                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                          |                                  |                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|----------------------------------|--------------------------------------------------------|
| <b>Learning Outcomes: Students will be able to:</b>                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                          |                                  |                                                        |
| <ul style="list-style-type: none"> <li>- Use CMC software (zoom &amp; wonder.me)</li> <li>- Communicate, create and manage online study groups via Zoom / BigBlueButton / Teams</li> <li>- Create dynamic online groups using wonder.me</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                          |                                  |                                                        |
| <b>Stage &amp; Duration</b>                                                                                                                                                                                                                        | <b>Teacher Activity</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <b>Student Activity</b>                                                                                  | <b>Interaction</b>               | <b>Materials &amp; Aids</b>                            |
| <b>Lead-in (5 min)</b>                                                                                                                                                                                                                             | <p><u><b>*Teacher asks eliciting questions regarding different mediums of communication and writes ss responses on the board*</b></u></p> <p>-Which one do you prefer? Online vs Face-to-face interaction?</p> <p>-What are the pros and cons of each medium?</p>                                                                                                                                                                                                        | <p>*ss respond to the ts questions</p> <p>*</p>                                                          | <p>T-S</p> <p>S-T</p>            |                                                        |
| <b>Presentation &amp; Discussion (40 min)</b>                                                                                                                                                                                                      | <p><u><b>*Classroom discussion on weekly reading. Teacher asks eliciting questions regarding the weekly readings.*</b></u></p> <p>- What are some key points of this week's reading assignment?</p> <p>-How can you make use of this information in your future lessons?</p> <p><u><b>*Teacher explains:</b></u></p> <p>-What is CMC?</p> <p>-Synchronous &amp; Asynchronous CMC</p> <p>-Individual &amp; Group Communication</p> <p>-Online Communities of Practice</p> | <p>*ss take part in the discussions, listen to the ts explanations and respond to the ts questions *</p> | <p>T-S</p> <p>S-T</p> <p>S-S</p> | <p>Computers</p> <p>Presentation</p> <p>Whiteboard</p> |

**Table 4.5 (continued) Sample Lesson Plan**

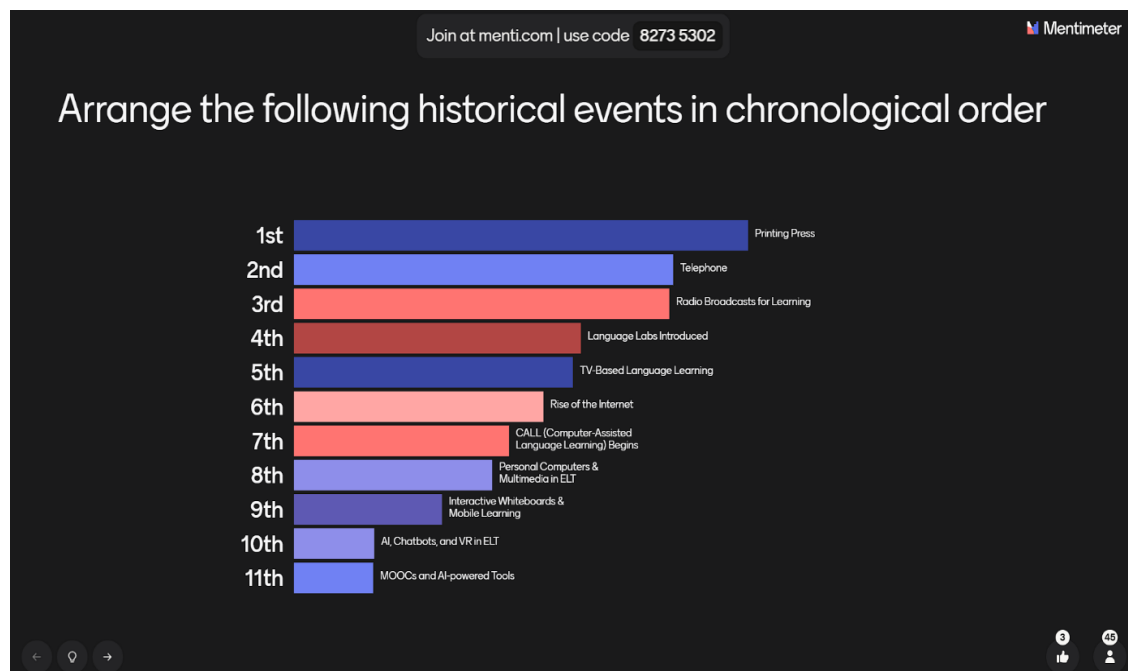
|                                   |                                                                                                                                                                                                   |                                                                                    |                   |                                         |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------|-----------------------------------------|
| <b>Tool Introduction (15 min)</b> | <b><u>*Teacher introduces:</u></b><br>-Zoom<br>-Wonder.me                                                                                                                                         | *ss listen to the ts explanations and respond to the ts questions *                | T-S<br>S-T        | Computers<br>Presentation<br>Whiteboard |
|                                   | <b><u>*Teacher asks questions regarding the newly introduced tools.*</u></b><br>-What are some key differences between these tools?<br>-How can you implement these tools while teaching English? |                                                                                    |                   |                                         |
| <b>Free Practice (30 min)</b>     | <b><u>*Teacher asks students to practice the tools as both a user and a teacher. *</u></b><br>-Students' free time to explore the tools                                                           | *ss work free to explore the tools and ask questions to t*                         | T-S<br>S-T<br>S-S | Computers                               |
|                                   | <b><u>*Teacher asks students to start implementing the tool</u></b><br>-Creating an in-class mini-conference                                                                                      | *after the free practice, ss implement what they know to create a mini-conference* |                   |                                         |

During this segment, there was also typically a warm-up activity or review at the very beginning to activate prior knowledge. The warm-up might involve asking students about their experiences or opinions on last week's tool or topic, or a quick quiz/poll to refresh a concept from the previous session.

Figure 4.23 presents a warm up activity regarding the history of educational technologies, in which learners rank the historical events as a whole class activity to gain an overall perspective regarding the evolution of technology.

**Figure 4.23**

*Mentimeter Collaborative Timeline Activity*



These warm up activities not only reinforced continuity from week to week but also encouraged students to reflect on and articulate what they had learned so far. After the warm-up, the instructor delivered the core content and facilitated discussion. Students were encouraged to ask questions, share any personal experiences with the tools or technologies in question, and consider how the theory connects to practice. This interactive lecturing style was intended to keep the first hour from being a one-way lecture, instead, it was dialogic and learner-centered, inviting student contributions even during the conceptual phase.

Interactive learning activities were central to the course design, crafted to ensure that learners actively applied what they learned each week. Rather than passively listening to lectures, students were frequently prompted to participate in discussions and hands-on exercises. A combination of in-class and online activities was employed. For instance, during class sessions, students frequently participated in guided discussions or brainstorming exercises, either spoken or conducted through online platforms, centered on the week's topic. For these brainstorming activities, online platforms such as AnswerGarden, Mentimeter, and Canva were utilized to facilitate idea generation and collective engagement. Figures 4.24 and 4.25 present sample brainstorming activities for the MALL week.

**Figure 4.24**

*Collaborative Brainstorming Activity - AnswerGarden*

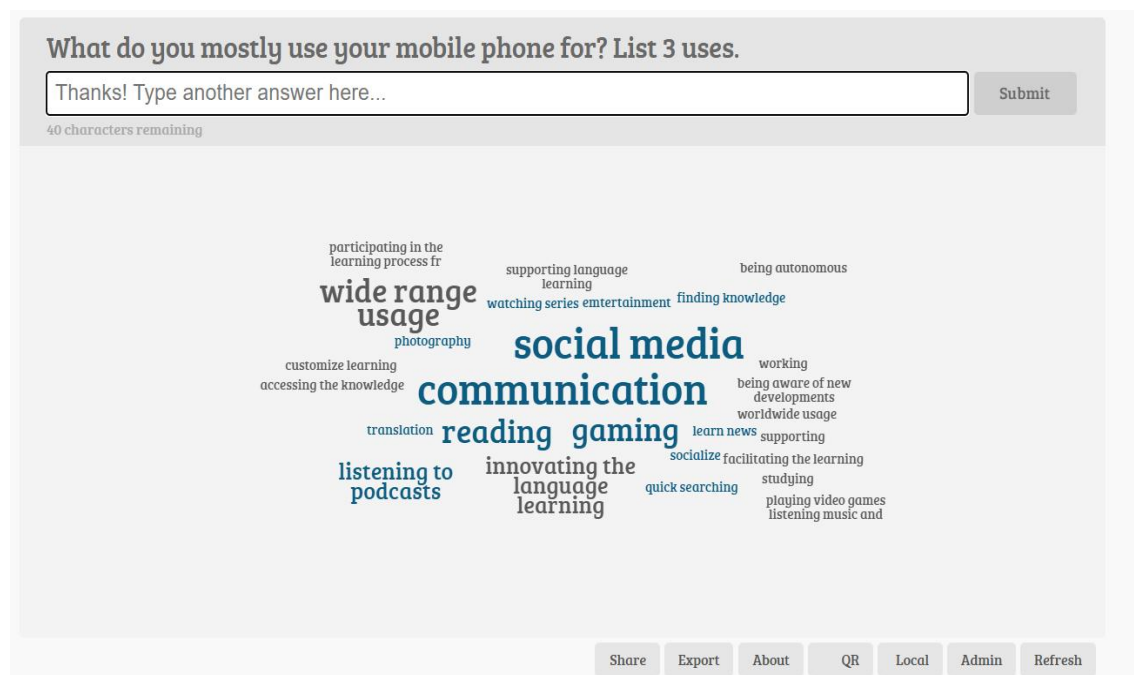
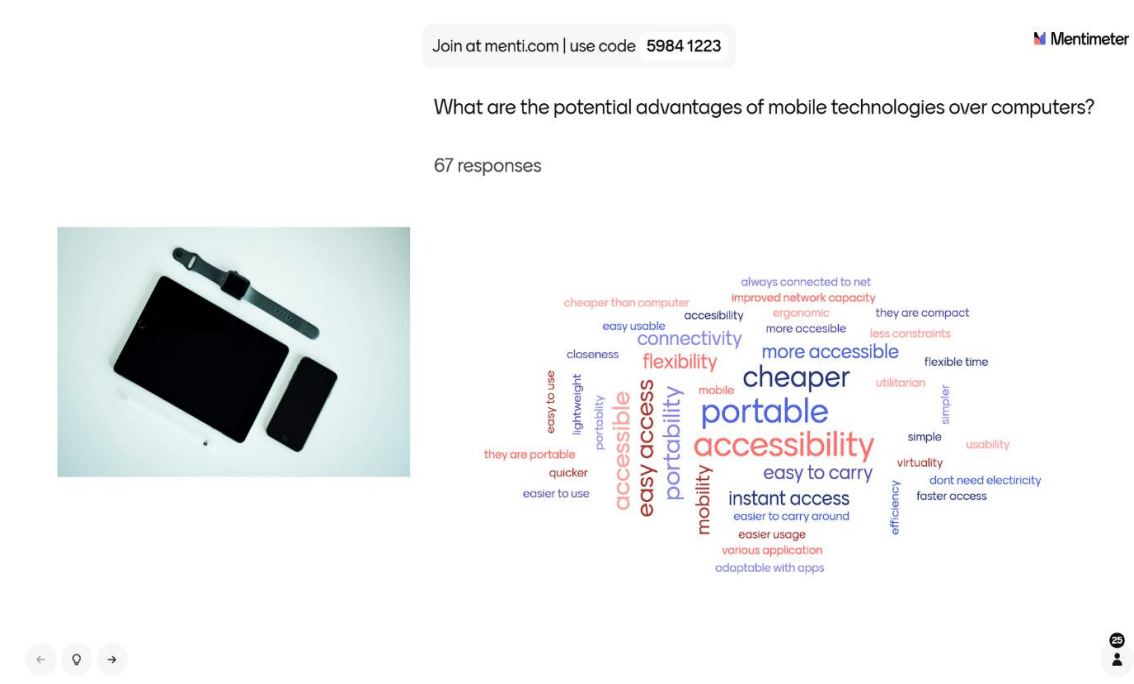


**Figure 4.25**

*Collaborative Brainstorming Activity - Mentimeter*



During these brainstorming activities, students were prompted with open-ended questions related to the week's topic, such as the potential benefits of MALL or common uses of

mobile technology in daily life. Using Mentimeter, students submitted short responses either via computers or their smartphones, which were immediately visualized in a dynamic word cloud on the classroom screen. This instant feedback helped highlight common themes, sparked further discussion, and encouraged students who participate less frequently in verbal discussions to participate anonymously. Similarly, AnswerGarden was employed to collect brief textual responses to targeted questions, with the resulting word cloud updating live to reflect the most frequently mentioned terms. These tools enabled collaborative reflection and knowledge sharing, while also helping the instructor monitor student understanding in real-time. The anonymity and simplicity of the tools supported a low-pressure environment, fostering higher engagement and a sense of contribution among students. These activities were intended to promote active learning and critical thinking, as students could share ideas or debate the value of different technologies in teaching. A supportive atmosphere was emphasized, in which participants could exchange diverse ideas. This openness was meant to enhance understanding through peer learning and to help with retention of concepts by linking them to multiple perspectives.

Building on these interactive discussions, each session also incorporated hands-on tasks that allowed students to apply what they were learning using real digital tools. Many activities involved collaborative tasks using the very tools being taught. For instance, in the week focused on blogging, students were tasked with a group activity using Google Jamboard (no longer active), a digital collaborative whiteboard. In that activity, small groups jointly evaluated an educational blog (related to language learning) and collectively recorded their critiques on a shared Jamboard, building on each other's contributions. This not only taught them how to use Jamboard but also let them experience collaboration in real time, mirroring how technology can support group work. As an alternative to Jamboard, the whiteboard function of Canva was also introduced with a similar activity. Figure 4.26 presents the sample blog for evaluation.

**Figure 4.26**

*Sample Blog for Evaluation*

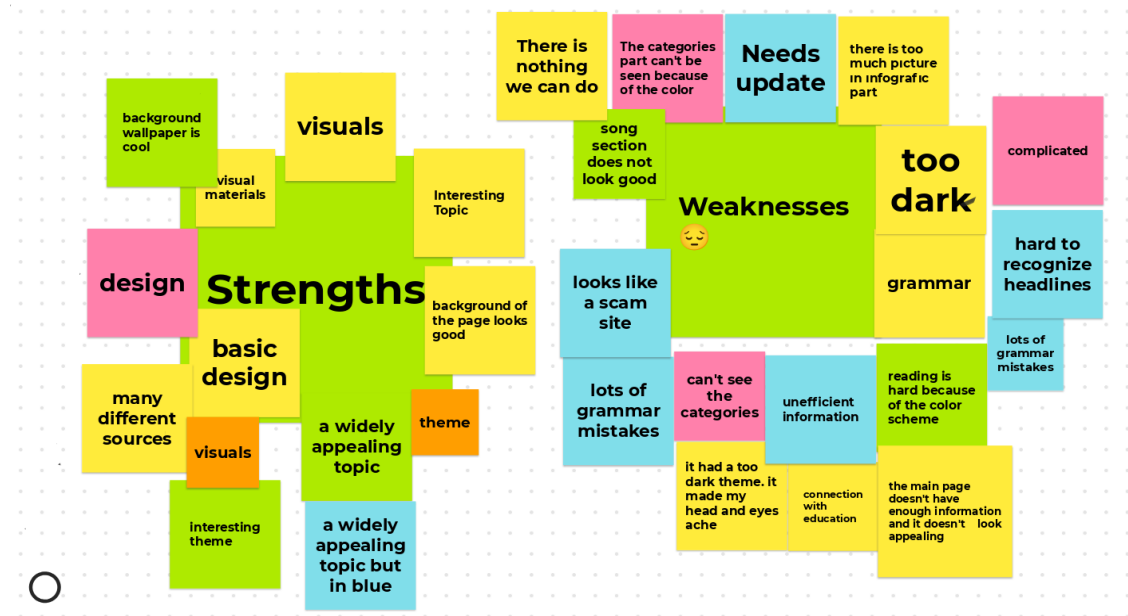


The educational blog presented in Figure 4.26 served as a model for the type of digital content students were expected to create. It was centered around the theme of *Sherlock Holmes*, and it integrated a variety of multimodal elements, including videos, animations, podcasts, infographics, and supplementary materials. This example aimed to inspire students to think creatively about how to present content, engage their audience, and make meaningful connections between classic literature and contemporary teaching practices.

For this activity, students were asked to explore the sample blog and critically examine its digital content using the provided evaluation rubric. Working in groups, they discussed and identified the strengths and weaknesses of the blog, then collaboratively listed their observations on Google Jamboard. Figure 4.27 presents the outcome of this collaborative activity.

**Figure 4.27**

*Google Jamboard Blog Evaluation Activity*



Similarly, for a module on gamification, an online discussion forum on the LMS was used: the instructor posted a prompt about using games in language teaching, and learners were required to contribute to the forum, responding to the prompt and to each other's posts. This was an example of extending classroom dialogue into an online space, again using technology to facilitate reflection and interaction. Samples of these forum discussions show how learners engaged critically with the topic. By incorporating activities like these each week, the course ensured a cycle of theory-to-practice: first learners would hear about a concept and see a tool demonstrated, and then they would immediately use that tool or apply the concept in an activity, thus reinforcing their learning through practice. Figure 4.28 presents the discussion prompt, and figures 4.29 and 4.30 present some learner samples from these discussions.

**Figure 4.28**

*Prompt for the Forum Discussion*

In the current era, it's reasonable to assume that almost everyone engages in some form of gaming.

Share your top 4-5 favorite games that you enjoy playing. After listing them, choose one game from your selection and brainstorm potential methods to integrate it into language education. Elaborate on your ideas.

Feel free to offer constructive feedback on your peers' contributions while maintaining a respectful and encouraging atmosphere for discussion.

**Figure 4.29**

*Sample Learner Response to the Forum Discussion*

yazan [REDACTED] - Sali, 19 Mart 2024, 23:11

I enjoy playing games like Minecraft, Scrabble and League of Legends. Minecraft can help to explore and identify objects in the game, learning new vocabulary related to construction, nature, and survival. Scrabble encourage students to create words using the tiles or letter dice and then explain the meanings of those words, expanding their vocabulary and also challenge students to spell words correctly within a time limit or with specific constraints, reinforcing spelling rules and patterns. LoL can be utilized in-game lore and character backgrounds for reading comprehension activities. Have students read and summarize champion biographies in the target language.

**Figure 4.30**

*Sample Learner Response to the Forum Discussion*

**Games**

yazan [REDACTED] - Perşembe, 21 Mart 2024, 02:32

I especially like rpg games such as baldur's gate 3, divinity original sins 2, witcher 3, skyrim etc. You should follow the story otherwise you get bored. When you follow the story, you try to understand all the quests. That's why, we can improve our english through these games.

Also, I've played league of legends for 9-10 years. Most of the time, I played in West Region and I meet some foreign people there. To communicate with them you should speak english with them. I played some MMORPG games like Shaiya, Forsaken World etc. In this games you meet a lot of foreign people and it is essential to improve your character. Looting, complete some quests are important and without people's help it is very hard.

By combining these practical and collaborative activities, the course aimed to develop participants' skills in technology integration, and amplify their understanding of how these skills can be applied in diverse and meaningful ways.

Beyond structured classroom tasks, collaboration was encouraged as a broader pedagogical strategy to support peer learning. Many in-class activities involved group work, and even outside of class, students were encouraged to form study or practice groups. The rationale was that peer learning would enable them to learn not just from the instructor but also from each other's insights and skills. For example, if one student discovered a novel way to use a tool or had prior experience with a platform, they often shared it during class discussions or in the online forum, enriching the collective learning experience. The online discussion forum on the LMS and the WhatsApp group were used for continuing discussions, posting interesting findings or resources between classes, and for students to help each other troubleshoot issues in real time.

To ensure that learning extended beyond the classroom and supported professional readiness, the course also incorporated authentic, practice-based assignments. Students completed tasks such as creating digital course materials through various means, creating short instructional videos or interactive quizzes for their future students, or maintaining a reflective blog about their learning experiences. These assignments paralleled real-world teaching tasks, thereby increasing the relevance of the course to their future profession. Through these varied and practical learning activities, the course aimed not only to transmit knowledge, but to build the confidence and skills needed for participants to implement technology in their own teaching. The blend of collaborative projects, discussions, and hands-on tool usage was intended to cater to different learning styles and keep the participants engaged and motivated throughout the term.

For example, in a week centered on vocabulary development, students engaged in an activity using Piktochart, a graphic design platform, to create infographics that visually represented themed vocabulary sets (e.g., travel, health, academic language). Working either in pairs or individually, each student selected a topic, curated relevant vocabulary items, and organized them into learner-friendly visuals incorporating definitions, images, or contextual examples. This activity not only familiarized them with Piktochart but also highlighted the pedagogical value of visual organization and multimodal input in supporting vocabulary retention.

A sample work from that week, a participant aimed to introduce fundamental lexical and phonological differences between American and British English, specifically tailored for a 5<sup>th</sup> grade audience at the beginner CEFR level. The infographic was designed with accessibility in mind, aiming to present clear and engaging comparisons that would resonate with young learners. By focusing on differences in spelling, pronunciation, and vocabulary, the student offered a well-rounded linguistic snapshot that can support both written and spoken language development. The use of visual aids, such as flags, icons, and phonetic transcriptions, further enhanced the clarity and educational value of the content, making it suitable for use in real classroom settings as a supplementary teaching material. Figure 4.31 presents the the objectives and context, and Figure 4.32 presents the final

**Figure 4.31**

*Objectives and content for the infographic assignment*

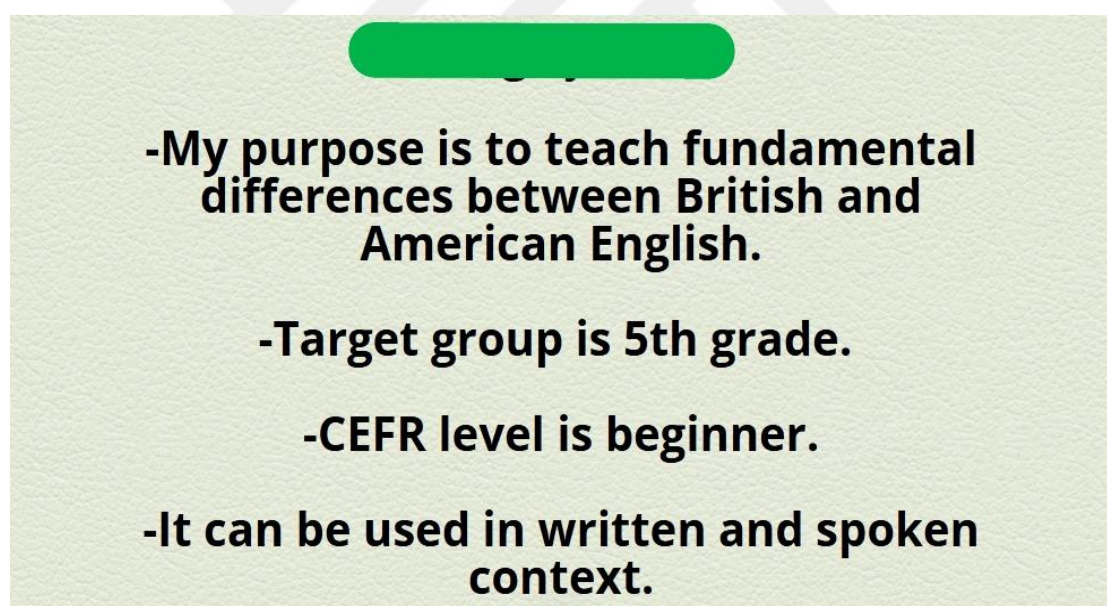
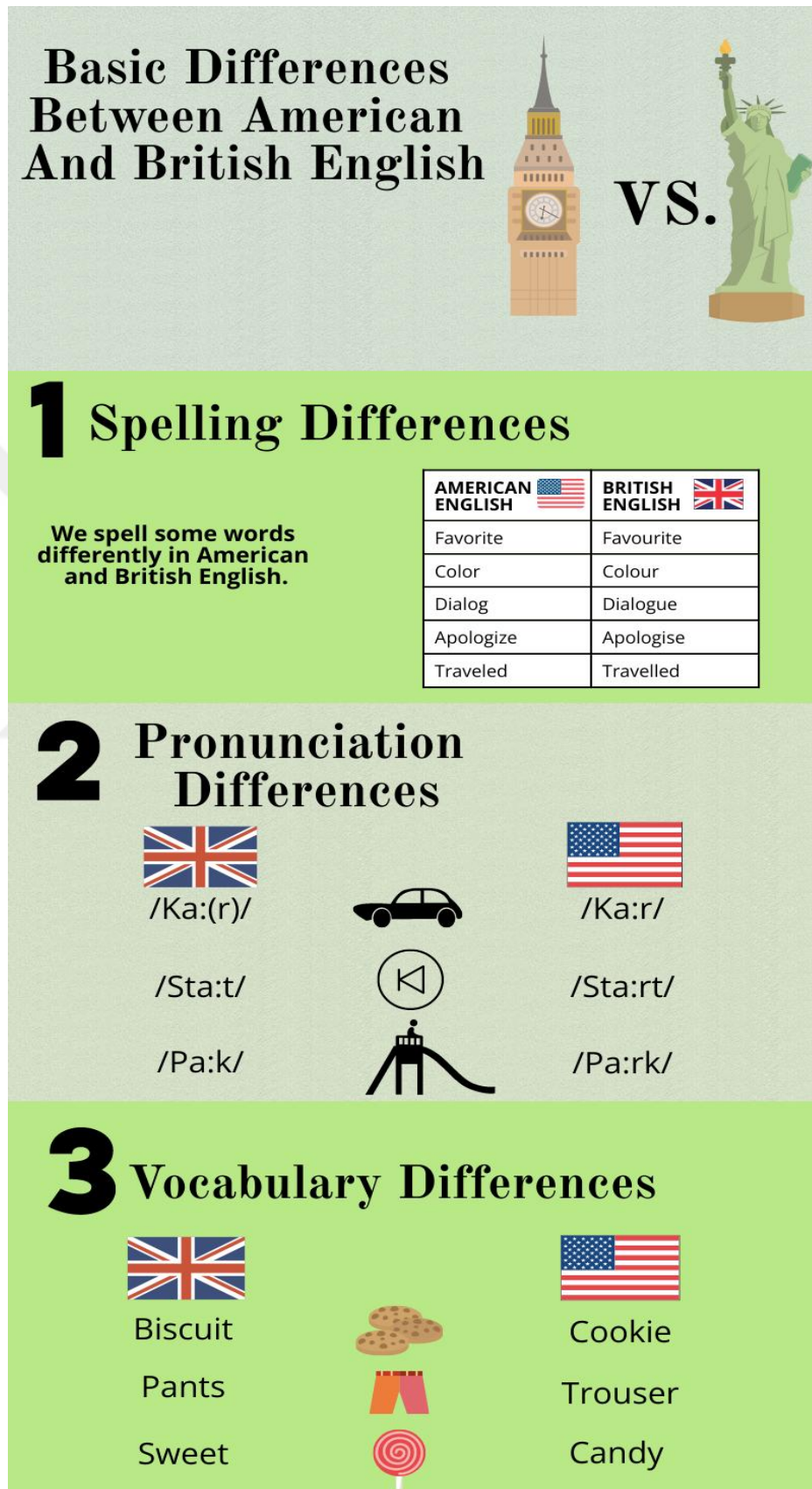


Figure 4.32

Sample Piktochart Activity Outcome



In another week focusing on enhancing reading comprehension through digital storytelling, students used StoryboardThat to retell a scene from a short story of their choice. Each learner selected key moments, mapped them into a storyboard, and added character dialogue and narration to represent comprehension and interpretation. In small groups, they then shared their storyboards and discussed narrative choices, and character insights. This activity helped students see how visual storytelling can aid reading comprehension, while also equipping them with a creative digital tool to support learner engagement. Figure 4.33 presents one of the outcomes of this week.

**Figure 4.33**

*Sample Storyboardthat Activity Outcome*



Finally, in the week dedicated to online assessment, the instructor introduced students to Quizizz, an online platform for creating interactive quizzes. During the session, students learned not only how to design quizzes using various question types (such as multiple-choice, short answer, and matching) but also how to analyze learner responses item by item to identify patterns and areas of difficulty. The instructor demonstrated how to interpret quiz data and provide targeted feedback to support learner improvement. Following this, each student created a sample formative quiz aligned with recent course content, and shared it with peers for review. This hands-on activity emphasized the practical application of digital assessment tools, while also modeling the value of feedback loops and data-informed teaching in supporting learner growth.

**Figure 4.34**

Quizizz Activity – Individual Scores and Accuracy Rates



In this figure, the leaderboard display from Quizizz illustrates individual student scores, and accuracy rates. The visual feedback provided by green and red markers helped both students and the instructor track correct and incorrect responses in real-time. This gamified format introduced a competitive element that motivated students to stay engaged while also offering a clear overview of whole class performance trends.

**Figure 4.35**

Quizizz Activity – Quiz Statistics

| A  | B                                                                                          | C               | D         | E                 | F                                    | G       | H                | I                 | J         | K        | L           |
|----|--------------------------------------------------------------------------------------------|-----------------|-----------|-------------------|--------------------------------------|---------|------------------|-------------------|-----------|----------|-------------|
| #  | Question                                                                                   | Question Type   | Standards | Question Accuracy | Average Time per Question (hh:mm:ss) | Correct | Yet to be graded | Partially correct | Incorrect | Ungraded | Unattempted |
| 1  | What does CALL stand for?                                                                  | Multiple Choice |           | 88%               | 00:00:06                             | 36      | 0                | 0                 | 2         | 0        | 3           |
| 2  | Which is not one of the phases of CALL according to Krashen?                               | Multiple Choice |           | 39%               | 00:00:12                             | 16      | 0                | 0                 | 22        | 0        | 3           |
| 3  | Which of the following is not a learning theory?                                           | Multiple Choice |           | 63%               | 00:00:09                             | 26      | 0                | 0                 | 10        | 0        | 5           |
| 4  | Which one of the following is not one of the early CALL theories?                          | Multiple Choice |           | 63%               | 00:00:11                             | 26      | 0                | 0                 | 11        | 0        | 4           |
| 5  | Which one is not an authentic media?                                                       | Multiple Choice |           | 63%               | 00:00:08                             | 26      | 0                | 0                 | 11        | 0        | 4           |
| 6  | Which of the following does not count as a chance for language use?                        | Multiple Choice |           | 54%               | 00:00:14                             | 22      | 0                | 0                 | 15        | 0        | 4           |
| 7  | What learning principles are common for both L2 and L1 acquisition?                        | Multiple Choice |           | 56%               | 00:00:18                             | 23      | 0                | 0                 | 14        | 0        | 4           |
| 8  | Which method emphasized repetition and prompt feedback?                                    | Multiple Choice |           | 68%               | 00:00:13                             | 28      | 0                | 0                 | 10        | 0        | 3           |
| 9  | According to the SAMR model, which level represents the most significant change?           | Multiple Choice |           | 37%               | 00:00:14                             | 15      | 0                | 0                 | 22        | 0        | 4           |
| 10 | What potential challenges does the use of mobile devices present?                          | Multiple Choice |           | 56%               | 00:00:21                             | 23      | 0                | 0                 | 14        | 0        | 4           |
| 11 | What is a significant advantage of mobile technology in language learning?                 | Multiple Choice |           | 66%               | 00:00:16                             | 27      | 0                | 0                 | 11        | 0        | 3           |
| 12 | What is the main purpose of Creative Commons Attribution-NonCommercial-ShareAlike license? | Multiple Choice |           | 37%               | 00:00:19                             | 15      | 0                | 0                 | 23        | 0        | 3           |
| 13 | What does the "BY" component of a Creative Commons license stand for?                      | Multiple Choice |           | 29%               | 00:00:20                             | 12      | 0                | 0                 | 25        | 0        | 4           |
|    |                                                                                            |                 |           | 55%               | 00:03:02                             | 295     | 0                | 0                 | 190       | 0        | 48          |

This figure captures comprehensive quiz statistics, including question accuracy rates, average response times, and distribution of correct and incorrect answers. Such data enabled a deeper discussion about question effectiveness and difficulty, prompting

students to consider how assessment design impacts learner experience. The insights also modeled how teachers can use data-driven feedback to adapt instruction and better support learner needs.

**Figure 4.36**

*Quizizz Activity – Detailed Student Responses*

| Question                                             | M                | N                | O                | P                | Q                | R                | S                | T                | U                             | V                | W                | X                |
|------------------------------------------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------------------|------------------|------------------|------------------|
| 1 What does CALL stand for?                          | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi    | Computer-Assi                 | Computer-Assi    | Computer-Assi    | Computer-Assi    |
| 2 Which is not one of the phases of CALL according   | Constructivist ( | Constructivist ( | Behaviorist CAI  | Constructivist ( | Constructivist ( | Constructivist ( | Integrative CAL  | Constructivist ( | Communicative Behaviorist CAI | Constructivist ( |                  |                  |
| 3 Which of the following is not a learning theory?   | Relativism The   | Relativism The   | Relativism The   | Relativism The   | Relativism The   | Sociocultural T  | Relativism The   | Relativism The   | Relativism The                | Relativism The   | Relativism The   | Relativism The   |
| 4 Which one of the following is not one of the early | Harddrives       | Harddrives       | Harddrives       | Harddrives       | Harddrives       | Harddrives       | Phonograph Re    | Harddrives       | Cylinder Recon                | Harddrives       | Harddrives       | Harddrives       |
| 5 Which one is not an authentic media?               | Textbooks        | Textbooks        | Textbooks        | Textbooks        | Textbooks        | Textbooks        | Textbooks        | Textbooks        | Textbooks                     | Textbooks        | Textbooks        | Textbooks        |
| 6 Which of the following does not count as a chance  | course manage    | course manage    | course manage    | course manage    | course manage    | fan fiction      | course manage    | course manage    | course manage                 | course manage    | course manage    | fan fiction      |
| 7 What learning principles are common for both L2    | Situated learnir | Situated learnir | Situated learnir | Memorization     | Situated learnir | Situated learnir | Situated learnir | Situated learnir | Situated learnir              | Situated learnir | Situated learnir | Situated learnir |
| 8 Which method emphasized repetition and prompt      | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling   | The Audio Ling                | The Audio Ling   | The Audio Ling   | The Audio Ling   |
| 9 According to the SAMR model, which level repre     | Redefinition     | Redefinition     | Redefinition     | Redefinition     | Redefinition     | Substitution     | Redefinition     | Redefinition     | Modification                  | Redefinition     | Modification     | Substitution     |
| 10 What potential challenges does the use of mobile  | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un   | Exposure to un                | Exposure to un   | Exposure to un   | Exposure to un   |
| 11 what is a significant advantage of mobile technol | They enable pe   | They enable pe   | They enable pe   | They enable pe   | They enable pe   | They enable pe   | They enable pe   | They provide a   | They enable pe                | They enable pe   | They provide a   | They enable pe   |
| 12 What is the main purpose of Creative Commons li   | To allow creat   | To allow creat   | To allow creat   | To protect the   | To allow creat   | To ensure that   | To allow creat   | To allow creat   | To allow creat                | To allow creat   | To allow creat   | To protect the   |
| 13 What does the "BY" component of a Creative Con    | The work must    | The work can b   | The work must    | The work must    | The work can b   | The work must    | The work is av   | The work can b   | The work is not               | The work must    | The work can b   | The work is av   |
|                                                      | 100%             | 92%              | 92%              | 85%              | 77%              | 77%              | 77%              | 77%              | 77%                           | 77%              | 69%              | 69%              |

Finally, this figure presents a detailed view of student responses to a formative and ungraded quiz. Each row corresponds to a specific question, while columns show the variety of individual student answers. Highlighted cells indicate correct and incorrect responses, helping to quickly identify misconceptions or common errors. Through this analysis, students were guided through how to interpret this type of table. This instructional approach aimed to build their assessment literacy and prepare them to use such data effectively in their future teaching.

### 4.2.3 Require learner participation

Beyond the integration of digital tools and instructional materials, one of the core aims of the course was to foster active, and meaningful learner participation. Participation was not limited to tool use or task completion; rather, it encompassed a broader engagement with the course as a dynamic, co-constructed learning experience. From the early stages of course design, based on learner needs and expert input, participants were positioned as collaborators. Throughout implementation, multiple strategies such as collaborative tasks, reflective practice, learner agency, and social presence were deliberately employed to ensure that TCs remained engaged in the course. This section presents various

dimensions through which learner participation was encouraged, and supported in alignment with the course's pedagogical goals.

TCs as a group were involved in the course from the very beginning, as their expressed needs during the initial analysis directly shaped the content, structure, and focus of instruction. Their priorities, such as more hands-on practice, exposure to classroom-ready tools, and digital ethics, were explicitly addressed and made visible throughout the course. As a result, learners were expected to perceive the course as directly relevant to their future teaching contexts.

Each weekly session was built around interactive activities and discussions designed to encourage learners' critical engagement with both pedagogical concepts and technological tools. Instead of relying on a heavily lecture-based delivery, each session included multiple interactive components such as guided discussions, collaborative digital tasks, peer critiques, and real-time tool exploration. Learners were routinely invited to share their opinions on the week's tools, reflect on classroom applicability, and critique the pedagogical design of the featured technologies. These activities were supported by a learning environment that encouraged open dialogue, diversity of perspective, and shared exploration. For instance, while testing platforms like Thinglink, StoryBoardThat, or Quickdraw, learners discussed how such tools could support specific language skills, classroom formats, or learner profiles. This blend of practice and dialogue was considered important for fostering pedagogical participation.

Learner input was not only welcomed but used as a basis for course revisions, creating a dialogue that continuously shaped course delivery. Throughout the semester, the instructor actively sought learner input regarding the clarity, pacing, and relevance of course content. This feedback was gathered both informally during class discussions, and also more systematically during mid-course and an end-of-course focus group interviews. Revisions were made in response to this feedback, such as adjusting the balance between theoretical and practical content in certain weeks or introducing more collaborative blog development time. These changes demonstrated to learners that their voices mattered not only in their own learning but also in shaping the content and the pace of the course itself.

Participation was further encouraged through opportunities for independent work and reflection, particularly through blog-based output drafts that captured individual learning journeys. Learners were not only asked to complete weekly tasks but also to engage in

activities such as maintaining blogs, analyzing tool usability, and designing their own materials. These activities promoted ownership of their learning and allowed them to track their own growth over time. In particular, the final blog-based assessment was structured to reveal their ability to integrate technology into authentic teaching contexts, aligning with the course's emphasis on long-term professional development. In this way, participation moved beyond attendance and task completion to include self-directed learning and critical reflection.

To support digital fluency and reduce tool anxiety, the course included low-pressure opportunities for stress-free experimentation and open-ended exploration of unfamiliar platforms. Learners were encouraged to experiment freely with tools like Wordwall, Canva, or AI-based tools such as StableDiffusion, ChatGPT or Leonardo.ai without fear of making mistakes. These low-stakes, discovery oriented segments were designed to normalize trial and error learning, problem solving, or seeking help, fostering confidence and curiosity. Rather than assessing tool mastery immediately, initial sessions emphasized comfort and creativity, allowing TCs to engage with new technologies through open-ended tasks and experimentation. This approach promoted a sense of digital play as a legitimate and valuable learning mode.

Activities were consistently framed within the context of future classroom use, prompting participants to evaluate how each tool or approach could serve their professional needs. Weekly reflections and class discussions routinely asked learners to consider: "How would I use this in my own class?" or "Would this work for my learners?" By framing each activity in terms of pedagogical transfer, the course helped participants see the practical value of participation. Moreover, the final blog project required learners to synthesize and apply tools in context, reinforcing the idea that participation was not just about course completion, but about preparing for real teaching scenarios.

Intentional effort was made to foster a strong sense of connection among participants, using peer interaction and collaborative tools to establish a positive learning climate. The course prioritized the creation of a supportive and connected learning environment, where social presence, feeling seen, heard, and valued, enhanced learner participation. Regular use of brainstorming tools (like AnswerGarden or Mentimeter), and discussion-based platforms helped foster a sense of classroom community. Collaborative projects and peer feedback tasks further strengthened this, positioning learners as co-constructors of

knowledge rather than isolated individuals. Social presence also encouraged more open reflection, as participants felt safe to admit confusion, share doubts, or ask for help.

Learners were given autonomy to personalize tasks and choose digital tools aligned with their interests and teaching goals, which contributed to ownership and motivation. For instance, while all students were asked to create a final blog, they could choose their platform (Wix, Blogger), focus area (vocabulary, assessment, writing, etc.), audience (peers, students, or public), and theme or topic (sports, video games, movies, etc). This flexibility increased motivation by aligning tasks with participants' interests and future teaching contexts. During in-class activities, learners were also invited to select from multiple tools or formats when exploring content. This personalization is expected to contribute to a sense of ownership over tasks, activities, and overall learning process.

Weekly goals, activity purposes, and tool rationales were shared openly, fostering a collaborative learning environment in which participants understood and helped shape the learning process. Transparent communication about the course goals, rationale behind weekly topics, and criteria for evaluation helped build trust between the participants and the instructor, as mentioned in the focus group interviews. Learners were regularly updated about why certain tools were introduced and how they supported specific learning outcomes. By involving participants in informal decision-making processes such as giving feedback on pacing or tool difficulty, the course modeled participatory teaching practices and positioned learners as collaborators in the instructional process.

Participation was supported through a range of expressive formats, including visuals, text, video, and collaborative platforms, allowing learners to demonstrate understanding in varied ways. Recognizing the diversity of learning styles and communication preferences among participants, the course allowed multiple modes of engagement. Learners could express their ideas through written reflections, audio recordings, blog visuals, or collaborative digital whiteboards. This multimodal approach not only made participation more inclusive but also mirrored the types of digital literacy they would later be expected to foster in their own classrooms. For instance, visual tools like Canva or Piktochart were encouraged for summarizing readings or lesson plans, and these were accepted as valid alternatives to traditional written submissions.

Finally, a nonjudgmental learning atmosphere encouraged learners to experiment with new technologies without fear, recognizing errors and uncertainty as part of the learning

process. Understanding that many TCs were initially unfamiliar with advanced or newer digital tools, the course promoted a low-stress, experimentation-friendly environment. Learners were encouraged to test tools without pressure to achieve immediate proficiency. Mistakes were framed as learning opportunities, and unfamiliarity with a tool was treated as normal rather than as a problem. Scaffolded guidance and peer support ensured that participants felt safe taking risks and asking for help. Over time, this helped build digital self-efficacy and encouraged deeper participation even among initially hesitant learners.

### **4.3 Findings of Phase 3: Course Evaluation**

This section presents the Evaluation stage of the ASSURE instructional design model, which focuses on assessing the effectiveness of the implemented course and determining the extent to which the intended learning outcomes were achieved, in an attempt to answer the 4<sup>th</sup> Research Question. Aligned with the ASSURE model's and DBR methodology's focus on data-informed revision, this phase also explores how collected evidence can guide improvements to future iterations of the course.

To evaluate the course comprehensively, a multi-method approach was employed, integrating both quantitative and qualitative data. Data were collected through summative assessments, formative processes and feedback mechanisms, focus group interviews and validated scales to capture both learning products and underlying pedagogical growth. Table 4.6 below indicates the assessment tools used to evaluate different dimensions of student learning throughout the course

**Table 4.6**  
*Assessment Methods and Their Alignment with Learning Outcomes*

| <b>Tool / Method</b>       | <b>Purpose</b>                                                                                                 | <b>Assessed Learning Outcomes</b>                | <b>Contribution to Evaluation</b>                                                                        |
|----------------------------|----------------------------------------------------------------------------------------------------------------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------|
| Midterm Exam               | Assess theoretical understanding of educational technology concepts                                            | LO1, LO2, LO3, LO9                               | Measured students' conceptual grasp of content (e.g. CALL, Web 2.0, ethics)                              |
| Final Blog / E-Portfolio   | Evaluate ability to apply skills in creating digital learning materials                                        | LO4, LO5, LO6, LO7, LO9                          | Demonstrated creative and pedagogical use of tools like blogs, podcasts, infographics, and quizzes       |
| Ungraded Weekly Quizzes    | Reinforce weekly concepts and provide low-stakes practice                                                      | LO1, LO2, LO3, LO8                               | Offered feedback for learners and instructor; built confidence and practice with digital quiz tools      |
| Focus Group Interviews     | Gather student reflections and feedback on course clarity, pace, and tools, and revise the course if necessary | Indirect evidence for all outcomes               | Enabled revisions and deeper insight into opinions and attitudes of participants                         |
| TPACK-EFL Scale (Pre/Post) | Assess development of TPACK self-perceptions                                                                   | Overall pedagogical growth beyond individual LOs | Provided structured measure of enhancements in self-perceptions in technology-enhanced language teaching |

These tools served complementary purposes: the midterm exam aimed to assess foundational theoretical knowledge, especially in relation to concepts such as CALL, Web 2.0 technologies, and ethical considerations, while the final blog-based e-portfolio aimed to capture students' ability to apply this knowledge in a creative and pedagogical way. Formative tools like ungraded weekly quizzes provided students with low-stakes opportunities to reinforce their understanding and practice with digital assessment platforms, while also offering the instructor ongoing insights into class progress. Focus group interviews added a qualitative layer to the evaluation by capturing learners' perceptions and enabling timely course adjustments. Finally, the TPACK-EFL scale served as a standardized measure to track students' growth in their perceptions in integrating technological and pedagogical knowledge, offering a broader view of professional development. Collectively, these instruments aimed to ensure that the evaluation process was comprehensive, aligned with learning outcomes, and responsive to learner needs.

The two primary summative assessments included a midterm exam and a final e-portfolio. The midterm exam assessed theoretical understanding through multiple-choice, short-answer, and open-ended questions. The final blog-based e-portfolio, supported by formative elements, evaluated learners' ability to apply course concepts through the creation of digital teaching artifacts. These assessments were aligned with the course's learning outcomes, which spanned cognitive, technical, and ethical competencies in technology integration for English language teaching.

To complement these summative tools, several formative strategies were also employed. Ungraded online quizzes helped reinforce learning and familiarize students with digital testing tools. In addition, various interactive and reflective practices such as weekly discussions, Q&A sessions, wrap-up debates, and forum-based exchanges encouraged active engagement and peer learning. Learners also received formative feedback on the digital materials, which allowed them to revise and improve their materials before final submission.

Focus group interviews conducted at two points during the semester provided critical insight into learner experiences and perceptions. These interviews helped the instructor identify areas where clarification, pacing, or content adjustments were needed, and

allowed learners to play an active role in the course's development, consistent with the iterative nature of design-based research.

In addition to direct assessments of knowledge and skill, the TPACK-EFL scale was administered as a pre- and post-test to measure deeper, more integrated shifts in TCs' self-perceptions of their digital pedagogical competence. This scale provided a structured and validated framework to capture how TCs perceived their ability to integrate technology pedagogically and contextually. Such self-perception data are valuable for understanding teachers' evolving confidence and awareness which are important in fostering professional growth.

Altogether, the combination of outcome-aligned assessments, reflective discussions, and validated scale data provided a picture of the course's effectiveness. The following sections present these findings in detail, evaluating the extent to which the learning outcomes were realized, reflecting on the effectiveness of the course from multiple dimensions.

#### **4.3.1 Realization of learning outcomes**

This section explores how well the intended learning outcomes were achieved by examining multiple data sources, including assessment results, participant reflections, and a validated scale. Particular attention is given to how the course design and instructional strategies supported learners in reaching the desired cognitive, technical, and ethical competencies.

##### ***4.3.1.1 Alignment of assessments with learning outcomes***

The learning outcomes of the course were created using Bloom's taxonomy, ensuring they addressed a range of cognitive levels, from basic knowledge acquisition to the development of higher-order thinking and creative production. Reflecting this taxonomy in practice, the two main course assessments were designed to target different levels.

The primary aim of the midterm exam was to assess students' conceptual understanding of educational technology. For instance, it targeted outcomes such as LO1: "Explain core concepts and principles of technology integration in education," LO2: "Discuss key historical and theoretical CALL approaches and their practical uses", LO3: "Evaluate advantages and limitations of technology-enhanced language learning methods.", and LO9: "Demonstrate understanding of digital licensing and intellectual property in

education.” On the other hand, the final blog-based e-portfolio required students to apply their learning in practical contexts. This assessment focused on skill-based outcomes such as LO5: “Select appropriate digital materials aligned with specific language teaching goals.”, LO6: “Design original digital learning materials for language teaching.”, and LO7: “Create educational blogs for professional growth and language instruction.” Through this task, students produced authentic digital materials with clear pedagogical purpose, showcasing their ability to integrate technology into their future teaching practices.

By using a theoretical exam followed by an applied e-portfolio task, the course aimed to ensure that objectives, instructional methods, and assessments were meaningfully connected. As one participant (P5 - Focus Group Interviews) insightfully noted, the midterm tested whether students “*know the information*”, while the final “*assesses whether they can apply it*”, a reflection of the course’s underlying design philosophy.

#### **4.3.1.2 Midterm exam**

The midterm exam, held during Week 8, took the form of a pen-and-paper assessment that included multiple-choice, short-answer, and open-ended questions. The exam covered content from the first half of the course, which focused on conceptual and theoretical foundations of technology integration. Key topics included:

- Computer-Assisted Language Learning (CALL)
- Mobile-Assisted Language Learning (MALL)
- Principles for integrating digital tools in language instruction
- Creative Commons licensing and ethical digital practices
- Fundamentals of gamification in education

Each topic was aligned with specific learning outcomes. For instance, conceptual understanding of CALL, MALL, and Web 2.0 technologies supported LO1 (explaining core concepts of technology integration), while questions related to digital licensing and ethical tool use reflected LO9 (demonstrating understanding of digital licensing and intellectual property). The inclusion of open-ended questions encouraged learners not only to recall facts but also to apply and analyze these ideas in pedagogically relevant scenarios, supporting deeper engagement with the material.

Midterm exam results suggested that most students achieved the conceptual learning objectives of the course. The average score was 79.02 out of 100 (SD = 11.26), with a median of 80 and a minimum score of 60. The mode was also 60, indicating a group of students clustered near the lower passing threshold. Conversely, the maximum score was 100, showing that several students indicated strong comprehension. No student scored below 60, which indicates that participants demonstrated at least a basic understanding of the core concepts. This aligns with expectations for outcomes such as LO1, LO2, LO3, and LO9, where a minimal level of conceptual grasp is essential.

In the week following the exam, a class-wide review session was held in which exam questions were revisited and areas of common misunderstanding were addressed. This collective feedback process aimed to clarify difficult concepts and ensure a stronger foundation before moving into the second half of the course. Thus, while the midterm served a summative purpose, it also functioned as a formative checkpoint, allowing both students and the instructor to take corrective action where needed.

Sample questions from the midterm exam are presented in Appendix 12. These include examples of multiple-choice, short-answer, and open-ended questions, illustrating the variety of formats used to assess students' conceptual understanding. The selected samples provide a clear representation of how the exam targeted key learning outcomes.

#### ***4.3.1.3 Final e-portfolio***

The final assessment for the course was designed as an individual blog based e-portfolio project, which served as an integrative assignment in place of a traditional final exam. Each learner was required to design and maintain an educational blog focused on a language teaching topic of their choice. As part of the portfolio, they were expected to include at least three blog posts, and at least two original digital instructional materials: one infographic and one podcast episode.

For designing these materials, while students were provided with alternative tools and techniques during the course, they were also given the flexibility to explore and integrate additional digital tools of their choice, as long as the materials aligned with pedagogical principles. For example, a student focusing on teaching English idioms created an infographic featuring common idioms and recorded a podcast explaining their usage in authentic contexts.

The e-portfolio assignment targeted several skill based learning outcomes. It directly addressed LO4: *“integrate technology into language teaching”*, and LO5: *“find digital learning materials”*. Additionally, by requiring the use of digital tools to produce educational content, it supported LO6: *“develop digital learning materials”*. The project also engaged LO7: *“create and use blogs for language teaching”*, and continued to reinforce ethical considerations (LO9), as students were instructed to use copyright-friendly media, such as Creative Commons resources, and to submit original work.

The final e-portfolio aimed to function as an authentic performance-based assessment, requiring students to creatively apply what they had learned over the course in a real world context. It demanded higher order cognitive skills, particularly application and creation, as defined by Bloom’s taxonomy, and was designed to complement the knowledge focused in the midterm exam.

To ensure consistent and transparent evaluation, detailed rubrics were implemented for each component of the e-portfolio: the blog as a whole, the infographic, and the podcast (See Appendices 8, 9, and 10). To support student success, the rubrics were shared and discussed with participants in advance of the final submission deadline. This approach fostered transparency and gave students a clear understanding of the expectations, which many learners later described as a helpful and motivating element of the project.

Student performance on the final e-portfolio demonstrated high achievement. The average score was 80.40 out of 100 (SD = 7.20), with a median of 82 and a minimum of 70. The modal score was 85, with several students earning 90 or above. The lowest score recorded (70) is particularly noteworthy, as it suggests that every participant met or exceeded the baseline requirements for quality and relevance. This indicates that the skill oriented learning outcomes, LO4 through LO7 in particular, were achieved across the learners.

Various samples from submitted learner blogs are presented in Appendix 15. These samples feature blog posts, digital materials, quizzes (some embedded directly within the blogs, and others linked externally through educational platforms or apps), and overall design elements, providing concrete examples of how the final e-portfolio project was realized in practice.

#### ***4.3.1.4 Supporting evaluations***

Beyond the midterm and final assessments, the course design incorporated several supplementary evaluation tools that contributed to a more holistic understanding of student progress and course effectiveness.

Throughout the semester, students participated in periodic low-stakes quizzes developed using interactive online platforms such as Quizizz, Kahoot, and Mentimeter. These tools served multiple purposes. Firstly, they provided immediate feedback to students, helping to reinforce recently introduced concepts in an engaging, informal way. Secondly, these activities allowed students to become familiar with digital quiz tools, giving them hands-on practice with platforms they might use in their own classrooms. In this way, even though quiz creation was not directly graded, the experience contributed to LO8 (designing online assessments), as students gained constant exposure and chances of practice to test design principles.

Student feedback on these quizzes was mostly positive. Many reported that the interactive format helped them retain key ideas and made learning more enjoyable. The instructor also monitored quiz results informally to identify any topics that might require clarification or additional class time. This responsiveness allowed the course to adapt in real time to students' learning needs.

Another important evaluation source came through focus group interviews, one of which took place midway through the semester. This session, held shortly after the midterm, yielded valuable insights. For example, participants expressed difficulty with some of the more abstract theoretical material and requested more support in understanding how to use AI, or Learning Management Systems (LMS). In response, the instructor simplified the delivery of complex theoretical content, using clearer language, concrete examples, and more visual aids, incorporated AI into various weeks, and had a dedicated LMS training session in the second half of the course.

In summary, these complementary evaluation methods, though not part of the official grading structure, played an essential role in the overall learning experience. They provided both the instructor and the students with actionable insights, promoted skill development in a low-pressure environment, and contributed to the successful realization of the course's goals.

### 4.3.2 Focus group interview findings

Two focus group interviews were carried out to gather learner opinions and suggestions regarding the course. The first focus group interview was carried out in the 8<sup>th</sup> week, right after the midterm to evaluate the first part of the course and make the necessary improvements and changes. The second focus group interview was carried out at the end of the term to gather an overall evaluation of the course. Interview questions for both meetings are presented in the Appendices 7a and 7b.

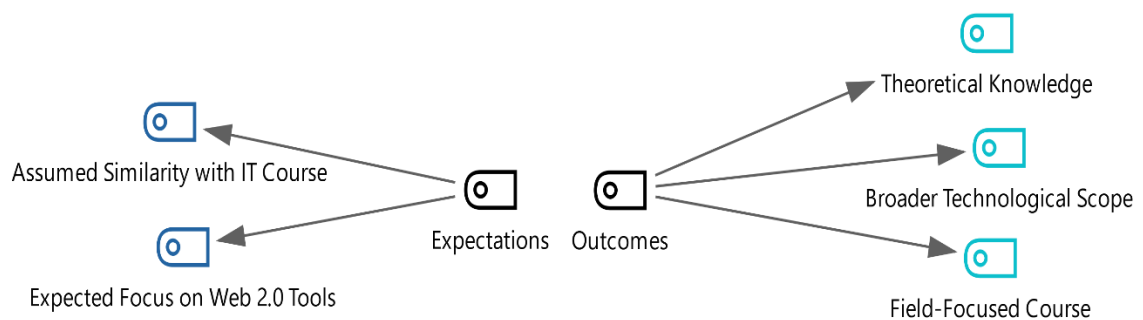
60 participants of the course were informed about the focus group interviews and eight participants volunteered to take part. The same group of eight learners took part in both interviews, which lasted around 45 minutes. The preliminary findings of both focus-group interviews are presented in this section.

#### 4.3.2.1 Expectations and outcomes

First, the participants were asked about their expectations regarding the course, and to what extent these expectations have been met. The findings are summarized in Figure 4.37.

**Figure 4.37**

*TCs' Expectations from the Course and Outcomes*



In the first meeting, which was conducted after eight weeks of instruction, the participants mentioned that their initial reactions and expectations when they first encountered the course were positive. They stated undertaking a similar course “Instructional Technologies”, however, that course focused mainly on material development. They expected the TIELT course to include more tools covering different language skills. They added that their initial expectations from the course were met so far.

P1: “When I saw the course, I expected to see some Web2 tools, how technology could be used in education, and how it could be used both in and outside of school. We have done these so far. Additionally, we are also learning about the development of technology over time, such as its emergence and change since the 1950s.”

P4: “We had always talked about how technology was not adequately addressed in language education during our classes. Then, when this course was introduced, our head of department informed us about the course, and we were glad to have this course. There were already some applications we used for teaching, but, for example, which applications can I use when teaching grammar? I was hoping to learn more about these kinds of technologies. So far, my expectations are met.”

P3: “I thought it would be a continuation of the Instructional Technologies course. Instead, it's more about general technology usage rather than just material development, such as which tools we can integrate into different language skills. More current technologies are used. It's not just limited to Web2 tools. Here, the context is broader.”

In the second meeting, which was conducted at the end of the term, participants stated that their overall expectations from the course were met, with several improvements (regarding the complexity of presentation language and the topics, and participants' requests to include AI, and learning management systems in the syllabus) following their feedback in the first meeting. All participants mentioned that they were mostly satisfied with the course, labeling the course a necessary inclusion to the existing ELT curriculum.

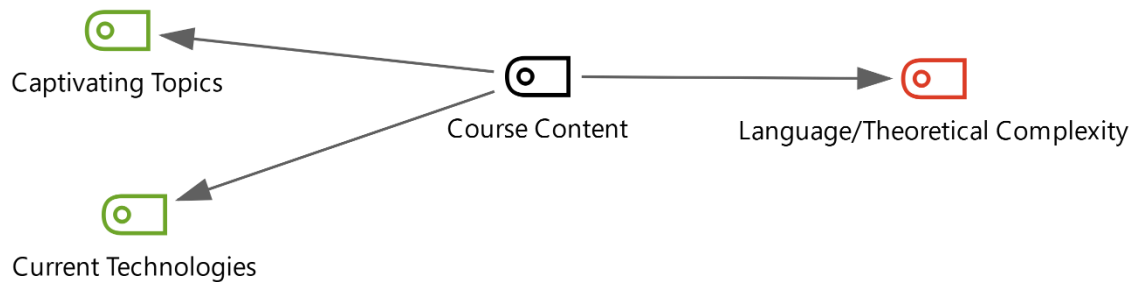
P7: “In the Instructional Technologies course, we practiced technology for more general purposes. Here, we focused more on the English language and learned some technologies suitable for language education. In this regard, it was very productive to experience the kinds of technologies we can use, understand how they work, and determine when to use them. Additionally, with the inclusion of artificial intelligence at the end, the course was complete for me; I learned a lot of useful technologies.”

#### **4.3.2.2 Course content**

Secondly, the participants were asked about their opinions regarding the course content, including the organization and instruction of the weekly topics, course materials, and relevant technologies. The findings are summarized in Figure 4.38.

**Figure 4.38**

*TCS' Opinions and Suggestions on Course Content*



Participants stated that the weekly topics were interesting and enjoyable apart from some weeks being too theoretical, and less engaging. Course materials and the technologies chosen for the course were found to be up-to-date, varied, and diversified. In the first meeting, some participants stated that the language used in the course materials was too complex and packed with unfamiliar terminology at times.

P3: “I think the weekly topics are very interesting. I believe all of us already use Web 2.0 tools to some extent. But, for example, you showed us how to integrate mobile technologies as well. Using mobile phones is very logical and necessary since all children have mobile devices now. I am working with young learners in an institution, I have tried a few of the mobile applications you showed us and I was pleased with them.”

P2: “In some weeks, I think we delved into too much theoretical knowledge. Also, I sometimes find the language of the presentations too complex. The topics are easy and understandable, in my opinion. But the language can sometimes be difficult.”

In the second meeting, participants stated that the complexity of the theoretical knowledge and language of the presentation were toned down. In general, participants stated their content with the topics, course materials, and technologies.

P4: “To be honest, I didn't quite enjoy the theoretical part at the beginning of the course. But now, when I look back, I see that it's very necessary because we can't spend two hours with just applications every week, and the theoretical part is necessary. I can say that my opinion has changed about this in the process.”

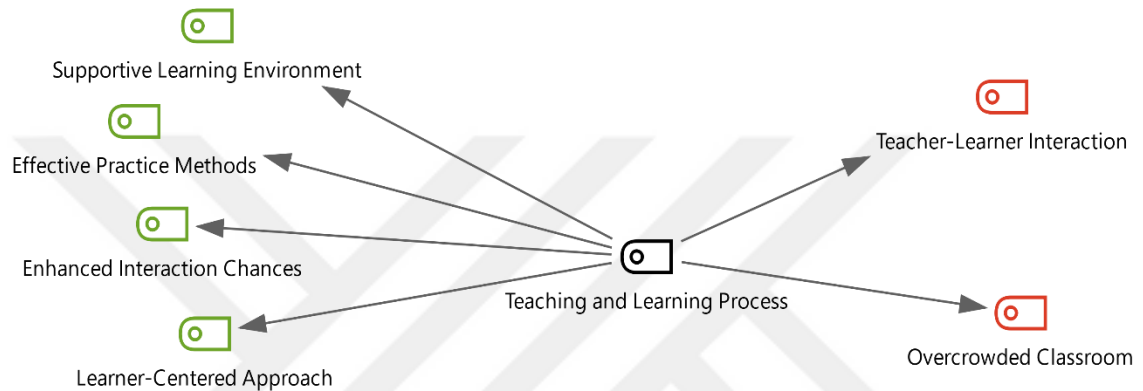
P8: “Compared to the first term (referring to the precious Instructional Technologies course), the topics, the theory, and language have been more comprehensible. I think we initially struggled because we were unfamiliar with the terms. So the reason could be our unfamiliarity with the topic. However, in general, the theoretical part and the language of the presentations were simplified a bit. We have received more pinpoint information.”

#### 4.3.2.3 Teaching and learning process

All of the participants considered the teaching and learning process to be supportive with the chance to practice the unfamiliar technologies during the lesson and ask for clarification when needed. The findings are summarized in Figure 4.39.

**Figure 4.39**

*TCs' Opinions and Suggestions on the Teaching and Learning Process*



The participants also mentioned that the format of the course is an efficient way of practicing what is learned right after instructions in a safe environment. The format was seen as helpful in ensuring meaningful interaction during lessons, however, in the implementation process, there were some problems regarding interaction in relation to the overcrowded classroom.

P6: “I’m satisfied with the way the course is conducted. Traditional classes have their effective methods, but there’s always a gap, a deficiency without practical application. We learn things in the first lesson, and in the second lesson, we move on to application. So, in a way, this format addresses potential gaps of knowledge.”

P1: “More interaction during the practice sessions between the learners and the teachers is necessary. This problem is probably related to the classroom size, you had some problems addressing all of us at once. So next time you may consider conducting the course in two different sections, which will reduce the classroom size. And a smaller laboratory would help in this matter, if possible.”

In the second meeting, participants expressed their final perceptions regarding the teaching and learning process of the course as a more interesting and learner-centered alternative to traditional course formats. Participants stated a need to devote more time to

some of the more complex technologies and requested some spare time to try to explore the technologies themselves.

P5: “I can also add that instead of starting directly to explain a specific technology, maybe you could let us explore it for about 10-15 minutes and try it ourselves. Because when we see something new and interesting, we become curious, and sometimes we try to access those websites while you are trying to explain how it works, and we may miss some parts of the explanation.”

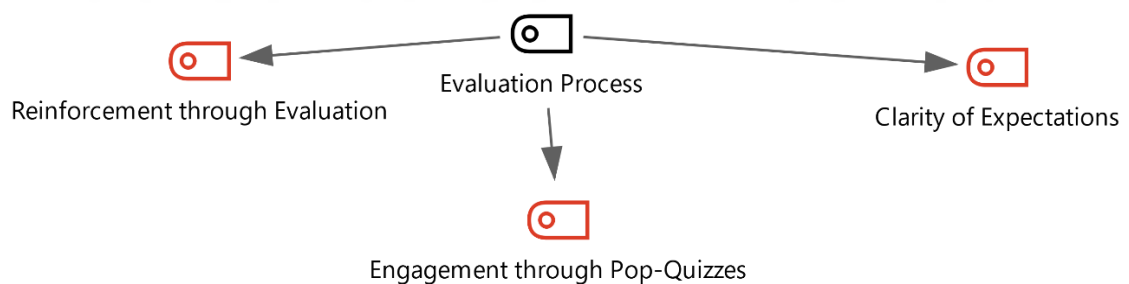
P6: “Some technologies, such as blogs, were significantly harder when compared to the tools with more limited purposes and uses. Therefore, more time could be allocated to both instruction and practice of these types of tools.”

#### 4.3.2.4 Evaluation process

Participants claimed that the evaluation methods of the course helped them review and practice the topics and the technologies they had learned. The findings are summarized in Figure 4.40.

**Figure 4.40**

*TCs’ Opinions and Suggestions on the Evaluation Process*



Participants considered the random pop quizzes with different technological tools as enjoyable and effective in going over important concepts, even though those pop quizzes were not included in their grades. They also stated that the clear instructions and the evaluation criteria helped them understand what they were expected in both the pen-and-paper midterm exam and the e-portfolio as a final exam.

P1: “I enjoyed the pop quizzes we had in some weeks. They were a good way to monitor what we know and do not know, without the anxiety of a real quiz or an exam.”

P8: “In my opinion, the midterm exam was well-prepared. Having both open-ended and multiple-choice questions provided variety. It accurately assessed everything we’ve learned so far. Also, it was not too difficult or too easy.”

P2: “The final e-portfolio as a comprehensive assignment is also very useful. We can use these blogs in our own future classes. They will always be accessible on the internet.”

In the second meeting, participants’ positive perceptions regarding the evaluation methods remained unchanged. They considered the evaluation methods of the course as a helpful approach to self-improvement.

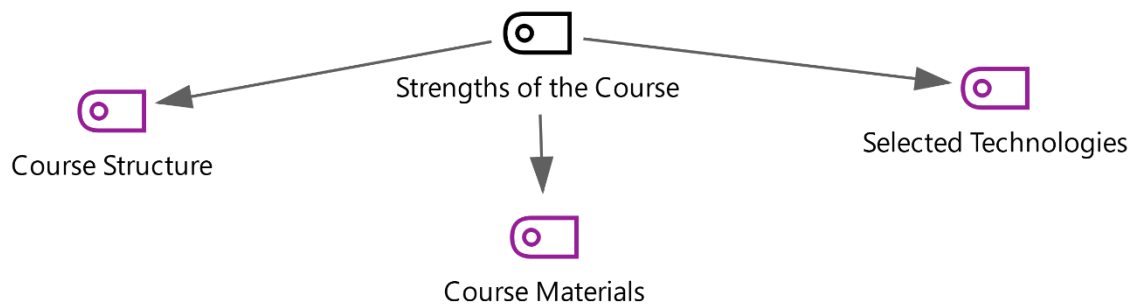
P5: “The course structure is very well aligned with the assessment process. As a student, I first learn the theoretical knowledge and then apply it. The exams follow the same pattern. First, we have a theoretical midterm exam, and then a practical final exam. So, we assess whether the student knows the information in the midterm and whether they can apply it in the final.”

#### 4.3.2.5 Strengths of the course

When the participants were asked about the strengths of the course, they mostly mentioned the design of the course as they received instruction in the first session and practiced what was learned in the second session, the selected technologies, and the course materials. The findings are summarized in Figure 4.41.

**Figure 4.41**

*TCs’ Remarks on the Strengths of the Course*



P1: “I think, as my friend just mentioned, it is great that the course includes not only the basic applications that we all know but also many lesser-known applications. Even though we have taken similar courses before, it is great to see new applications. For example, you showed us a website for social bookmarking, which is very useful, and I use it in my daily life. Additionally, Google Jamboard was very beneficial for interaction and collaboration.”

P4: “I also enjoyed the weekly presentations. They seemed well-prepared and well-designed. I will make use of the designer tool myself when preparing presentations.”

In the second meeting, the participants mentioned the selected AI technologies to be the most enjoyable and beneficial for them. They have also mentioned that the technologies

they have learned and experienced in this course helped them in their personal lives and other courses.

P6: “In addition to everything we have done, I was very happy to see an AI week in the syllabus, because we requested to see it in the previous meeting. Now AI tools have become one of the most practical and enjoyable ones we have seen so far.”

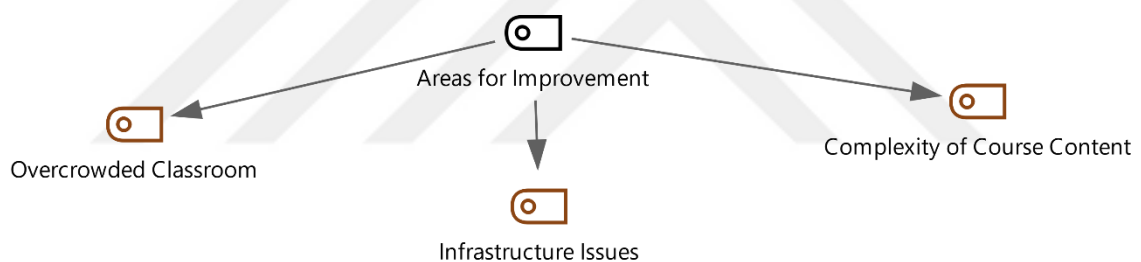
P3: “I’d like to add something as well. In another course, we had an assignment to write a lesson plan. I thought, why not apply what I’ve learned in this course, so, I prepared a lesson plan involving the use of blogs, and it made my work much easier.”

#### 4.3.2.6 Areas for improvement

In the first meeting, some components of the course were regarded to need improvement. The findings are summarized in Figure 4.42.

**Figure 4.42**

*TCs’ Remarks on the Areas for Improvement*



The most frequently mentioned open for improvement aspect of the course was the classroom size, which was over 60 due to limited computer laboratory conditions; occasional poor laboratory or infrastructure problems; the complexity of the theoretical part of the course, and the language used in the presentations.

P7: “This is not related to the course itself, but there is an issue with the school's facilities. There is a very poor reception of mobile connection in the laboratory. I cannot connect to the internet from my phone inside the lab. For example, if we need to download an application, I cannot do it, so it gets stuck.”

P1: “Overall, the topics were enjoyable, but some weeks were difficult to follow, especially during the initial weeks when mostly educational technology-related terms or theories were covered. The language used during those weeks was also challenging; perhaps those weeks could be revised and simplified.”

In the second meeting, participants mentioned clear improvements regarding the complexity of the theoretical knowledge, and also the language used in the presentations. The complaints regarding the classroom size and the laboratory conditions remained similar.

P8: "Some of the computers are not functioning properly, and some of our friends could not use them. Also, the classroom is very crowded, which makes it difficult to interact with you. Especially when sitting in the back rows, I lose focus on the lesson, so I try to sit in the front."

P3: "I can say that the language used in the first half was more complex. As mentioned before, this might be due to our unfamiliarity with the subject matter. However, in the second part of our course, I was able to follow and understand the presentations more easily."

In summary, participants' initial expectations regarding the course were to expand what they have learned in previous courses, focusing more on the language teaching field. In the second meeting, they stated an overall satisfaction with the course, including the course content, materials, selected technologies, and evaluation methods. The participants appreciated the course structure, which blends theory with chances of practice. They appreciated that their feedback was taken into consideration, and incorporated into the course syllabus and mentioned areas that could be improved regarding the course, which included mostly physical conditions, and classroom population. Despite all challenges, the participants considered the course to be beneficial for both personal and professional growth.

#### **4.3.3 TPACK-EFL scale findings**

A paired samples t-test was conducted to compare the TPACK-EFL scores of learners before and after they undertook the TIELT course. The data was collected with the TPACK-EFL Scale (Baser et al., 2016), which is a 9-point Likert scale with seven sub-factors: Technological Knowledge (TK), Content Knowledge (CK), Pedagogical Knowledge (PK), Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). Only four of the factors relating to technology integration in EFL contexts (TK, TCK, TPK, and TPACK) were individually analyzed in the study since the implementation did not directly focus on CK, PK, and PCK.

Before the implementation, the scale was pilot-tested with a similar group of learners who were not enrolled in the course. Cronbach's alpha was calculated to assess the internal consistency of the TPACK-EFL scale, which consists of 39 items. The scale demonstrated good internal consistency, with a Cronbach's alpha coefficient of  $\alpha = 0.96$ . Although the original scale is in English, a Turkish version was requested from the original author and administered to the participants in this study to eliminate potential language barriers and ensure clarity in item interpretation.

The paired samples t-test results indicated that there was a significant difference between the pre-test ( $M = 6.87$ ,  $SD = 1.10$ ) and post-test ( $M = 7.50$ ,  $SD = .68$ ) TPACK scores after the implementation of the course (significant at the ( $p < .05$ ) level). The effect size, measured by Cohen's  $d$ , was found to be  $d = 0.70$ , indicating a large effect. For this implementation, Cronbach's alpha coefficient was found to be  $\alpha = 0.97$ , indicating good internal consistency. Table 4.7 summarizes the paired samples t-test results.

**Table 4.7**

*Paired Samples t-test Results of Learners' TPACK-EFL Scores*

|                  | Pre-test |      | Post-test |     | t(41) | p     |
|------------------|----------|------|-----------|-----|-------|-------|
|                  | Mean     | SD   | Mean      | SD  |       |       |
| TPACK-EFL Scores | 6.87     | 1.10 | 7.50      | .68 | 4.52  | <.001 |

These results, with a large effect size ( $d = 0.70$ ), and a reliable measurement ( $\alpha = 0.97$ ), may indicate that the TIELT course had a positive impact on participants' TPACK scores. This suggests that the course effectively enhanced TCs' abilities to integrate technology into their pedagogical practices.

Regarding the sub-factors of the TPACK-EFL scale, there was a statistically significant difference in all of the sub-factors relating to technology integration in EFL contexts (TK, TCK, TPK, and TPACK) which indicates that, after the implementation, learners considered themselves more knowledgeable and competent regarding Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical

Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). Table 4.8 below summarizes these results.

**Table 4.8**

*Paired Samples t-test Results of the Technology-Related Sub-Factors*

|       | <b>Pre-test</b> |      | <b>Post-test</b> |     | t(41) | p     |
|-------|-----------------|------|------------------|-----|-------|-------|
|       | Mean            | SD   | Mean             | SD  |       |       |
| TK    | 6.35            | 1.47 | 7.11             | .99 | 3.68  | <.001 |
| TCK   | 6.81            | 1.64 | 7.50             | .97 | 3.19  | .003  |
| TPK   | 6.60            | 1.35 | 7.25             | .99 | 3.50  | .001  |
| TPACK | 6.93            | 1.26 | 7.73             | .79 | 4.35  | <.001 |

These results may indicate that the TIELT course had a statistically positive effect in all the sub-factors related to the use of educational technologies in English language teaching.

Of all 39 items of the TPACK-EFL scale, 23 are related to technology integration in language teaching. These items are distributed into relevant TK, TCK, TPK, and TPACK sub-factors. Items of the TPACK-EFL scale are presented in Appendix 6. To gain a comprehensive understanding of the areas where improvement has occurred and identify the areas that need further development, each item is individually analyzed using paired samples t-test comparisons. Table 4.9 below presents these results.

**Table 4.9***Paired Samples t-test Results of the Technology Related Items*

| Sub-factor | Item Number |                                                                                                                        | Pre-test |      | Post-test |      | t(41) | p     |
|------------|-------------|------------------------------------------------------------------------------------------------------------------------|----------|------|-----------|------|-------|-------|
|            |             |                                                                                                                        | Mean     | SD   | Mean      | SD   |       |       |
| TK         | 1           | I can use basic technological terms (e.g. operating system, wireless connection, virtual memory, etc.) appropriately.  | 6.35     | 2.27 | 7.11      | 1.56 | 3.13  | .003  |
|            | 2           | I can adjust computer settings such as installing software and establishing an Internet connection.                    | 7.09     | 1.91 | 7.19      | 1.89 | .323  | .748  |
|            | 3           | I can use computer peripherals such as a printer, a headphone, and a scanner.                                          | 7.40     | 1.65 | 7.69      | 1.11 | 1.24  | .220  |
|            | 4           | I can troubleshoot common computer problems (e.g. printer problems, Internet connection problems, etc.) independently. | 6.26     | 2.10 | 6.80      | 1.64 | 1.58  | .121  |
|            | 5           | I can use digital classroom equipment such as projectors and smart boards.                                             | 6.28     | 1.97 | 7.04      | 1.36 | 2.42  | .020  |
|            | 6           | I can use Office programs (i.e. Word, PowerPoint, etc.) with a high level of proficiency.                              | 6.14     | 1.78 | 7.00      | 1.24 | 3.53  | .001  |
|            | 7           | I can create multimedia (e.g. video, web pages, etc.) using text, pictures, sound, video, and animation.               | 4.95     | 2.48 | 6.71      | 1.56 | 4.59  | <.001 |
|            | 8           | I can use collaboration tools (wiki, edmodo, 3D virtual environments, etc.) in accordance with my objectives.          | 5.00     | 2.45 | 6.69      | 1.53 | 4.21  | <.001 |
|            | 9           | I can learn software that helps me complete a variety of tasks more efficiently.                                       | 7.69     | 1.47 | 7.80      | 1.10 | .62   | .535  |

**Table 4.9 (continued)** *Paired samples t-test results of technology related items*

| Sub-factor | Item Number |                                                                                                                                            | Pre-test |      | Post-test |      | t(41) | p     |
|------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|----------|------|-----------|------|-------|-------|
|            |             |                                                                                                                                            | Mean     | SD   | Mean      | SD   |       |       |
| TCK        | 26          | I can take advantage of multimedia (e.g. video, slideshow, etc.) to express my ideas about various topics in English.                      | 7.35     | 1.67 | 7.83      | .93  | 2.03  | .049  |
|            | 27          | I can benefit from using technology (e.g. web conferencing and discussion forums) to contribute at a distance to multilingual communities. | 6.50     | 1.83 | 7.35      | 1.14 | 3.50  | .001  |
|            | 28          | I can use collaboration tools to work collaboratively with foreign persons (e.g. Second Life, wiki, etc.).                                 | 6.59     | 1.98 | 7.33      | 1.45 | 2.81  | .007  |
| TPK        | 29          | I can meet students' individualized needs by using information technologies.                                                               | 6.78     | 1.47 | 7.47      | 1.10 | 3.07  | .004  |
|            | 30          | I can lead students to use information technologies legally, ethically, safely, and with respect to copyrights.                            | 6.78     | 1.64 | 7.23      | 1.41 | 1.83  | .073  |
|            | 31          | I can support students as they use technology such as virtual discussion platforms to develop their higher order thinking abilities.       | 6.45     | 1.43 | 7.28      | 1.11 | 3.82  | <.001 |
|            | 32          | I can manage the classroom learning environment while using technology in the class.                                                       | 6.38     | 1.83 | 7.00      | 1.32 | 2.09  | .042  |

**Table 4.9 (continued)** *Paired samples t-test results of technology related items*

| Sub-factor | Item Number |                                                                                                                                             | Pre-test |      | Post-test |      | t(41) | p     |
|------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------|----------|------|-----------|------|-------|-------|
|            |             |                                                                                                                                             | Mean     | SD   | Mean      | SD   |       |       |
| TPACK      | 33          | I can decide when technology would benefit my teaching of specific English curricular standards.                                            | 6.30     | 1.70 | 7.52      | 1.06 | 4.18  | <.001 |
|            | 34          | I can design learning materials by using technology that supports students' language learning.                                              | 6.71     | 1.55 | 7.61      | .93  | 3.96  | <.001 |
|            | 35          | I can use multimedia such as videos and websites to support students' language learning.                                                    | 7.16     | 1.52 | 7.85      | .92  | 3.07  | .004  |
|            | 36          | I can use collaboration tools (e.g. wiki, 3D virtual environments, etc.) to support students' language learning.                            | 6.88     | 1.41 | 7.47      | 1.17 | 2.44  | .019  |
|            | 37          | I can support students as they use technology to support their development of language skills in an independent manner.                     | 6.64     | 1.66 | 7.52      | 1.10 | 3.08  | .004  |
|            | 38          | I can use Web 2.0 tools (animation tools, digital story tools, etc.) to develop students' language skills.                                  | 7.11     | 1.74 | 7.97      | .84  | 3.37  | .002  |
|            | 39          | I can support my professional development by using technological tools and resources to continuously improve the language teaching process. | 7.69     | 1.31 | 8.19      | .80  | 2.37  | .022  |

Although an improvement is prevalent in the TPACK-EFL in general and all 4 sub-factors, the items where no significant difference is observed need further attention. Only in five of the items (items 2, 3, 4, 9, 30), a statistically significant difference was not found, however, even these items increased to a degree. The items were related to basic digital literacy with each item addressing key aspects of technological competence. Item 2 focuses on the essential skills of setting up software and an internet connection, item 3 involves using computer peripherals such as printers and headphones, item 4 addresses troubleshooting common technical problems, item 9 highlights the ability to learn and adapt to new software, and item 30 emphasizes the ethical and legal use of the ITs. For these items, the mean scores increased from 7.09 to 7.19 for item 2, 7.40 to 7.69 for item 3, 6.26 to 6.80 for item 4, 7.69 to 7.80 for item 9, and 6.78 to 7.23 for item 30.

#### **4.3.4 Final reflections on the course**

At the conclusion of the TIELT course, the findings from this third phase provide a strong foundation for reflective evaluation. The available evidence suggests that the course was not only effective in achieving its formal learning outcomes, but also had a significant impact on students' confidence, engagement, and overall attitudes toward educational technology.

In particular, student performance on the final e-portfolio indicated a high level of competence in creating and applying digital materials for teaching. Many participants went beyond meeting the requirements and demonstrated notable creativity and pedagogical insight in their projects.

These outcomes were supported by external measures as well. A pre- and post-course analysis using the TPACK-EFL survey revealed statistically significant gains in students' self-perceptions to integrate technology effectively into language instruction. This quantitative finding, combined with qualitative evidence from focus group interviews, suggests that the course fostered not just academic achievement, but also professional growth.

##### ***4.3.4.1 Effectiveness of the instructional design***

Several aspects of the instructional design reportedly contributed to the success of the course. Most notably, the dual-assessment structure, combining a traditional midterm exam with a creative final portfolio, was validated focus group interviews. Participants

appreciated this balanced approach, which allowed both academically oriented and practically inclined students to demonstrate their strengths. The inclusion of clear rubrics, explicit objectives, and ongoing guidance further enhanced the learning process by reducing ambiguity and building trust in the evaluation process.

The weekly structure of the course, pairing theoretical input with immediate hands-on application, was frequently cited as a valuable component by students. This design allowed them to practice what they had just learned, which may contribute to better retention and engagement. The emphasis on active learning, consistent with principles widely recognized in the educational literature, helped maintain student motivation and deepened their understanding of complex concepts.

Another key strength was the relevance and currency of the content. Students appreciated the inclusion of emerging technologies in addition to more traditional ones, especially the ones requested by them in the focused group interviews. According to the learners, current technologies kept the course in line with real world teaching contexts.

#### ***4.3.4.2 Student feedback and responsive adjustments***

The course's dynamic and responsive structure, particularly the use of mid-course focus group interviews, was noted by students as a positive and distinctive feature. For example, when feedback indicated that theoretical content was too dense or abstract, the instructor responded by adjusting the delivery approach. By the end of the term, students reported that these changes had made the course more accessible, more relevant, and easier to follow.

This kind of responsive course adaptation reflects the ASSURE model's emphasis on evaluation not as a final step but as an ongoing, iterative process. Similarly, the flexibility to make real-time revisions, a core principle of the Design-Based Research (DBR) approach used in this study, contributed to the course's overall effectiveness.

#### ***4.3.4.3 Recommendations for future iterations of the course***

In line with the ASSURE model's emphasis on continuous improvement, the findings from Phase 3 point to several practical revisions that could enhance the course further on recurring implementations:

- Reduce class sizes where feasible (e.g. by offering two separate sections) in order to address resource constraints, increase access to computers, provide more individualized support, and reduce logistical challenges identified by students.
- Allocate more time for tool introduction to ensure students have sufficient support when learning new technologies. Providing additional time can help build confidence, reduce frustration, and create a stronger foundation for applying the tools in course activities.
- Create a better balance between theory and practice by aligning conceptual discussions with hands-on activities. Ensuring that students can immediately apply theoretical insights through practical tasks can deepen understanding and increase engagement.
- Continue using mid-course focus groups and feedback loops to make real-time adjustments to instruction. This responsive approach was appreciated by students and positively impacted both satisfaction and learning outcomes.

#### **4.3.4.4 Conclusion**

The TIELT course have revealed to be an effective intervention in preparing TCs to work more confidently in technology rich educational environments. By the end of the course, participants had demonstrated not only a working knowledge of a variety of digital tools but also the ability to apply them in thoughtful, and pedagogical ways.

The evaluation stage of the ASSURE model provided insights into what worked well and what could be refined. The course balanced theoretical learning and practical application, fostered meaningful professional growth, and created an environment where students felt both challenged and supported. At the same time, the evaluation process identified opportunities for further enhancement.

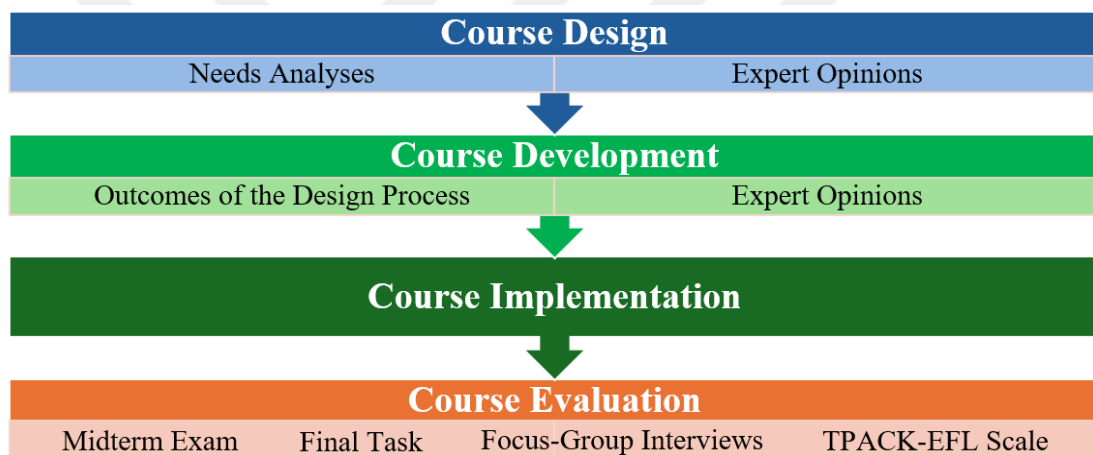
In keeping with both the ASSURE model and the principles of DBR, the insights gained from this implementation directly informed a revised course structure. In doing so, the cycle of evaluation and revision reinforced continuous improvement, enhancing not only the course, but also contributing to the broader goal of preparing TCs for dynamic and digitally enriched classrooms.

## 5 DISCUSSION

The present study aims to develop and implement a course tailored for EFL TCs to help them integrate technology into their language teaching endeavors, and evaluate the course's effectiveness based on learning outcomes. Therefore, the discussion section is presented in two phases: course desing and development, and course evaluation. To develop the course, needs analyses and expert opinions were collected. To test its effectiveness, midterm and final assessment, focus group interviews, and a TPACK-EFL scale were used. Figure 5.1 summarizes this process.

**Figure 5.1**

*Course Design, Development, Implementation, and Evaluation Process*



### 5.1 Discussion of Phase 1: Course Development

As the study aimed to design and develop a course following the needs of a specific group, namely EFL TCs, it was essential to gather needs analysis from the target group, and expert opinions from those who were familiar with both the target group and the topic of the study. Therefore, ISTs, and TCs were selected for the needs analysis, while instructors of similar technology-focused courses, and ELT field experts specializing in online education and educational technologies were chosen to provide expert opinions.

#### 5.1.1 Needs analysis

In accordance with the first and second research question of the study, expectations of TCs and ISTs from the course were gathered through semi-structured interviews. These expectations were attempted to be justified and triangulated by expert opinions.

For this purpose, they were first asked whether they prefer to integrate technology into their teaching process. Both TCs and ISTs stated the importance of integrating technology into their teaching practices. Similarly, expert opinions provided findings that technology integration is necessary, and almost inevitable. TCs, being part of the "digital native" generation (Prensky, 2001), stated that they naturally integrate technology due to their inherent comfort and aptitude with digital tools. In-service teachers, on the other hand, use technology to attract and address diverse learners, enhancing student engagement, and supporting various learning styles through the interplay of technology, pedagogy, and content knowledge (Koehler & Mishra, 2009; Mundy et al., 2012). This shared understanding emphasizes the benefits of technology in language teaching and highlights the necessity for formal and systematic technology training to ensure its effective use.

Regarding the sources of information to acquire new technologies, both groups exhibit a significant reliance on their individual attempts. ISTs have become familiar with most of the technological tools they use through their own interest and curiosity over their teaching years, rather than through teacher training programs. This indicates that ISTs consider technology to be vital and pursue continuous professional development and self-improvement as stated in similar studies (Ertmer & Ottenbreit-Leftwich, 2010; Fernandez-Batanero, 2020). On the other hand, the minimal role of formal training in their technological proficiency highlights the need for courses that involve technology integration in teacher education programs. TCs also report a self-taught approach to acquiring new technological tools, similar to the individual attempts seen in ISTs (Moore-Hayes, 2011). In addition, TCs mention some exposure to technology through various courses and instructors, however, this exposure is primarily limited to materials development courses. This suggests that while TCs are beginning to receive some formal technological education, it remains inconsistent, fragmented, and insufficiently integrated across their curriculum, as also mentioned by Tondeur et al. (2012). Additionally, TCs mention classmates, social media, and mentor teachers during teaching practicums as other sources of technological knowledge, indicating a more collaborative learning environment compared to the more isolated learning experiences of ISTs. This difference points out the importance of peer learning and mentorship in the professional development of TCs. In summary, to better prepare TCs for the technological demands of learners, it is essential to expand and diversify the technology training within teacher education programs.

Regarding their reasons for integrating technology in language teaching, both ISTs and TCs recognize the significant benefits of technology in education, though their motivations and experiences highlight different aspects of these advantages. ISTs frequently mentioned that technology helps address different learner types, and compensates for the limitations of traditional course books. This aligns with research showing that technology can cater to diverse learning styles, enhancing student engagement and interactivity (Dunkel, 1987; Han, 2009; Stockwell & Reinders, 2019). Additionally, ISTs appreciate technology as an infinite source of educational materials, providing constant accessibility and saving time, which can be used for other in-class tasks (Allum, 2004; Ertmer & Ottenbreit-Leftwich, 2010). On the other hand, TCs often find technology interesting and fun, which promotes efficient learning and keeps both teachers and learners engaged. They also mention the practicality of technology, its ease of use, and time-saving nature, and the durability of digital materials over printed ones. Like ISTs, TCs value technology for diversifying course content, and ensuring easy access to resources, facilitating both in-class and online interaction (Tondeur et al., 2012; McKnight et al., 2016). In summary, while ISTs primarily use technology to enhance their learners' educational experiences, TCs are more focused on the practicality and enjoyment of using technology. This difference could be attributed to ISTs employing technology out of necessity and to meet their learners' demands, even when they are underprepared by their educational history (Scherer et al., 2023), whereas TCs use it because they find it more natural, practical, and advantageous.

Regarding their purposes of using technology, ISTs and TCs show notable differences. ISTs use technology extensively to support the four language skills, facilitate feedback, and enhance assessment and evaluation processes. Technology also allows them to track learner progress, provide feedback, and conduct engaging and accurate assessments, especially for small quizzes. Additionally, ISTs use technology as a warm-up tool to understand learner attitudes toward the topics and activate prior knowledge. Furthermore, technology improves collaboration among learners and teachers by enabling online synchronous and asynchronous communication, and online cooperation. (Webster & Murphy, 2008; Williams & Beam, 2019). In contrast, TCs demonstrate a more limited use of technology in their teaching practices, possibly because they have more limited chances of teaching opportunities. While a majority of TCs use technology for presentations and finding and sharing digital learning materials, only a small percentage

utilize it for evaluation and measurement purposes, or to teach the four language skills. This imbalance suggests that, although they claim to be more competent with technology and have an overall aptitude towards technology, TCs may lack the experience or training to fully make use of technology's advantages in pedagogical contexts (Kennedy et al., 2008). Consequently, the limited application of technology by TCs highlights the need for enhanced training to expand their technological capabilities and their pedagogical knowledge.

ISTs and TCs have different perspectives on the benefits and challenges of using technology in education. ISTs emphasize the practicality and time-saving aspects of technology. They highlight how technology engages learners through interactive multimedia and games. However, ISTs also recognize challenges, such as classroom management issues, the need for expertise in rapidly changing technologies, and the requirement for adequate infrastructure. TCs, while acknowledging the general usefulness of technology for teachers, focus more on its role in attracting learners' attention, and enhancing participation. The reason for this might be that they are still learners themselves, and have a perspective of a learner. They, similarly to the ISTs, mention the potential challenges related to classroom management, and the need for high-quality infrastructure. They appreciate the technology's capacity to diversify course content, making it suitable for different learner types, and its ability to save time by providing long-lasting, easily accessible materials. Both ISTs and TCs agree that technology can make the teaching and learning process more engaging and effective, though TCs place a stronger emphasis on the immediate, interactive benefits in classroom settings.

In summary, this difference between ISTs and pre-service teachers may be related to their distinct experiences and roles in the educational process. ISTs, with their practical teaching experience, tend to focus more on the infrastructural and management related aspects of technology integration, and mentioning the challenges, while TCs, still in the process of learning, using, and observing technology, place greater emphasis on engaging and interactive qualities of technology from a learner's perspective. These differing viewpoints reflect their current stages of professional development and how each group perceives technology's role in both teaching and learning environments.

While both groups highlight personal strengths that facilitate their use of technology, they emphasize different areas of competence. ISTs emphasize their willingness and readiness to use technology as their strengths. Their experience with technology is considered a strength, providing them with valuable insights into integrating new tools effectively. This aligns with findings in the related literature that teachers' beliefs and attitudes toward technology significantly influence their adoption and integration of new tools in the classroom (Ertmer & Ottenbreit-Leftwich, 2010; Taimalu & Luik, 2019). On the other hand, TCs show a more mixed perception of their technological competence. While many TCs claim to have a natural aptitude for technology, related to their status as digital natives (Prensky, 2001), many of them stated that they need overall improvement, even in the smallest tasks regarding technology integration in language teaching, a controversy also visible in the related studies, arguing the nature of the term digital natives (Kennedy et al., 2008). This indicates a generational difference where younger educators are more comfortable with technology but may lack the structured training to apply it effectively in educational settings. Moreover, this may serve as evidence of the critical distinction between technological competence and technological pedagogical competence. While technological competence refers to the basic technical skills and familiarity with digital tools, technological pedagogical competence encompasses the ability to integrate technology into teaching and learning processes. Overall, there is a notable discrepancy: while TCs often claim to have a general aptitude for technology, many of them still require improvement in even the most basic tasks. This suggests that there is a need for comprehensive and systematic technology training in teacher education programs (Wilson, 2021; Kaminskiene et al., 2022).

ISTs and TCs identify several areas for improvement in their use of technology, with both groups highlighting the need to learn new Web 2.0 tools and websites. ISTs find that due to the vastness of Web 2.0 tools, there is always room for improvement. Other areas for improvement include classroom management and finding reliable and efficient sources of information and materials. This reflects the need for comprehensive training to enhance their digital literacy. Similarly, TCs express a need for overall improvement in various aspects of technology use, particularly in learning new Web 2.0 tools and preparing effective presentations. Although some TCs already consider presentation preparation a strength, others see it as an area needing improvement. Additionally, a notable portion of TCs emphasizes the need for better assessment and evaluation skills using technology,

along with gaining more overall experience in technology use. Less frequently mentioned areas include classroom management, finding reliable online sources, and basic coding skills. This indicates that TCs, despite being digital natives, require more structured and consistent training to effectively integrate technology into their teaching practices (Lei, 2009; Southall, 2013).

ISTs and TCs have distinct expectations from the TIELT course, reflecting their various levels of experience and familiarity with technology. ISTs, despite frequently remarking on Gen Z learners being digital natives, surprisingly expect the course to cover very basic computer skills and software. They also emphasize the need for familiarity with Web 2.0 tools, including content creation, collaboration, and interaction, along with extensive practice opportunities. These expectations highlight the need for a course to address both basic skills and emerging technologies, ensuring that teachers can effectively integrate technology into their language teaching process (Braul, 2006; Özer, 2018; Uzundurdu, 2022). TCs, on the other hand, have a broader expectation of learning how to effectively integrate technology into their lessons. They also emphasize the need for practical, hands-on experience with technological tools, rather than purely theoretical knowledge. Expectations include general improvement in digital literacy, basic computer skills, materials development, and enhancing presentation skills. These varied expectations highlight TCs' desire for a comprehensive understanding of technology integration that balances theory with practice opportunities. This reflects the need for teacher education programs to provide training to TCs that prepares them for the technological demands of modern learners and classrooms (Shannon & Chapelle, 2017). Overall, both ISTs and TCs recognize the importance of technology in education but differ in their specific needs and expectations. Addressing these needs through targeted training programs can enhance their technological competence and confidence, ultimately leading to more effective teaching practices.

## **5.2 Discussion of Phase 3: Course Evaluation**

In this phase, the aim was to evaluate the effectiveness of the course through the realization of learning outcomes, collect qualitative data through focus group interviews to revise the course according to TCs' views, and measure its effects on learners' TPACK-EFL scores.

### **5.2.1 Realization of learning outcomes**

This section discusses the extent to which the course achieved its intended learning outcomes, drawing on the findings presented in Phase 3. By examining the alignment between assessment tools, student performance, and targeted competencies, it becomes possible to evaluate not only what students learned, but how effectively the course design supported their development. The dual assessment structure (a midterm exam assessing theoretical understanding and a final blog-based portfolio assessing practical application) offers complementary insights into both cognitive and performance-based learning outcomes. In this discussion, key strengths, challenges, and patterns in learner achievement are explored, shedding light on the effectiveness of the instructional strategies and areas for future refinement.

The midterm exam primarily targeted conceptual and theoretical knowledge, particularly Learning Outcomes 1, 2, 3, and 9. Exam results revealed that most students successfully acquired foundational knowledge, with a class average of 79.02 and no failing scores. This suggests that the majority of participants were able to articulate key ideas such as the evolution of CALL and MALL, the role of evolution of Web in education, advantages and limitations of various technology, and the principles behind Creative Commons licensing. However, the score distribution also showed a slight skew, indicating that a group of students struggled with either content mastery or the format of the assessment. These variations may have stemmed from differences in test-taking skills, test anxiety, time concerns, or familiarity with academic terminology. Nonetheless, the midterm achieved its purpose of evaluating students' conceptual understanding and revealed areas for clarification and instructional adjustment, which were subsequently addressed in the second half of the course.

The final e-portfolio was designed to assess the application of learning in authentic teaching and learning contexts, and it mapped closely to skill-based learning outcomes: LO4 (integrating technology into instruction), LO5 (selecting appropriate digital materials), LO6 (designing digital materials), and LO7 (creating educational blogs). Each portfolio included at least one infographic and one podcast, embedded within a blog focused on a pedagogically relevant theme. Students were encouraged to select topics that aligned with their personal interests or anticipated teaching contexts, which promoted engagement and ownership. The final results were markedly strong: the average score

was 80.4, with no participant scoring below 70. This level of consistency suggests that students were able to produce the required digital outputs in a pedagogically meaningful way.

Several factors may have been contributed to these outcomes. The extended timeline of the portfolio, spanning several weeks, allowed students opportunities to revise and refine their work. Many learners most probably benefited from formative feedback during the process, whether from peers or the instructor. In addition, the availability of rubrics and example models gave students a roadmap to guide their planning and creation.

It's also possible that students who struggled with abstract or theoretical content earlier in the course found the practical, creative nature of the portfolio more accessible and engaging. The opportunity to demonstrate their skills in a project-based, untimed setting may have allowed these students to better demonstrate their learning.

Overall, the evidence from exam results suggest that the intended learning outcomes were mainly achieved. The dual approach to assessment offered balance: the midterm validated conceptual mastery, while the final portfolio demonstrated higher-order skills such as creation and integration. Moreover, student feedback and formative data reinforced this conclusion, with participants reporting increased confidence and readiness to use technology in real classroom settings.

### **5.2.2 TPACK-EFL scale**

Aiming to answer the fifth research question, the TPACK-EFL scale was conducted in a pre-test and post-test design to measure the effects of the TIELT course. The first implementation of the scale was done in the first lesson (week 1) and the second implementation was done in the last week (Week 15).

The findings from the t-test have revealed a significant improvement in the TPACK scores of TCs following the implementation of the "Technology Integration in English Language Teaching" course. Specifically, the mean TPACK score increased from 6.87 (SD = 1.10) in the pre-test to 7.50 (SD = 0.68) in the post-test, which was found to be statistically significant ( $p < .05$ ). This positive change, with a large effect size ( $d = 0.70$ ) and a high reliability of the measurement ( $\alpha = 0.97$ ), suggests that the course was effective in enhancing the participants' abilities to integrate technology into their teaching practices. These findings align with existing literature which emphasizes the importance

of targeted and systematic training in improving technological pedagogical content knowledge (Angeli & Valanides, 2005; Mishra & Koehler, 2006; Tondeur et al., 2020). The significant improvement in TPACK-EFL scores indicates that the course not only provided theoretical knowledge but also practical skills that participants could apply in their teaching contexts. This is particularly crucial in the current educational environment where technology plays a pivotal role in facilitating language learning (Thomas et al., 2012; Hubbard, 2013). Moreover, the high reliability of the measurement tool indicates the consistency and dependability of the data collected, reinforcing the validity of the findings. The large effect size further highlights the substantial impact of the course, suggesting that such interventions can lead to meaningful improvements in TCs' readiness, and confidence in using technology (Kessler, 2007; Jeong, 2017; Son, 2018).

Further analysis of the sub-factors revealed statistically significant improvements across all sub-factors related to technology integration in EFL contexts, namely Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK). These results suggest that the "Technology Integration in English Language Teaching" course had a comprehensive impact, and participants felt more knowledgeable and competent in these sub-factors. These findings are consistent with previous studies that emphasize the importance of systematic training in technology integration (Angeli & Valanides, 2005; Mishra & Koehler, 2006; Wilson, 2021). The enhancements in TK, TCK, TPK, and TPACK indicate that the course effectively addressed the diverse components of technological pedagogical content knowledge, enabling TCs to integrate technology more effectively into their teaching practices.

Finally, a detailed analysis of individual items within these sub-factors was conducted to gain a more comprehensive understanding of the results. Among the 23 items analyzed, a statistically significant difference was observed in all but five items (specifically items 2, 3, 4, 9, and 30). While there was still an increase in these items, it was not statistically significant. The items respectively cover key aspects of digital literacy, including setting up software and internet connections (Item 2), using computer peripherals (Item 3), troubleshooting (Item 4), adapting to new software (Item 9), and ethical IT use (Item 30). The lack of improvement in items 2, 3, and 4 can be attributed to the fact that these items are not covered in the course since they are mentioned neither in the needs analysis nor

in the expert opinions. Additionally, and as a possible reason why these items were not mentioned neither in the needs analysis nor in the expert opinions, these items were related the basic digital literacy. The participants of the course were regarded as digital natives who were expected to be familiar with basic technology, therefore, they had high scores in these items even before the implementation (7.09, 7.40, 6.26, 7.69, and 6.78 out of 9, respectively) and need no further training regarding these topics. Another reason might be that items 2, 3, and 4 (setting up software, using peripheral units such as printers, etc.) were not included in the course syllabus, as these topics were covered in a prior compulsory course, Computer Literacy. Additionally, they were neither requested in the needs analysis nor expert opinions. Moreover, the laboratory conditions were not suitable for experimenting with peripheral computer units.

On the other hand, items 7, 8, 31, 33, and 34 exhibited the most statistically significant increases. These items were related to creating websites using different types of materials, utilizing virtual platforms, using online discussion platforms and forums to support learners' higher-order thinking skills, deciding which technological tools are suitable for teaching specific learning outcomes, and designing course materials. These items were among the core course content and directly aligned with the learning outcomes of the course. It can be argued that participants benefited from the instruction and applied their learning effectively, as evidenced by the significant increases in these items, which reflect the core course content and align directly with the course's learning outcomes.

In summary, given these positive outcomes, educational institutions should consider adopting similar courses to enhance their TCs' technological competencies. The findings suggest that well-designed (as a result of extensive needs analyses, and expert opinions) courses can lead to significant improvements in TCs' abilities to integrate technology into their teaching, ultimately benefiting learning outcomes.

### **5.2.3 Focus group interviews**

In line with the fourth research question, to achieve a comprehensive understanding of the course's impact, qualitative data were collected through focus group interviews. These interviews provided valuable insights into the participants' experiences and perspectives, allowing for a detailed evaluation of the course. Based on the feedback gathered, the course could be revised and improved to better meet the needs and expectations of the participants.

The initial reactions of participants to the "Technology Integration in English Language Teaching" course were positive, with expectations focusing on a broader range of technological tools compared to their prior "Instructional Technologies" course. This highlights a curriculum need to support diverse language skills through technology, aligning with research suggesting comprehensive technology integration in education (Hubbard, 2013; Shadiev & Wang, 2022). Participants confirmed that their initial expectations were largely met, demonstrating the course's effectiveness in meeting the educational needs of EFL TCs. In the second meeting, participants noted that their overall expectations continued to be met, especially after adjustments based on their feedback, such as the inclusion of some topics such as Artificial Intelligence and Learning Management Systems. The participants' satisfaction implicates the course's importance in the ELT curriculum, reflecting broader trends in integrating digital literacy into teacher education (Kessler, 2007; Paratore et al., 2016). This ongoing positive reception suggests that the course is successfully addressing the technological needs of TCs in language teaching.

Participants found the weekly topics of the course to be interesting and enjoyable, although some weeks were perceived as too theory-laden. This feedback highlights the importance of balancing theoretical content with practical applications, as too much emphasis on theory can detract from student engagement (Saroyan & Snell, 1997; Shannon & Chapelle, 2017). The course materials and selected technologies were appreciated for being up-to-date and varied, which is essential for maintaining relevance in rapidly evolving fields like educational technology. In the first meeting, some participants mentioned that the language used in the course materials and weekly presentations was occasionally too complex and filled with unfamiliar terminology. This initial feedback underscores the need for accessible language in instructional materials to ensure comprehension and effective learning (Littlejohn, 2011; Bao, 2016). Additionally, the limited experience of the researcher regarding classroom talk and understanding and responding to the learners' language proficiency levels may have contributed to the complexity of the language, since this was the first time the researcher undertook the responsibility of designing and teaching a course. This also aligns with the concerns of Barab and Squire (2004), stating the challenging nature of DBR in assigning the researcher with a joint role of designer and researcher. By the second meeting, adjustments had been made to the theoretical content and presentation language. Overall,

participants expressed satisfaction with the topics, course materials, and technologies used in the course. This positive reception indicates that the course successfully meets its objectives of providing diverse and current technological tools for language teaching.

Participants viewed the teaching and learning process of the "Technology Integration in English Language Teaching" course as highly supportive, highlighting the value of practicing unfamiliar technologies during lessons and the opportunity to seek instant clarification when needed. This approach emphasizes the importance of hands-on practice and the immediate application of new knowledge (Rienties et al., 2013). The course format, which allows for practice immediately after instruction in a safe environment, was praised for supporting meaningful learner-learner and learner-teacher interaction. By the second meeting, participants regarded the course as a more engaging and learner-centered alternative to traditional classrooms. This perception highlights the effectiveness of interactive and student-centered teaching methods, which are known to enhance learning outcomes (Rigg, 1990; Wenden, 2002). However, participants expressed a need for more time to explore complex technologies independently. This indicates that the allocated time should depend on the complexity of the technological tools, which could be determined by debriefing sessions with learners, and educational technology experts. Despite the overall positive feedback, some criticisms persisted, particularly concerning classroom size and poor laboratory conditions. These logistical issues highlight the importance of adequate physical opportunities in supporting effective teaching and learning environments (Okan, 2008; Chaves & Cortes, 2018). Addressing these infrastructural challenges could further improve the course experience and ensure that all participants have equal access to learning opportunities.

Regarding the evaluation methods, participants appreciated the course's approach, which included a pen-and-paper midterm exam, a final blog portfolio, and occasional pop quizzes using various technological quiz tools. These quizzes, while not contributing to overall grades, were seen as enjoyable and effective for reinforcing key terms and concepts. This method supports the notion that formative assessments can enhance learning by providing continuous feedback and opportunities for practice (Evans et al., 2014; Kulasegaram & Rangachari, 2018). Clear instructions and evaluation criteria helped participants understand expectations for both the pen-and-paper midterm exam and the e-portfolio final exam, contributing to a transparent and supportive evaluation

process. In the second meeting, participants' positive perceptions of the evaluation methods remained consistent. This positive feedback suggests that the combination of varied, formative assessments and clear criteria can effectively enhance student learning and satisfaction.

Participants highlighted several strengths of the "Technology Integration in English Language Teaching" course. Key among these was the course design, which involved instruction in the first session followed by practice in the second session. This structure is found to be effective because it involves active learning, which has been shown to enhance retention and understanding (D'mello, 2022). Another significant strength was the selection of technologies and course materials. Participants appreciated the up-to-date and diverse technological tools, which not only enriched their learning experience but also proved useful in their personal lives, and other courses. In the second meeting, the participants specifically praised the inclusion of previously requested AI technologies and learning management systems. They found these tools, specifically AI technologies, to be both enjoyable and highly beneficial, indicating that emerging technologies can significantly enhance engagement and learning outcomes (Nazari et al., 2021; Huang et al., 2023). The positive reception of AI tools aligns with current research suggesting that AI can provide personalized learning experiences and support diverse educational needs (Woolf et al., 2013; Hashim et al., 2022).

In the initial meeting, participants identified several areas needing improvement within the "Technology Integration in English Language Teaching" course. The most frequent concerns were related to the large classroom size, which exceeded 60 students due to limited computer laboratory conditions. Such logistical challenges can hinder effective learning and interaction, emphasizing the need for adequate physical resources in educational settings. Participants also mentioned the complexity of some of the theoretical components and the language used in presentations as areas needing improvement. However, by the second meeting, participants noted clear improvements in these areas, indicating that the course had successfully adjusted the complexity of theoretical knowledge and simplified the presentation language. Despite these positive changes, the issues related to classroom size and laboratory conditions remained unresolved. Addressing these infrastructural constraints is crucial to fully realizing the

benefits of the course and ensuring all participants can engage with the technology in a convenient learning environment.

In conclusion, the "Technology Integration in English Language Teaching" course has been well-received by participants, who appreciated the engaging and supportive learning environment. The course's design, with a focus on practical application following theoretical instruction, and the inclusion of diverse, up-to-date technologies were highlighted as significant strengths. These elements not only enriched the participants' learning experiences but also provided practical benefits applicable to their personal and academic lives. However, some logistical challenges, such as large classroom sizes and inadequate laboratory conditions, persisted and need to be addressed to enhance the learning environment further. Overall, the positive reception of the course underscores its importance in the ELT curriculum and its role in preparing teacher candidates to effectively integrate technology into language teaching.

## **6 CONCLUSION**

This section presents the summary of the study, the implications of the study for the EFL teacher education context in Türkiye, and recommendations for further research.

### **6.1 Summary of the Study**

Technology integration in language teaching and learning has been a popular topic of study, starting in the 1950s with mainframe computers, gaining momentum in the 1990s with personal computers, and taking its final form after the 2000s with the internet era. Studies of these different eras have revealed that using technology is beneficial for both learners and teachers. However, as technology is considered to be effective in language teaching and learning, some of the most decisive factors are reported to be teacher knowledge and experience regarding the use of technology. Teachers must have the knowledge and experience to fully integrate technology into the teaching and learning process in a systematic way, aligning with their pedagogical goals. The importance of teacher knowledge regarding technology integration is also acknowledged in various teacher competency frameworks, including the teacher competency framework of the Turkish Ministry of National Education (MoNE). However, there is a lack of a course to train TCs for technology integration in language teaching in the English Language Teaching (ELT) curriculum prepared by the Council of Higher Education (CoHE). Therefore, this study aims to address this gap by designing, developing, and implementing a course to prepare EFL TCs for effective and systematic integration of technology in their language teaching and learning processes.

To this end, to design and develop the course, the needs and expectations of TCs and ISTs were investigated, and expert opinions with relevant experts were conducted to gain further insight regarding the planned course. The findings have revealed that, although TCs and ISTs have some basic knowledge and experience regarding educational technologies, they need overall improvement in integrating their knowledge into the language teaching process. Both groups expected the course to include many emerging technologies for teaching and practicing major language areas and skills, and also chances of practicing these technologies on top of basic theoretical knowledge.

In addition, relevant field experts are consulted regarding course content, weekly materials, and evaluation methods. They have also shared their experiences along with

similar courses, and their overall suggestions and expectations from such a course. The experts' suggestions can be summarized as:

- Target group's needs and expectations should be used to decide on course content,
- The course should include basic theoretical knowledge, rather than merely being a "tool introduction and practice" focused course,
- Evaluation methods should include both pen-an-paper exams (to measure theoretical knowledge), and practical applications (to provide a chance to apply what has been learned).

According to these findings, the TIELT course was developed. The course was designed to both teach and provide chances to practice many emerging, free, and easy to use technologies for various language areas and skills such as grammar, vocabulary, pronunciation, reading, listening, speaking, and writing; along with some technologies that can be used in the teaching and learning process for more general purposes such as testing and evaluation, providing feedback, communication, online discussion, and collaboration. Additionally, mobile technologies, artificial intelligence technologies, and blogging technologies were introduced to the learners. For basic theoretical knowledge, basic concepts regarding technology integration, a brief history of technology in language teaching, different CALL approaches, and ethical issues when incorporating technologies into language teaching were introduced and discussed with learners.

The technological tools of the course were selected from the relevant literature, based on the learners' needs, and in line with expert opinions. Weekly lesson plans and course materials were created according to the needs and expectations of the target group, following a course book. The lesson plans and course materials were finalized after consulting relevant field experts. Similarly, the evaluation methods of the course were designed by the researcher in line with needs analyses and expert opinions, and finalized together with relevant field experts. The course was planned to be a two-hour course, conducted in a computer laboratory in which each learner had a personal computer to practice the technological tools. The first hour of the course was allocated for instructing learners on relevant theoretical knowledge, and class discussions, and the second hour was allocated to the instruction and free practice of relevant technological tools.

As suggested by the assessment results, the learning outcomes of the course were largely realized. The dual assessment structure, midterm exam to evaluate conceptual

understanding and a final e-portfolio to assess applied skills, was designed to measure these outcomes. Midterm results indicated that most students grasped foundational topics such as CALL, MALL, and ethical considerations in digital pedagogy, while the final portfolios demonstrated their ability to design and implement digital learning materials using appropriate tools. Learning outcomes related to practical integration (e.g., developing digital materials, creating blogs, and applying tools for instructional purposes) were strongly evidenced across student submissions.

TPACK was also selected as a framework to assess the course's effects on learners' self-perceptions of their technology integration skills. A field specific TPACK-EFL scale was implemented with voluntary participants in a pre-post design. The results of the paired samples t-test analysis revealed that there is a statistically significant difference between participants' initial and final TPACK-EFL mean scores. When the sub-factors of the scale were analyzed further in detail, it was found that there is a statistically significant difference in all of the technology related sub-factors: Technological Knowledge (TK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK), and Technological Pedagogical Content Knowledge (TPACK).

Finally, to gather learners' opinions and suggestions regarding the course, two focus group interviews were conducted. The first interview was conducted in the middle of the term, 8<sup>th</sup> week, to gain participants' perspectives of the course, and make any necessary changes. The second interview was held at the end of the term to have a final evaluation of the course. The questions of these interviews can be seen in Appendices 7a and 7b. The participants stated an overall satisfaction regarding the course, stating that both their initial expectations and their requests in the first meeting and during the term were met in the final form of the course. They stated that the course was well designed, and the tools they learned were helpful for both language teaching and learning, and for their other courses and daily lives. They enjoyed the course structure, in which the first hour was dedicated to instruction of course content, followed by a second hour focused on practice and application. The evaluation methods were also perceived positively by the participants, stating that while the exam and the pop quizzes are helpful in repeating the content, and receiving feedback regarding the content, the blog portfolio is helpful in experiencing the tools in a real life context and receiving feedback for the technology integration. Strengths of the course were mentioned to be the course structure, and

selected technologies. As for areas of improvement, physical laboratory conditions and the crowded class population were mentioned.

## **6.2 Limitations of the Study**

This study has some potential limitations.

First of all, since the TIELT course is an elective course, this study is limited to a group of learners who voluntarily enrolled in the course. As a result, the participants of the study might have involved some learners who were already highly skilled or interested in technology integration in language teaching.

Another limitation is the lack of a control group, which restricts the study from making direct comparisons with a group that did not receive the intervention. Without a control group, it is challenging to fully isolate the course's impact from external factors.

Additionally, the sample size is limited by the number of teacher candidates in the ELT Department at Muğla Sıtkı Koçman University and the capacity of the computer laboratory, which is limited to an average of 60 learners.

Environmental factors may also be influential on the results, as individual differences in computer access, digital literacy levels, and previous technology experience can affect learners' engagement with course material.

## **6.3 Implications for EFL Teacher Education Context in Türkiye**

The findings of this study, which aimed to design, develop, and implement a “Technology Integration in English Language Teaching” course out of local institutional needs, have revealed some implications for educational practices and teacher training in Türkiye. The positive feedback from the participants of the course, and a statistically significant improvement in TPACK-EFL scores highlight the relevance, necessity, and effectiveness of the course in the ELT curriculum. In light of these findings:

The significant improvement in the TPACK-EFL scores indicates that a technology centered course contributes to the technological pedagogical content knowledge of prospective EFL teachers. This finding also points to a need for teacher education programs to include courses that are educational technology centered, and field focused. In this way, teacher candidates will be equipped with the necessary competencies to tackle

the challenges of modern classrooms and learners regarding technology integration in the teaching and learning process.

The significant increase in the TPACK-EFL scores indicates that teacher candidates may benefit from professional development chances. Similar professional development programs regarding different aspects of technology integration, or the teaching profession prepared by either institutions or relevant stakeholders may be beneficial for teacher candidates. In addition to TCs, a similar course or training program could be offered to ISTs who may wish to acquire or enhance their skills in using technology in EFL instruction. Given the rapid changes in educational technology, such programs could support the ongoing professional development of ISTs, helping them remain current and effective in integrating technology into their teaching practices.

One of the potential reasons for the course's effectiveness is the needs analysis performed in the local context. With the importance given to the immediate context in relevant literature, teacher education programs must be prepared to take educational contexts and needs into account, rather than merely focusing on generic or globalized contexts and needs.

The learners' comments regarding the course being infused with various and current technological tools are mostly positive, and they have found these technologies to be useful for both their teacher training process and their daily lives. An institutional effort for integrating and incorporating technology into all courses of the curriculum may be further useful for learners, enhancing their overall digital literacy and readiness to deal with technology as a teacher.

Learners' positive feedback regarding the course structure indicates the motivating and engaging nature of active learning opportunities. More practical applications along with theoretical knowledge can further motivate TCs, and increase their participation in courses.

The study's outcomes indicate the potential benefits of technology integration in language education. Policy makers and stakeholders should support both curricular and extra-curricular technology integration, looking for chances to allocate more resources for systematic technology integration.

While the course is considered to be successful and beneficial by the EFL teacher candidates who took part in the study, some technical issues and physical conditions are beyond the control of the TCs, and the researcher. Policymakers and stakeholders should try to ensure educational equity, enhancing the technological infrastructure, physical laboratory conditions, and peripheral systems in teacher training institutions.

#### **6.4 Recommendations for Further Research**

This study has only one experimental group and lacks a control group. For further studies, it is recommended to include both an experimental group and a control group without any intervention, to enable more accurate comparisons of the results, and better isolation of the results from environmental effects. This would provide a clearer understanding of the impact of the intervention on learners' TPACK. While it may seem evident that the experimental group would naturally improve, having a control group would allow researchers to attribute these gains specifically to the intervention, ruling out any external factors like incidental learning or environmental influences.

Although the outcomes of this study reveal a statistically significant increase in participants' TPACK-EFL scores, these outcomes only reflect the immediate gains. Longitudinal studies can provide more detailed insights regarding the sustainability of the outcomes, therefore, long-term effects of such an intervention on learners' TPACK-EFL scores should be explored.

This study has a limited focus stemming from a local need for a technology integration course. Exploring the further contextual factors on technology integration such as learners' digital literacy levels, socioeconomic backgrounds, and attitudes (personal or cultural) toward technology can be useful in gaining more insight into the matter.

Moreover, implementing the same intervention across different universities and comparing the results could validate and strengthen the outcomes. These comparative studies would not only validate the current outcomes across diverse contexts but also help in refining the course content based on broader feedback. Eventually, with evidence and continuous improvement, the course could be proposed for adoption at a national level.

The effects of technology integration are merely measured in relation to learners' TPACK-EFL scores for this study. Further studies on the effects of technology integration

on learners' motivation, autonomy, or academic performance can provide a more comprehensive perspective regarding the course's effectiveness.

Additionally, examining how technology integration impacts teachers' classroom practices, instructional strategies, and confidence in using technology could provide insight into the broader impact on teaching methodologies.

This study also focuses specifically on teacher candidates in an English Language Teaching program. Investigating cross-disciplinary differences might reveal unique challenges or advantages in implementing technology within various educational subjects, thereby broadening the generalizability of findings.

Furthermore, this study does not investigate the potential impact of different instructional approaches within the technology integration course itself. Future studies might compare various instructional models (e.g., blended learning, flipped classroom, project-based learning) to determine which methodologies are most effective in enhancing TPACK-EFL. This would help identify best practices for course design and delivery, and improve the efficacy of such programs.

Finally, this study aims to cover a wide variety of technologies since it is limited by time and curricular constraints. Given the rapid evolution of educational technologies, future research could focus on the effects of specific types of technology in a comparative way (e.g., artificial intelligence, virtual reality, or gamification) on TPACK. Focusing on these different types of technologies comparatively might reveal distinct ways in which each tool enhances particular TPACK domains, such as content knowledge, pedagogical strategies, or technological fluency. This approach could provide deeper insights into which technologies are most effective for developing specific teaching competencies.

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## APPENDICES

### APPENDIX-1. Needs Analysis with EFL Teacher Candidates (Online Open Ended Questionnaire)

- 1- Stajda İngilizce öğretirken ya da derslerinizde yaptığınız sunumlarda teknoloji (teknolojik araçlar, Web 2.0 araçları web siteleri vb.) faydalıyor musunuz? Neden?
  - a. Hangi amaçla faydalıyorsunuz?
  - b. Bu teknolojileri nereden edindiniz?
- 2- Stajda İngilizce öğretirken ya da derslerinizde yaptığınız sunumlarda teknoloji kullanımının ne tür etkileri olduğunu düşünüyorsunuz? / Meslek hayatınızda derslerinizde yapacağınız teknoloji kullanımının ne tür etkileri olabileceğini düşünüyorsunuz?
  - a. Öğretmenler açısından etkileri.
  - b. Öğrenciler açısından etkileri.
- 3- Stajda İngilizce öğretirken ya da derslerinizde yaptığınız sunumlarda teknoloji kullanımı konusunda kendinizi ne kadar yeterli görüyorsunuz? Bu konuda güçlü yönleriniz nelerdir?
- 4- Stajda İngilizce öğretirken ya da derslerinizde yaptığınız sunumlarda teknoloji kullanımı konusunda hangi alanlarda gelişmeye ihtiyaç duyuyorsunuz?
- 5- “Technology Integration in English Language Teaching” isimli bir ders açılacak olsa, bu dersten beklentileriniz ne olurdu?
- 6- Bir öğrenci olarak, pandemi sürecinde uzaktan eğitimde ne gibi zorluklar yaşadınız? Bu zorlukların üstesinden gelebildiniz mi?

## **APPENDIX-2. Needs Analysis with In-Service Teachers (Online Semi-Structured Interviews)**

- 1- Derslerinizde teknolojiden (teknolojik araçlar, Web 2.0 araçları, web siteleri vb.) faydalaniyor musunuz? Neden?
  - a. Hangi amaçla faydalaniyorsunuz?
  - b. Bu teknolojileri nereden edindiniz/öğrendiniz?
- 2- Teknoloji kullanımının derslerinizde ne tür etkileri olduğunu düşünüyorsunuz?
  - a. Öğretmenler açısından etkileri.
  - b. Öğrenciler açısından etkileri.
- 3- Derslerinizde teknoloji kullanımı konusunda kendinizi ne kadar yeterli görüyorsunuz? Bu konuda güçlü yönleriniz nelerdir?
- 4- Derslerinizde teknoloji kullanımı konusunda hangi alanlarda gelişmeye ihtiyaç duyuyorsunuz?
- 5- “Technology Integration in English Language Teaching” isimli bir ders açılacak olsa, bu dersten beklentileriniz ne olurdu?
- 6- Bir öğretmen olarak, pandemi sürecinde uzaktan eğitimde ne gibi zorluklar yaşadınız? Bu zorlukların üstesinden gelebildiniz mi?

### **APPENDIX-3. Expert Opinion with the Instructors of Similar Courses (Online Semi-Structured Interview)**

1. Bu dersin İngilizce öğretmenliği programındaki yeri ve faydaları nelerdir?
2. Pandemi döneminde bu dersi verdiniz mi? Nasıl dönütler aldınız? Öğrencilerin genel performansını da göz önüne alarak genel bir değerlendirme yapabilir misiniz?
3. Bu dersi açarken kimlerin görüş ve önerilerine başvurduunuz?
4. Bu dersi açarken içeriğine nasıl karar verdiniz? İhtiyaç analizi yaptınız mı?
5. Zaman içinde dersin içeriğinde herhangi bir revizyon / güncelleme yaptınız mı? Neden?
6. Bu dersi yeni açacak bir eğitmen için neler tavsiye edersiniz?
  1. Ders nasıl işlenmeli? (yüz yüze – çevrimiçi vs.) Neden?
  2. Ders öğrencilere hangi becerileri kazandırmalı?
  3. Dersin içeriğinde neler olmalı?
  4. Dersin öğretim ve değerlendirme yöntemi nasıl olmalı?

#### **APPENDIX-4. Expert Opinion with Online Education Experts (Online Semi-Structured Interview)**

1. “Technology Integration in English Language Teaching” isimli bir dersin açılması hakkında neler düşünüyorsunuz?
2. Bu dersi yeni açacak bir eğitmen için neler tavsiye edersiniz?
  - a. Ders nasıl işlenmeli? (yüz yüze – çevrimiçi vs.) Neden?
  - b. Ders öğrencilere hangi becerileri kazandırmalı?
  - c. Dersin içeriğinde neler olmalı?
  - d. Dersin öğretim ve değerlendirme yöntemi nasıl olmalı?



## APPENDIX-5. CONSENT FORM

Bu çalışma, “**Bir Öğretim Tasarımı Dizaynı ve Uygulaması: İngilizce Öğretiminde Teknoloji Entegrasyonu**” başlıklı bir araştırma çalışması olup, İngilizce öğretiminde teknoloji entegrasyonu temalı bir ders tasarlamayı amaçlamaktadır. Çalışma **Bayram ÇİBİK** tarafından yürütülmekte ve sonuçları ile ortaya İngilizce öğretiminde teknoloji entegrasyonu temalı bir ders çıkacaktır.

- Bu çalışmaya katılımınız gönüllülük esasına dayanmaktadır.
- Çalışmanın amacı doğrultusunda, ölçek ve açık uçlu soru formları aracılığıyla sizden veriler toplanacaktır.
- İsmınızı yazmak ya da kimliğinizi açığa çıkaracak bir bilgi vermek zorunda değilsiniz/araştırmada katılımcıların isimleri gizli tutulacaktır.
- Araştırma kapsamında toplanan veriler, sadece bilimsel amaçlar doğrultusunda kullanılacak, araştırmanın amacı dışında ya da bir başka araştırmada kullanılmayacak ve gerekmesi halinde, sizin (yazılı) izniniz olmadan başkalarıyla paylaşılmayacaktır.
- İstemeniz halinde sizden toplanan verileri inceleme hakkınız bulunmaktadır.
- Sizden toplanan veriler korunacak ve araştırma biriminde arşivlenecek veya imha edilecektir.
- Veri toplama sürecinde/süreçlerinde size rahatsızlık verebilecek herhangi bir soru/talep olmayacaktır. Yine de katılımınız sırasında herhangi bir sebepten rahatsızlık hissederseniz çalışmadan istediğiniz zamanda ayrılabilirsiniz. Çalışmadan ayrılmanız durumunda sizden toplanan veriler çalışmadan çıkarılacak ve imha edilecektir.

Gönüllü katılım formunu okumak ve değerlendirmek üzere ayırdığınız zaman için teşekkür ederim. Çalışma hakkındaki sorularınızı Muğla Sıtkı Koçman Üniversitesi İngiliz Dili Eğitimi bölümünden Bayram ÇİBİK’e ( mail/tel) yöneltebilirsiniz.

Araştırmacı Adı: Bayram ÇİBİK

Adres:

Cep Tel:

e-posta:

**Bu çalışmaya tamamen kendi rızamla, istediğim takdirde çalışmadan ayrılabileceğimi bilerek verdiğim bilgilerin bilimsel amaçlarla kullanılmasını kabul ediyorum.**

*(Lütfen bu formu doldurup imzaladıktan sonra veri toplayan kişiye veriniz.)*

Katılımcı Ad ve Soyadı:

İmza:

Tarih:

## APPENDIX-6. TPACK-EFL Scale

Değerli Öğretmen Adayı,

Bu anketteki maddeler, İngilizce öğretimine başarılı bir teknoloji entegrasyonu için gerekli olan yeterlilik algılarını içermektedir. Lütfen maddelere cevap verirken 1 (*Hiç uygun değil*) ile 9 (*Çok uygun*) arasındaki derecelendirmede sizi yansıtan rakamı yuvarlak içine alınız. Görüşlerinizi içtenlikle yansıtmanız araştırma açısından çok önemlidir. Verdiğiniz bilgiler sadece araştırma için kullanılacaktır. Katkılarınız için şimdiden çok teşekkür ederiz.

Bayram ÇİBİK

|                                                                                                                               | Hiç uygun değil | Çok az uygun | Biraz uygun | Oldukça uygun | Çok uygun |   |   |   |   |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------|-------------|---------------|-----------|---|---|---|---|
| 1. Temel teknoloji terimlerini (işletim sistemi, hard disk, kablosuz ağ, sanal bellek, vb.) doğru bir şekilde kullanabilirim. | 1               | 2            | 3           | 4             | 5         | 6 | 7 | 8 | 9 |
| 2. Program kurmak ve internet bağlantısı kurmak gibi ayarları yapabilirim.                                                    | 1               | 2            | 3           | 4             | 5         | 6 | 7 | 8 | 9 |
| 3. Bilgisayar çevre birimlerini (yazıcı, mikrofon, projeksiyon, vb.) kullanabilirim.                                          | 1               | 2            | 3           | 4             | 5         | 6 | 7 | 8 | 9 |
| 4. Olağan teknolojik sorunları (yazıcıdan çıktı alamama, internet bağlantısının kesilmesi, vb.) kendim çözebilirim.           | 1               | 2            | 3           | 4             | 5         | 6 | 7 | 8 | 9 |
| 5. Projektör, tepegöz ve akıllı tahta gibi dijital sınıf ekipmanlarını kullanabilirim.                                        | 1               | 2            | 3           | 4             | 5         | 6 | 7 | 8 | 9 |

|     |                                                                                                                                |   |   |   |   |   |   |   |   |   |
|-----|--------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|
| 6.  | Ofis uygulamalarını (Word, PowerPoint, vb.) ileri düzeyde kullanabilirim.                                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 7.  | Metin, resim, ses, video ve animasyon gibi bilgi kaynaklarını kullanarak çoklu ortam (video, web sitesi, vb.) oluşturabilirim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 8.  | İşbirliği yapılabilecek sanal ortamları (wiki, edmodo, 3B sanal ortamlar, vb.) amaçlarım doğrultusunda kullanabilirim.         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 9.  | Amacıma uygun olabilecek programları ve dijital araçları kullanmayı öğrenebilirim.                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 10. | Duygu ve düşüncelerimi İngilizce konuşarak ifade edebilirim.                                                                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 11. | Duygu ve düşüncelerimi İngilizce yazarak ifade edebilirim.                                                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 12. | İngilizce yazılmış bir metni telaffuz kurallarına uyarak okuyabilirim.                                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 13. | İngilizce yazılmış bir metinde ifade edileni anlayabilirim.                                                                    | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

|     |                                                                                                                                  |   |   |   |   |   |   |   |   |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|
| 14. | Ana dili İngilizce olan birini rahatlıkla anlayabilirim.                                                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 15. | Öğrenme ortamına uygun öğretim yöntem ve teknikleri kullanabilirim.                                                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 16. | Öğrencilerin gelişim düzeylerine uygun öğrenme ortamları hazırlayabilirim.                                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 17. | Öğrencilerin öğrenmelerini bedensel, zihinsel, duygusal, sosyal ve kültürel farklılıklarına uygun bir şekilde destekleyebilirim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 18. | Öğrencilerin öğrenmelerini desteklemek amacıyla okul paydaşları (öğrenci, veli, öğretmenler, vb.) ile işbirliği yapabilirim.     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 19. | Mesleki gelişimim ile ilgili çalışmalarımдан edindiğim deneyimi öğretim sürecine yansıtabilirim.                                 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 20. | Öğrencilerin kendi başlarına öğrenmelerini desteklemek amacıyla ders dışında da öğrenmeye güdüleyebilirim.                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 21. | Ders esnasında sınıf yönetimine hâkim olabilirim.                                                                                | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

|     |                                                                                                                                                           |   |   |   |   |   |   |   |   |   |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|
| 22. | Öğrencilerin öğrenme süreçlerini değerlendirebilirim.                                                                                                     | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 23. | Öğrencilerin İngilizce dil becerilerini geliştirmelerini, uygun pedagojik yöntem ve teknikler kullanarak destekleyebilirim.                               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 24. | Öğrencilerin dil becerilerini geliştirecek nitelikte müfredata uygun etkinlikler hazırlayabilirim.                                                        | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 25. | Öğrencilerin İngilizce dil seviyelerine göre var olan ders planını uyarlayabilirim.                                                                       | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 26. | Farklı konularla ilgili bilgi ve düşüncelerimi çoklu ortamlardan (video, slayt gösterisi, vb.) yararlanarak İngilizce ifade edebilirim.                   | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 27. | Çok uluslu toplulukların yer aldığı ortamlara uzaktan katkıda bulunabilmek için bilişim teknolojilerinden (Web konferans yazılımı, vb.) yararlanabilirim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 28. | Yabancı uyruklu kişilerle sanal ortamlar (second life, wiki, vb.) aracılığı ile ortak çalışma yürütebilirim.                                              | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 29. | Öğrencilerin bireysel öğrenme ihtiyaçlarına öğretim teknolojilerini kullanarak yanıt verebilirim.                                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

|     |                                                                                                                                                    |   |   |   |   |   |   |   |   |   |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|
| 30. | Öğrencilerin yasal, etik, telif hakkına saygılı ve güvenli bir şekilde bilişim teknolojilerini kullanabilmeleri için onlara rehberlik edebilirim.  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 31. | Öğretim teknolojilerini (sanal tartışma ortamları gibi) kullanarak öğrencilerin üst düzey düşünme becerilerini geliştirmelerini destekleyebilirim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 32. | Derslerimde öğretim teknolojilerini kullanarak sınıf yönetimine hâkim olabilirim.                                                                  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 33. | Hangi kazanımları bilişim teknolojilerinden yararlanarak vereceğime karar verebilirim.                                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 34. | Bilişim teknolojilerini kullanarak öğrencilerin öğrenimlerini destekleyecek materyal geliştirebilirim.                                             | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 35. | Öğrencilerin öğrenimlerini desteklemek amacıyla video, web sitesi gibi çoklu ortamlardan yararlanabilirim.                                         | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 36. | Öğrencilerin İngilizce öğrenmelerini desteklemek için sanal işbirliği ortamlarından (wiki, 3B sanal ortamlar, vb.) yararlanabilirim.               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 37. | Öğrencilerin Bilişim teknolojilerini kullanarak (eğitim yazılımları vb.) kendi başlarına dil becerilerini geliştirmelerini destekleyebilirim.      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

|     |                                                                                                                                      |   |   |   |   |   |   |   |   |   |
|-----|--------------------------------------------------------------------------------------------------------------------------------------|---|---|---|---|---|---|---|---|---|
| 38. | Web 2.0 araçlarını (animasyon, dijital hikâye araçları, vb.) öğrencilerin dil becerilerini geliştirmek için kullanabilirim.          | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 39. | İngilizce öğretim sürecini sürekli iyileştirmek için dijital araç ve kaynaklardan yararlanarak mesleki gelişimimi destekleyebilirim. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

## **APPENDIX-7a. Focus Group Interview Questions - First Meeting**

**1. Ders hakkında beklentileriniz neydi?**

(What were your expectations about the course?)

**2. Bu beklentiler karşılandı mı? Kısaca açıkla mısınız?**

(Were these expectations met? Can you explain briefly?)

**3. Dersin içeriği hakkında görüşleriniz nelerdir?**

(What are your opinions about the course content?)

**4. Dersin öğrenme-öğretme süreci (işlenişi) hakkında görüşleriniz nelerdir?**

(What are your opinions about the teaching-learning process of the course?)

**5. Dersin değerlendirme süreci hakkında görüşleriniz nelerdir?**

(What are your opinions about the course evaluation process?)

**6. Sizce bu dersin güçlü yönleri nelerdir?**

(What do you think are the strengths of this course?)

**7. Sizce bu dersin geliştirilmesi gereken yönleri nelerdir?**

(What do you think are the areas for improvement in this course?)

## **APPENDIX-7b. Focus Group Interview Questions – Second Meeting**

**1. İlk görüşmemizde ders hakkındaki beklentileriniz hakkında konuşmuştuk. Şimdi, dönemin sonunda, bu beklentileriniz hakkında ne düşünüyorsunuz? Beklentileriniz değişti mi, karşılandı mı?**

In our first meeting, we talked about your expectations for the course. Now, at the end of the term, what do you think about these expectations? Have they changed, or been met?

**2. Dersin içeriği hakkında dönemin başına kıyasla değişen görüşleriniz var mı?**

Do you have any changing opinions about the course content compared to the beginning of the term?

**3. Dersin işlenişi hakkında dönemin başına kıyasla değişen görüşleriniz var mı?**

Do you have any changing opinions about the teaching process compared to the beginning of the term?

**4. Değerlendirme süreci hakkında dönemin başındaki görüşlerinize eklemek istediğiniz bir şey var mı? Değerlendirmelerin sizin öğrenme sürecinize etkisi hakkında ne düşünüyorsunuz?**

Is there anything you would like to add to your initial views on the evaluation process? What do you think about the impact of assessments on your learning process?

**5. Dönem sonunda, bu dersin güçlü yönleri nelerdir? Hangi özellikler sizin için en faydalı veya etkileyici oldu?**

At the end of the term, what are the strengths of this course? Which features were most useful or impressive to you?

**6. Dersin geliştirilmesi gereken yönleri hakkında daha detaylı görüşleriniz nelerdir? Hangi alanlarda iyileştirmeler yapılabileceğini düşünüyorsunuz?**

What are your more detailed opinions on the areas that need improvement in this course? In which areas do you think improvements can be made?

**7. Gelecek dönemlerde bu dersin daha etkili olabilmesi için ne gibi önerilerde bulunabilirsiniz? Öğretim yöntemleri, içerik veya kullanılan teknolojiler açısından neler değiştirilmeli veya eklenmeli?**

What suggestions can you make to make this course more effective in future terms? What should be changed or added in terms of teaching methods, content, or technologies used?

**8. Genel olarak bu dersle ilgili memnuniyet seviyenizi nasıl değerlendirirsiniz?**

How would you rate your overall satisfaction with this course?



## APPENDIX-8. Blog Evaluation Criteria

| Blog Evaluation Criteria                                            | 4                                                                                                                                                                                                                                                                | 3                                                                                                                                                                                                                                                                 | 2                                                                                                                                                                                                                                     | 1                                                                                                                                                                                                                                                                    |
|---------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Task Completion (required information, examples, etc.) (20%)</b> | <p>The blog effectively fulfills the task requirements, providing comprehensive information, relevant examples, and all the necessary details.</p> <p>It covers all required aspects thoroughly, ensuring clarity and leaving no room for ambiguity.</p>         | <p>The blog completes the task adequately, providing sufficient information and examples to support understanding.</p> <p>While some details may be missing, the essential aspects are covered, and examples are provided.</p>                                    | <p>The blog partially completes the task by providing limited information and examples.</p> <p>Some required aspects may be missing or inadequately covered, leaving some ambiguities or questions unanswered.</p>                    | <p>The blog does not adequately complete the task, lacking necessary information and examples.</p> <p>Essential aspects are missing or inadequately addressed, leaving significant ambiguity or unanswered questions.</p>                                            |
| <b>Structure (organization) (20%)</b>                               | <p>The blog exhibits a well-structured organization, with clear headings, logical flow, and seamless transitions between sections.</p> <p>Each section serves its purpose effectively, contributing to the overall coherence and readability of the content.</p> | <p>The blog has a generally well-structured organization, with clear headings and a logical flow of ideas.</p> <p>While there may be minor inconsistencies or areas for improvement, the overall structure effectively guides the reader through the content.</p> | <p>The structure of the blog is somewhat lacking, with unclear or inconsistent organization.</p> <p>Headings may be unclear or missing, and transitions between sections may be abrupt or confusing, hindering the flow of ideas.</p> | <p>The blog lacks a coherent structure, making it difficult for the reader to follow the flow of ideas.</p> <p>Headings may be missing or unclear, and transitions between sections are disjointed or nonexistent, resulting in a fragmented reading experience.</p> |
| <b>Audience-Awareness (reader-friendliness) (20%)</b>               | <p>The blog demonstrates exceptional audience awareness, effectively tailoring the content to the intended audience's needs, interests, and level of understanding.</p> <p>Language and tone are appropriately adjusted to engage</p>                            | <p>The blog shows a good level of audience awareness, with content that is generally tailored to the intended audience.</p> <p>Language and tone are mostly appropriate to engage the readers, although there may be</p>                                          | <p>The blog shows some consideration for the audience, but may not consistently tailor the content to their needs or interests.</p> <p>Language and tone may be somewhat inappropriate or</p>                                         | <p>The blog lacks audience awareness, with content that is not effectively tailored to the intended audience.</p> <p>Language and tone are inappropriate or confusing, making it difficult for readers to engage with the content.</p>                               |

|                                                                 |                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                          |
|-----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                 | and connect with the readers, ensuring a reader-friendly experience.                                                                                                                                                                                                                                      | some areas for improvement in terms of clarity or accessibility.                                                                                                                                                                                            | unclear, resulting in a less reader-friendly experience.                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                          |
| <b>Attractiveness (images, videos, sections) (20%)</b>          | <p>The blog is highly attractive, featuring visually appealing design elements, such as images, graphics, and layout.</p> <p>Colors, fonts, and arrangement are thoughtfully chosen to enhance readability and engagement, creating an inviting and aesthetically pleasing experience for the reader.</p> | <p>The blog is visually appealing, with well-chosen design elements and a pleasant layout.</p> <p>While there may be some room for improvement in terms of visual consistency or polish, the overall appeal of the blog enhances the reader experience.</p> | <p>The attractiveness of the blog is somewhat lacking, with design elements that may be inconsistent or unpolished.</p> <p>Colors, fonts, and layout choices may not effectively promote readability or engagement, resulting in a less appealing visual experience.</p> | <p>The blog is unattractive, with design elements that are distracting, unappealing, or poorly executed.</p> <p>Colors, fonts, and layout choices may be inappropriate or poorly implemented, detracting from the overall readability and engagement of the content.</p> |
| <b>Language Accuracy (grammar, punctuation, spelling) (20%)</b> | <p>Demonstrates exemplary writing mechanics, including grammar, spelling, punctuation, and sentence structure.</p> <p>Language is clear, and concise, and effectively communicates the intended message with precision and coherence.</p>                                                                 | <p>Shows strong writing mechanics with few minor errors in grammar, spelling, punctuation, or sentence structure.</p> <p>Language is generally clear and coherent, effectively conveying the intended message.</p>                                          | <p>Contains noticeable errors in writing mechanics, such as grammar, spelling, punctuation, or sentence structure.</p> <p>Language may be somewhat unclear or inconsistent, requiring additional effort on the part of the audience to understand the message.</p>       | <p>Contains significant errors in writing mechanics that hinder comprehension and detract from the overall message.</p> <p>Language is unclear or disjointed, making it difficult for the audience to understand the intended message.</p>                               |

## APPENDIX-9. Podcast Evaluation Criteria

| Podcast Evaluation Criteria       | 4                                                                                                                                                                                        | 3                                                                                                                      | 2                                                                                                                       | 1                                                                                                                                 |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| <b>Introduction (25%)</b>         | Catchy and clever introduction. Provides relevant information and establishes a clear purpose engaging the listener immediately.                                                         | Generally describes the topic and engages the audience as the introduction progresses.                                 | Somewhat engaging (covers a familiar topic), and provides a vague purpose.                                              | Irrelevant or inappropriate topic that minimally engages the listener. Lacks an introduction or the purpose is vague and unclear. |
| <b>Content (25%)</b>              | Creativity and original content enhance the purpose of the podcast innovatively. Accurate information is presented.<br><br>Vocabulary enhances content.<br><br>Keeps focus on the topic. | Accurate information is given concisely most of the time.<br><br>Vocabulary is appropriate.<br><br>Stays on the topic. | Some information is inaccurate or lengthy.<br><br>Vocabulary is adequate.<br><br>Occasionally veers off topic.          | Information is inaccurate.<br><br>Vocabulary is inappropriate for the audience.<br><br>Does not stay on topic.                    |
| <b>Delivery (25%)</b>             | Well-rehearsed, smooth delivery in a conversational style.<br><br>Correct grammar is used throughout the podcast.                                                                        | Rehearsed, smooth delivery.<br><br>Correct grammar is used most of the time.                                           | Seems unrehearsed with uneven delivery.<br><br>Occasionally, incorrect grammar is used in the podcast.                  | Delivery is hesitant, and choppy, and sounds like the host is reading.<br><br>Poor grammar is used throughout the podcast.        |
| <b>Technical Production (25%)</b> | The volume of voice, music, and effects enhance the presentation.<br><br>Transitions are smooth and spaced correctly without noisy, dead space.                                          | Volume is mostly acceptable.<br><br>Transitions are smooth with a minimal amount of ambient noise.                     | Volume is occasionally inconsistent.<br><br>Transitions are uneven with inconsistent spacing; ambient noise is present. | Volume changes are very distracting.<br><br>Transitions are abrupt and background noise must be filtered.                         |

## APPENDIX-10. Infographic Evaluation Criteria

| Infographic Evaluation Criteria                       | 4                                                                                                                                                                                                               | 3                                                                                                                                                                                                   | 2                                                                                                                                                                                                | 1                                                                                                                                                                                |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Purpose &amp; Content of the Infographic (25%)</b> | <p>All necessary information is included and easily accessible.</p> <p>Engaging content that delivers valuable and meaningful information to the audience.</p>                                                  | <p>Generally delivers relevant information effectively.</p> <p>Most needed information is available.</p>                                                                                            | <p>Contains some valuable information.</p> <p>Some necessary details may be unclear.</p> <p>Engagement is moderate, but not compelling.</p>                                                      | <p>Does not provide valuable insights.</p> <p>Missing important details.</p> <p>Lacks engagement and interest.</p>                                                               |
| <b>Organization of the Infographic (25%)</b>          | <p>The work is well-structured and organized in a way that clearly communicates the main issue or topic throughout.</p> <p>The work is consistent to avoid confusion and maintain clarity for the audience.</p> | <p>The work demonstrates a structured approach to communicating the main point or theme.</p> <p>Generally consistent organization with occasional gaps that may cause minor confusion.</p>          | <p>Some attempt to structure the work to communicate the main issue or theme.</p> <p>The organization is a bit inconsistent, which occasionally confuses the audience.</p>                       | <p>Lack of clear structure or organization in communicating the main point or topic.</p> <p>Inconsistent organization causes confusion and hinders clarity for the audience.</p> |
| <b>Visualization/Use of Data and Graphics (25%)</b>   | <p>Utilizes data and graphics effectively to visually enhance understanding and engagement.</p> <p>Demonstrates a creative approach to visual representation, enhancing the overall message.</p>                | <p>Includes satisfactory data and graphics to support understanding and engagement.</p> <p>Visual elements are generally effective, although some improvements could enhance clarity or impact.</p> | <p>Attempts to use data and graphics to support the message, but with limited effectiveness.</p> <p>Visual elements may be distracting or may not contribute significantly to understanding.</p> | <p>Does not effectively use data and graphics to support the message.</p> <p>Visual elements are confusing or irrelevant, hindering comprehension and engagement.</p>            |

|                                    |                                                                                                                                                                                                                                           |                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                              |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Writing Mechanics<br/>(25%)</b> | <p>Demonstrates exemplary writing mechanics, including grammar, spelling, punctuation, and sentence structure.</p> <p>Language is clear, and concise, and effectively communicates the intended message with precision and coherence.</p> | <p>Shows strong writing mechanics with few minor errors in grammar, spelling, punctuation, or sentence structure.</p> <p>Language is generally clear and coherent, effectively conveying the intended message.</p> | <p>Contains noticeable errors in writing mechanics, such as grammar, spelling, punctuation, or sentence structure.</p> <p>Language may be somewhat unclear or inconsistent, requiring additional effort on the part of the audience to understand the message.</p> | <p>Contains significant errors in writing mechanics that hinder comprehension and detract from the overall message.</p> <p>Language is unclear, making it difficult for the audience to understand the intended message.</p> |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## APPENDIX-11. COURSE SYLLABUS

### İDÖ00140 – Technology Integration in English Language Teaching

Course Syllabus – Spring 2024

Instructor: Bayram ÇİBİK

Dear learners,

This course is designed to help you, as a teacher candidate, to integrate instructional technologies into English language teaching. The goal is to familiarize EFL teacher candidates with the basic concepts and history of using technology in education and instructional technologies for language learning; while providing chances to practice current technologies in language teaching and learning contexts.

By the end of this course, you will be able to:

1. Explain core concepts and principles of technology integration in education.
2. Discuss key historical and theoretical CALL approaches and their practical uses.
3. Evaluate advantages and limitations of technology-enhanced language learning methods.
4. Integrate digital tools effectively to enhance language instruction and learner engagement.
5. Select appropriate digital materials aligned with specific language teaching goals.
6. Design original digital learning materials for language teaching.
7. Create educational blogs for professional growth and language instruction.
8. Develop online quizzes and exams for language assessment.
9. Demonstrate understanding of digital licensing and intellectual property in education.

| Weeks    | Course Content                                                                                                                                                                                                                                                | Weekly Readings               | Informed By                                                                                 |
|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|
| I. Week  | Introduction to the Course <ul style="list-style-type: none"><li>• Basic Concepts<br/>(Web 1.0, Web 2.0, Web 3.0, Web 4.0)<br/>(Digital Citizenship)<br/>(CALL)<br/>(Modes of Learning)</li><li>- YouGlish</li><li>- Google Ngram</li><li>- TinyWow</li></ul> | <b>Coursebook - Chapter 1</b> | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses |
| II. Week | Technology & English Language Teaching <ul style="list-style-type: none"><li>• A Brief History of Using Technology in Language Teaching</li></ul>                                                                                                             | <b>Coursebook - Chapter 2</b> | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses |

|            |                                                                                                                                                                                                                                                                                                                                                           |                                          |                                                                                                                         |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|
|            | <ul style="list-style-type: none"> <li>• CALL Approaches</li> <li>• The Role of Technology in Language Teaching</li> <li>- Social Bookmarking (Symbaloo)</li> <li>- Mentimeter</li> <li>- AnswerGarden</li> </ul>                                                                                                                                         |                                          |                                                                                                                         |
| III. Week  | Computer Mediated Communication <ul style="list-style-type: none"> <li>• Interpersonal CMC</li> <li>• Online Conferencing</li> <li>- Wonder.me</li> <li>- Zoom</li> <li>- Microsoft Teams</li> <li>- BigBlueButton</li> </ul>                                                                                                                             | <b>Coursebook - Chapter10 Chapter 12</b> | -Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses                             |
| IV. Week   | Digital Learning Materials <ul style="list-style-type: none"> <li>• A Brief History of Digital Learning Materials</li> <li>• The Role of Digital Learning Materials in Language Teaching</li> <li>- Thinglink</li> <li>- H5P</li> <li>- ILovePDF</li> <li>• Copyright Issues / Creative Commons</li> <li>- Pixabay</li> <li>- Google Interland</li> </ul> | <b>Coursebook - Chapter 23</b>           | - EFL Teacher Candidates<br>-Instructors of Similar Courses<br>-Online Education Experts<br>-Syllabi of Similar Courses |
| V. Week    | Mobile Technologies & English Language Teaching <ul style="list-style-type: none"> <li>• Defining MALL</li> <li>- WordUp</li> <li>- Habitica</li> <li>- Duolingo</li> <li>- Mobile Assistants</li> </ul>                                                                                                                                                  | <b>Coursebook - Chapter 15</b>           | -In-service Teachers<br>-Syllabi of Similar Courses                                                                     |
| VI. Week   | Games/Gamification & English Language Teaching <ul style="list-style-type: none"> <li>- Wordwall</li> <li>- Educaplay</li> <li>- Quickdraw</li> </ul>                                                                                                                                                                                                     | <b>Coursebook - Chapter 14</b>           | -In-service Teachers<br>-Syllabi of Similar Courses                                                                     |
| VII. Week  | Using Blogs in English Language Teaching <ul style="list-style-type: none"> <li>- Wix</li> <li>- Wordpress</li> <li>- Blogger</li> <li>- Linked-in</li> <li>- Jamboard</li> </ul>                                                                                                                                                                         | <b>Coursebook - Chapter 10</b>           | -In-service Teachers<br>-Instructors of Similar Courses<br>-Syllabi of Similar Courses                                  |
| VIII. Week | Midterms                                                                                                                                                                                                                                                                                                                                                  |                                          | -Instructors of Similar Courses<br>-Faculty Requirement                                                                 |
| IX. Week   | Technology & Teaching Vocabulary <ul style="list-style-type: none"> <li>• Infographics</li> <li>- Piktochart</li> <li>- Wordlink</li> <li>- Quizlet</li> <li>- Memrise</li> </ul>                                                                                                                                                                         | <b>Coursebook - Chapter 4</b>            | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses                                          |
| X. Week    | Technology & Teaching Grammar <ul style="list-style-type: none"> <li>- Corpora</li> <li>- Grammar Ninja</li> <li>- Quiz Your English</li> <li>- AI Tools (DeepL, Quillbot)</li> </ul>                                                                                                                                                                     | <b>Coursebook - Chapter 3</b>            | -EFL Teacher Candidates<br>-In-service Teachers<br>-Syllabi of Similar Courses<br>-Focus Group Interviews               |
| XI. Week   | Technology & Teaching Reading                                                                                                                                                                                                                                                                                                                             |                                          | -EFL Teacher Candidates                                                                                                 |

|           |                                                                                                                                                                                                                                                         |                                               |                                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|           | <ul style="list-style-type: none"> <li>- Storyboardthat</li> <li>- Beelinguapp</li> <li>- Readlang</li> <li>- EWA</li> <li>- News in Levels</li> <li>- AI Tools (Leonardo.ai)</li> </ul>                                                                | <b>Coursebook - Chapter 5</b>                 | <ul style="list-style-type: none"> <li>-In-service Teachers</li> <li>-Syllabi of Similar Courses</li> <li>-Focus Group Interviews</li> </ul>                                  |
| II. Week  | Technology & Teaching Writing <ul style="list-style-type: none"> <li>- AI Tools (ChatGPT, Stable Diffusion)</li> <li>- Storybird</li> <li>- Penzu</li> <li>- Editing, Proofreading, &amp; Feedback (MS Word, Write &amp; Improve, Grammarly)</li> </ul> | <b>Coursebook - Chapter 6</b>                 | <ul style="list-style-type: none"> <li>-EFL Teacher Candidates</li> <li>-In-service Teachers</li> <li>-Syllabi of Similar Courses</li> <li>-Focus Group Interviews</li> </ul> |
| III. Week | Technology & Teaching Listening <ul style="list-style-type: none"> <li>• Digital Storytelling</li> <li>• Podcasts</li> <li>- Riverside</li> <li>- Voscreen</li> <li>- Lyrics training</li> </ul>                                                        | <b>Coursebook - Chapter 7</b>                 | <ul style="list-style-type: none"> <li>-EFL Teacher Candidates</li> <li>-In-service Teachers</li> <li>-Syllabi of Similar Courses</li> </ul>                                  |
| IV. Week  | Technology & Teaching Speaking and Pronunciation <ul style="list-style-type: none"> <li>- Voki</li> <li>- ELSA</li> <li>- Call Annie</li> <li>- Discord</li> <li>- Dictation Features</li> </ul>                                                        | <b>Coursebook - Chapter 8</b>                 | <ul style="list-style-type: none"> <li>-EFL Teacher Candidates</li> <li>-In-service Teachers</li> <li>-Syllabi of Similar Courses</li> </ul>                                  |
| V. Week   | Technology & Assessment <ul style="list-style-type: none"> <li>• Online Polls</li> <li>• Online Quizzes</li> <li>• Security Issues</li> <li>- Quizizz</li> <li>- Socrative</li> <li>- Hotpotatoes</li> <li>- Kahoot</li> <li>- LMS Platforms</li> </ul> | <b>Coursebook - Chapter 20<br/>Chapter 22</b> | <ul style="list-style-type: none"> <li>-EFL Teacher Candidates</li> <li>-In-service Teachers</li> <li>-Syllabi of Similar Courses</li> <li>-Focus Group Interviews</li> </ul> |

## RECOMMENDED SOURCES

### Textbook

- Shannon, S., & Chapelle, C. (2017). The handbook of technology and second language teaching and learning. Wiley–Blackwell.

### Supplementary Materials

- Godwin-Jones, R. (2018). Using mobile devices in the language classroom: Part of the Cambridge Papers in ELT series. Cambridge: Cambridge University Press.
- Healey, D. (1999). Autonomy in language learning. In J. Egbert and E. Hanson-Smith (Eds.), CALL environments: Research, practice, and critical issues (pp. 391-402). Alexandria, VA: TESOL.
- Kessler, G. (2018). Technology and the future of language learning. Foreign Language Annals, 51, 205–218.
- Koehler, M. J., & Mishra, P. (2009). What is technological pedagogical content knowledge? Contemporary Issues in Technology and Teacher Education, 9(1), 60-70.
- Bennett, S., Maton, K., & Kervin, L. (2008). The ‘digital natives’ debate: A critical review of the evidence. British journal of educational technology, 39(5), 775-786.

## POLICIES AND PROCEDURES

**Assignments:** All assignments must be turned in on time without delay. Late assignments are highly discouraged. Late assignments without a valid excuse will be penalized by 10% of possible points for each day it is late.

**Late Arrivals:** All learners are expected to be punctual. Arriving late to class disrupts the instruction and other learners. Therefore, please do your best to be on time and participate in the lectures.

**Academic Honesty / Plagiarism:** Merriam-Webster Dictionary describes plagiarism as: "to steal and pass off (the ideas or words of another) as one's own" or to "use (another's production) without crediting the source". Assignments with plagiarized content will be given 0 points. Therefore, please provide appropriate references when needed.

**Communication:** Please make sure to frequently check your official MSKU email account, as the instructor will use it as the main source of communication. If you have any questions or concerns at any point during the semester, do not hesitate to email your instructor. Alternatively, you can contact the instructor through the LMS messages, or during office hours.

**Grading:** Your final grade will consist of a pen and paper midterm exam (50%) and your e-portfolios as your final exam (50%) in the form of an educational blog including learning materials on a topic of your choice. In the blog, you are required to include at least one Infographic and one Podcast, however, you are encouraged to include as many

different materials as you can since they will contribute to your final overall blog evaluation. Final grades will be based on the following scale:

|                           |     |
|---------------------------|-----|
| <hr/>                     |     |
| Midterm Exam              | %50 |
| <hr/>                     |     |
| Final E-Portfolio         |     |
| <hr/>                     |     |
| - Overall Blog Evaluation | %20 |
| - Infographic Evaluation  | %15 |
| - Podcast Evaluation      | %15 |
| <hr/>                     |     |

## APPENDIX-12. Sample Midterm Exam Questions

**PART A:** This section contains four open-ended questions. Please read all questions carefully and make sure you understand before you begin answering.

1. Define behavioral and socio-cognitive approaches in CALL. (10pts)
2. Provide a brief definition of Mobile-Assisted Language Learning (MALL), and then discuss at least three potential limitations of MALL. (15 pts)

**PART B:** This section contains two short answer questions. Please read all questions carefully and make sure you understand before you begin answering.

1- *"In her courses, a teacher prioritizes both accuracy and fluency, and offers a combination of grammar exercises, interactive listening activities, reading comprehension tasks, and opportunities for real-time communication with teachers or peers."*

**Which CALL approach did this teacher adopt? (5 pts)**

---

2- *"A teacher asks the learners to use word-processing tools such as the speech to text function, or to combine graphics into the text instead of just asking for a written task."*

**What is the level of this task according to Puentedura's model? (5 pts)**

---

**PART C:** This section contains 8 multiple choice questions. Each question has only one correct answer. (5 points for each question, totaling 40 points for this section). Please read all questions carefully.

**1- Which technology incorporates language learning materials, including videos, articles, and podcasts?**

- a) Interactive whiteboards
- b) Virtual Reality (VR)
- c) Mainframe Computers
- d) Augmented Reality (AR)
- e) Open Educational Resources (OERs)

**2- What does the "BY" component of a Creative Commons license indicate?**

- a) The work is available for commercial use.
- b) The work can be modified or adapted.
- c) The work must be attributed to the original creator.
- d) The work is not protected by copyright.
- e) The work can only be used for non-commercial purposes.

**8- What distinguishes asynchronous CMC from synchronous CMC (Computer-mediated Communication)?**

- a) Real-time interaction
- b) Limited character count
- c) Lack of multimedia sharing
- d) One-way communication
- e) Non-textual communication only

**6- What learning principles do well-designed games incorporate?**

- a) Memorization and repetition
- b) Rote learning and assessment
- c) Situated learning spaces and embodied experiences
- d) Lecture-based instruction
- e) Isolation and passive consumption of information.

## APPENDIX-13. Sample Course Material – Week 1 – Basic Concepts

Technology Integration in  
English Language  
Teaching

Bayram ÇİBİK



Definition of the Course



AIM



CONTENT



WEEKLY READINGS



ASSESSMENT

Communication

- WhatsApp Group Chat
- E-mail - bayramcibik@mu.edu.tr
- LMS Chat Function
- Office - (Faculty of Education - Second Floor - Room:228)



Ground Rules

- Attendance
- Participation
- Lab Use
- Traditional vs Block Scheduling
- Any Additional Ideas?



Introduction to the Course

Mentimeter Event



| Date  | Event                                     | Importance                                                              |
|-------|-------------------------------------------|-------------------------------------------------------------------------|
| 1400s | Printing Press                            | Books become widely available, making learning English more accessible. |
| 1876  | Telephone                                 | Early attempts at distance learning.                                    |
| 1920s | Radio Broadcasts for Learning             | Language courses delivered via radio.                                   |
| 1950s | Language Labs                             | Students practice listening and speaking in lab environments.           |
| 1960s | CALL                                      | First use of computers for language learning.                           |
| 1970s | TV-Based Language Learning                | Programs like "Sesame Street" help teach English.                       |
| 1980s | Personal Computers & Multimedia in ELT    | CD-ROMs and early software for language learning emerge.                |
| 1990s | Rise of the Internet                      | Online dictionaries, chatrooms, and language forums appear.             |
| 2000s | Interactive Whiteboards & Mobile Learning | Smartphones, apps, and digital tools revolutionize ELT.                 |
| 2010s | MOOCs and AI-powered Tools                | Platforms like Duolingo and AI-based tutoring emerge.                   |
| 2020s | AI, Chatbots, and VR in ELT               | ChatGPT, virtual reality, and adaptive learning enhance engagement.     |

Technology integration in language teaching involves the intentional use of various technological tools and resources to enhance the teaching and learning of languages. It aims to create engaging, interactive, and effective learning environments.



### Benefits of Technology Integration

- Enhanced Learner Engagement / Motivation**  
Interactive platforms, multimedia content, and gamification foster engagement and motivation among language learners.
- Access to Authentic Resources**  
Technology integration provides access to videos, audiographics, podcasts, and real-time communication with native speakers for a more authentic learning experience.
- Personalized Learning**  
Adaptive learning platforms and language apps cater to individual learning styles and paces, offering personalized learning experiences.
- Collaboration**  
Video conferencing and online collaboration platforms encourage cultural exchange and language practice through global connections.

### Basic Concepts



### Computer-Assisted Language Learning

- Well-accepted overall term
- Includes the use of
  - ICTs (Information and Communication Technology) (computers - mobile phones etc)
  - Smartboards
  - CMC technologies (Zoom - BigBlueButton - Adobe Connect etc)
  - Virtual Learning Environments (websites - blogs - platforms)
  - Corpora & Concordances (COCA)



## Computer-Assisted Instruction Computer-Assisted Language Instruction

Early terms -  
before 1980s

Early paradigms  
of learning -  
more teacher  
centered



## Technology-Enhanced Language Learning

- Similar term to CALL

- Can be used interchangeably, however CALL is more widespread & well-accepted



## Mobile-Assisted Language Learning M-Learning



Use of mobile technologies  
(mobile phones, mp3/mp4  
players, PDAs, handheld PCs,  
iPads etc.)



More flexible and compact, an  
effective supplement to  
traditional or CALL settings



Widespread after 2000s,  
especially 2010s



## Computer-Assisted Language Learning

• CALL refers to the integration of technology, specifically computers and digital resources, into language teaching and learning practices.

### Computer-Assisted Language Learning

1. Language Learning Software: Rosetta Stone, Duolingo, Buusu, Babbel
2. Online Language Courses and Platforms: Coursera, EdX
3. Multimedia Tools: podcasts, videos, interactive activities
4. Learning Management Systems (LMS): Moodle, Canvas



### Potential Benefits

**Flexible** in scheduling and catering to diverse learning styles.

**Personalized**

**Enhanced Interaction and Engagement** variety of learning activities and gamification chances

**Enhanced Motivation**

**Real-time/Flexible Feedback**



### Potential Challenges



## Behavioristic CALL

- Focus:** Behavioristic CALL emphasizes repetition, reinforcement, and memorization of language elements.
- Methodology:** It employs drill-and-practice activities, where learners repeatedly practice language items through structured exercises.
- Technology Usage:** Behavioristic CALL utilizes software programs that offer immediate feedback and corrective responses to reinforce learning.
- Example:** Language learning software with grammar drills and vocabulary exercises that provide instant feedback on correct and incorrect answers.

## Communicative CALL

- Focus:** Communicative CALL emphasizes meaningful communication and interaction in language learning.
- Methodology:** It employs activities that simulate real-life language use, such as role-plays, discussions, and collaborative tasks.
- Technology Usage:** Communicative CALL utilizes multimedia resources, interactive activities, and communication tools (e.g., chat rooms, video conferencing) to facilitate language interaction.
- Example:** Online language exchange platforms or virtual classrooms where learners engage in authentic communication with native speakers or peers.

## Integrative CALL

- Focus:** Integrative CALL integrates various language skills (e.g., reading, writing, listening, speaking) and language learning strategies into a cohesive learning experience.
- Methodology:** It combines elements from behavioristic and communicative approaches, emphasizing both accuracy and fluency in language use.
- Technology Usage:** Integrative CALL employs a range of technologies and resources to support holistic language learning, including multimedia materials, language learning software, authentic texts, and interactive communication tools.
- Example:** Web-based language learning platforms that offer a combination of grammar exercises, interactive listening activities, reading comprehension tasks, and opportunities for real-time communication with instructors or peers.

## In summary,



behavioristic CALL focuses on repetition and reinforcement.



communicative CALL emphasizes meaningful interaction.



integrative CALL integrates various language skills and learning approaches to provide a comprehensive language learning experience.

## Digital Citizenship

- Digital Literacy – Understanding how to use digital tools effectively.
- Online Safety & Privacy – Protecting personal data and avoiding cyber threats.
- Ethical Behavior – Respecting others, avoiding cyberbullying, and following online etiquette.
- Digital Rights & Responsibilities – Understanding online freedoms, intellectual property, and digital laws.
- Critical Thinking – Identifying fake news, misinformation, and digital manipulation.

## Digital Citizenship

- Fakey
- Interland

## Digital Citizenship

- Prensky coined the terms **digital natives** and **digital immigrants** to refer to the difference between generations that were born before and after the 1980s.
- Prensky claimed that digital natives were a group so different from the digital immigrants since they have advanced technological skills, therefore, the nature of education itself must be changed to accommodate the skills and needs of this group.

People who were born after 1980 were called: **Digital natives**, the Net generation, or the millennials.

People who were born before the 1980s were called **digital immigrants**.

## Evolution of Web

### Web 1.0 (Read Web)

- static web pages and limited interactivity:

Web 1.0 refers to the early stage of the World Wide Web, characterized by static web pages with limited user interaction. Information was primarily presented in a one-way format, where users were passive consumers of content.

Example Tools: Yahoo!, Msn, E-mail, Google

### Web 2.0

dynamic, user-generated content, and social interaction on the internet.

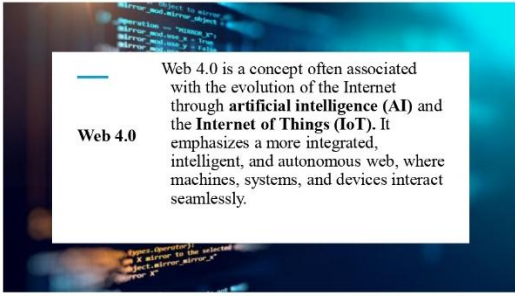
- Web 2.0 represents the evolution of the internet, marked by user-generated content and interactive websites. It emphasizes user participation, social collaboration, and dynamic content creation.
- Example Tools: Social media platforms like Facebook, YouTube, Wikipedia, and Blogs.

### Web 3.0 (Semantic Web)

- machine learning, AI, and personalized content delivery.

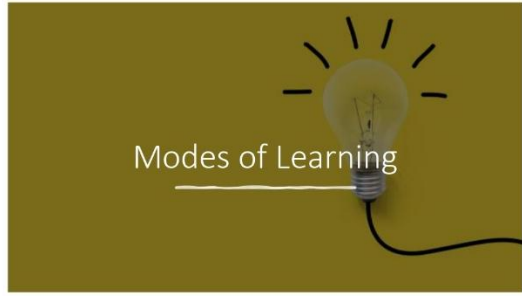
- Web 3.0 focuses on making data more meaningful and interconnected. It aims to provide more intelligent and personalized experiences by enabling machines to understand and interpret information.

- Example Tools: Intelligent Digital Assistants, AR, VR.



**Web 4.0**

Web 4.0 is a concept often associated with the evolution of the Internet through **artificial intelligence (AI)** and the **Internet of Things (IoT)**. It emphasizes a more integrated, intelligent, and autonomous web, where machines, systems, and devices interact seamlessly.



## Modes of Learning

### Online Learning

- Characteristics: Flexibility in scheduling, synchronous/asynchronous communication, reliance on digital resources and platforms.

### Online Learning

- 100% of instruction and coursework are delivered digitally (e.g., via LMS platforms like Moodle, Canvas, or Zoom).
- No in-person interaction; all communication happens via emails, discussion boards, or video conferencing.
- Offers flexibility in scheduling, allowing students to learn at their own pace.
- Can be synchronous (live virtual classes) or asynchronous (pre-recorded lectures, self-paced assignments).

### Blended Learning

- Characteristics: Integrates traditional classroom teaching with online elements, providing a mix of face-to-face and virtual interactions.

### Blended Learning

- A mix of online and in-person instruction.
- Students engage with digital content outside of class and attend physical sessions for discussions, labs, or collaborative activities.
- Requires students to actively use technology for learning while still benefiting from face-to-face interactions.
- Example: Flipped classrooms, where students study online at home and engage in active learning in class.

## Hybrid Learning

- Characteristics: Scheduled face-to-face sessions supplemented with online components, allowing for a personalized learning experience.

## Hybrid Learning

- Similar to blended learning but with more flexibility—students can choose whether to attend in person or online.
- Often used in higher education and corporate training, where learners decide their mode of participation.
- Requires robust digital tools to support both in-person and remote learners simultaneously.
- Example: A university course where some students attend a lecture physically while others join via Zoom in real-time.

Thanks for Listening

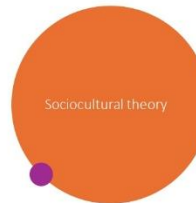
## APPENDIX-14. Sample Course Material – Week 14 – Speaking & Pronunciation



• <https://forms.gle/Fgeh1eugeNeN7yUC>

### Theoretical Frameworks on Speaking Development

- Sociocultural Theory
- Cognitive Perspectives



• **Zone of Proximal Development (ZPD)** (Vygotsky) - fundamental to all modern language instruction—face-to-face in the classroom or virtual

- The idea that two or more individuals working together can produce more accurate, or at least more elaborate, L2 utterances underlies all L2 group activities.

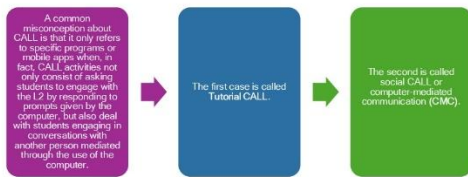


- In essence, Vygotsky asserted that language, first or second, is always learned and used **in a social setting**.
- Accordingly, any CALL pedagogy for speaking must necessarily be situated within this broad framework of **providing students with ample opportunities to collaborate with other speakers, native or non-native**, with the resulting benefits of participating in language interactions with others.

### Cognitive perspectives on speaking proficiency

|  |                                                                                       |
|--|---------------------------------------------------------------------------------------|
|  | Cognitivist see speaking as consisting of three separate but interrelated constructs: |
|  | (1) accuracy (i.e., the lack of phonological, lexical, or grammatical errors)         |
|  | (2) complexity (i.e., the number of words or clauses per sentences)                   |
|  | (3) fluency                                                                           |

## CALL Learning Environments



CMC activities themselves can be further divided into:

asynchronous communication events (ACMC) in deferred time or,

synchronous chat (SCMC) carried out in real-time.

## 1- Tutorial CALL and Speaking



Both tutorial CALL and ACMC tend to allow students more pre-planning time, which should enhance speaking accuracy and complexity and lower individual frustration levels.



while SCMC often stimulates students to produce more utterances with a fluency that mirrors more closely the spontaneous turn-taking behavior found in realworld, face-to-face conversations.

Tutorial CALL allows students to engage in different forms of self directed speech practice in the absence of conversational partners or classroom instruction.

Fortunately, computers are a good fit for this type of speak-aloud individual practice, especially for languages with a heavy morphological burden or unfamiliar sounds.

## Feedback with tutorial CALL

### Using Dictation Tools

L2 pronunciation of a target word or phrase deviates too much from the programmed statistical norms, the written dictation will come out corrupted and, therefore, oblige the user to analyze and restate the utterance in a more comprehensible way, thus providing an excellent feedback loop along the lines of forced output.

## Computer-assisted pronunciation training (CAPT)

Pronunciation and intonation, of course, are part of learning to speak an L2 well.

Learning native-like pronunciation and intonation is a difficult or even impossible goal for most adult L2 learners and, in the overall scheme of communication, may have less importance than gaining adequate control of the frequently used lexical and grammatical structures of the target language.

However, effective communication cannot take without comprehensible pronunciation and, therefore, it merits serious attention.

Since class time is limited, the tutorial CALL context, again, becomes the ideal venue for computer-assisted pronunciation training (CAPT), which is designed to allow students to take control of their own learning in the risk free environment offered by working with a non-human helper.

In other words, CAPT software provides more practice time, patience, flexibility, and no penalties for making errors.

## Asynchronous CALL Storytelling

Students can also become multimedia storytellers by using digital storyboard applications to produce their own narratives complete with captions and audio recordings.

Students work either individually or in groups in order to bring their narratives to life with images, photos, text bubbles, and audio recordings. In the process, the participants receive feedback from the teachers and their peers on their L2 speaking while working on projects that are meaningful to them—their own multimedia creations.

## 2- CMC and Speaking

Earlier CMC studies ves to show that online text exchanges produced opportunities to negotiate meaning and generate feedback in ways similar to what had already been documented in face-to-face encounters

Kern (1995) there existed many linguistic similarities between L2 oral speech patterns and asynchronous computer writing.

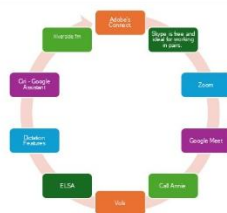
Further evidence suggesting that SMC writing helps L2 speaking emerged from Payne and Whitney's (2002) study where student keyboarding had a significant effect on improving L2 speaking proficiency.

Gradually, SMC began to include the exchange of voice-over IP sound (VoIP), giving speakers two channels in which to communicate.

VoIP sound soon gave way to true telephonic sound (i.e., synchronous audio) and now, synchronous video. Today's CMC tools seamlessly combine asynchronous (text) and synchronous (sound and/or video) channels.

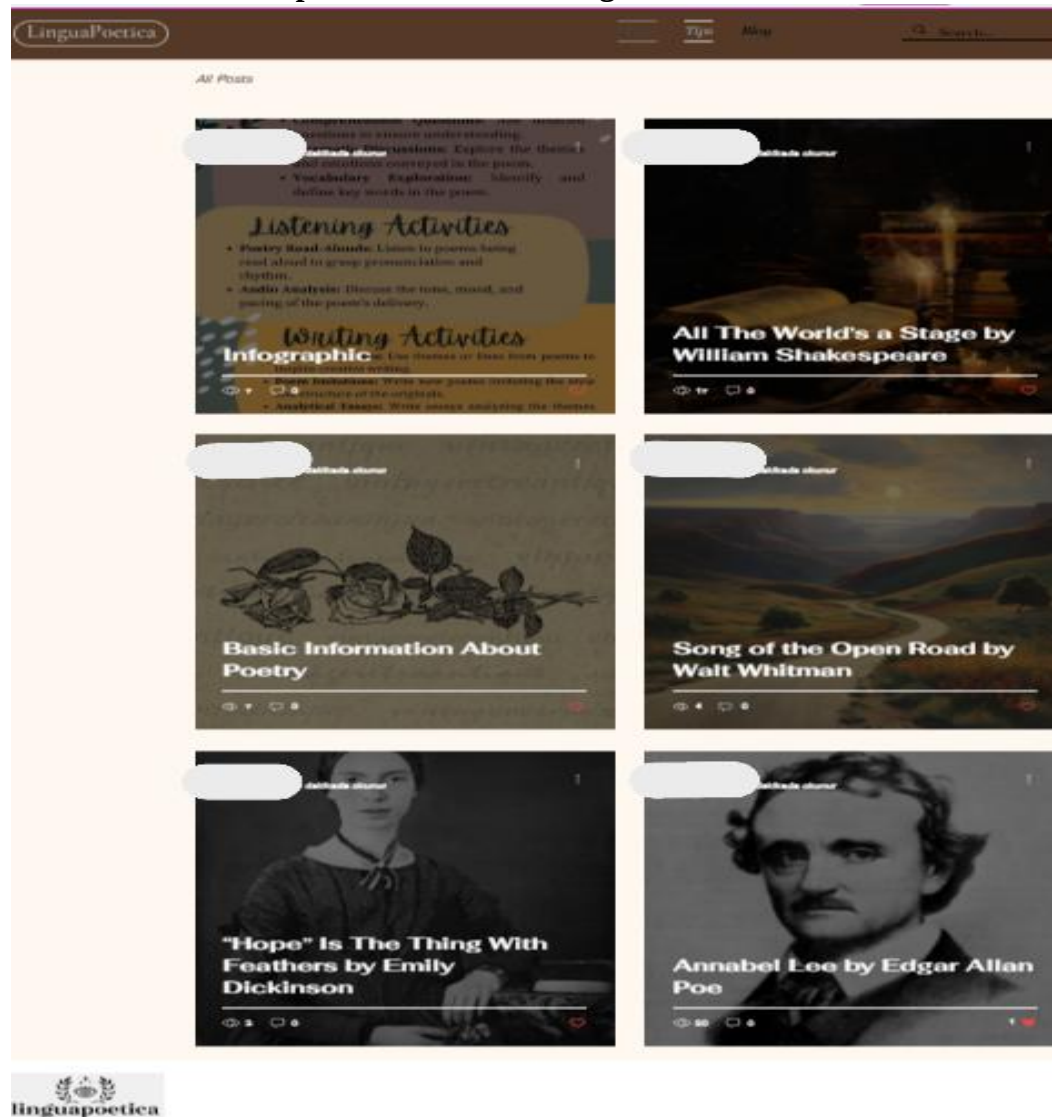
Video-conferencing tools promise a communicative experience most like face-to-face encounters.

## Sample Technologies



Thanks for Listening

## APPENDIX-15. Samples from Learner Blogs





### This Week's Podcast



00:00 / 04:36



## About Us

*At LinguaPoetica, we unite the beauty of poetry with the art of learning English. Our mission is to enhance your language skills through the enchanting world of poems, making learning both enjoyable and meaningful, while also providing guidance for teachers on how to integrate poetry into their lessons. We aim to create a community where poetry enriches language learning, fostering creativity and deeper connections. Whether you're a poet, reader, or language learner, LinguaPoetica has something for you. Dive into the magic of poetry and enjoy the journey of learning English with us. We will share weekly poems, analyses, and activities to keep your learning experience dynamic and engaging. Join us in exploring the power of poetry in language learning!*

# POETRY

## What is Poetry?

Poetry is a form of literary expression that transcends ordinary language to evoke emotions, paint vivid images, and communicate profound ideas through carefully chosen words, rhythm, and structure. From the romantic sonnets of Shakespeare to the modern



## Why Should We Use Poetry in Teaching and Learning English?

- Vocabulary Expansion:** Poetry often features rich and varied vocabulary, providing learners with new words and phrases in a memorable and meaningful context. For example, reading a poem by Sylvia Plath might introduce learners to terms like "ethereal," "inscrutable," or "melancholy." The compact nature of poems means every word is carefully chosen, often exposing readers to rare or evocative language that they might not encounter in everyday prose.
- Improved Pronunciation and Rhythm:** The rhythmic nature of poetry helps learners develop better pronunciation, intonation, and natural speech patterns. Poems like Edgar Allan Poe's "The Raven," with its repetitive meter and rhyme scheme, can aid learners in mastering the nuances of English pronunciation. Reciting poetry aloud encourages students to pay attention to the flow and musicality of the language, which can significantly improve their spoken English skills.
- Enhanced Comprehension:** Analyzing poems improves reading comprehension skills as learners delve into the meanings, themes, and literary devices used in the text. For instance, examining the metaphorical language and symbolism in Langston Hughes' "Harlem" (also known as "A Dream Deferred") helps students practice interpreting deeper meanings and understanding the use of figurative language. This analytical practice translates well to other forms of reading and comprehension.

free verse of Maya Angelou, poetry captures the essence of human experience in a unique and powerful way.

*(Read poem silently, not loudly)*

## Importance of Poetry

- Emotional Connection:** Poetry resonates with readers on a profound emotional level. It has the ability to convey intricate feelings and thoughts that might be challenging to express in everyday conversation.
- Cultural Insight:** Poems offer a glimpse into different cultures, time periods, and viewpoints, enriching our understanding of the world and its diverse inhabitants.
- Cognitive Benefits:** Engaging with poetry sharpens cognitive skills such as critical thinking, analysis, and interpretation. It encourages readers to think deeply and look beyond the obvious.
- Creative Expression:** Poetry fosters creative expression and imagination, allowing writers and readers to explore and articulate their unique perspectives in imaginative ways.

- Creative Expression:** Writing and interpreting poetry encourages learners to play with language and express their thoughts creatively, boosting their confidence and proficiency in English. Encouraging students to write their own poems in the style of William Carlos Williams' "The Red Wheelbarrow" or Emily Dickinson's concise and poignant verses can inspire them to explore their own creativity while reinforcing their grasp of English syntax and vocabulary.
- Cultural Appreciation:** Studying poems from various cultures fosters a greater appreciation for diversity, encouraging empathy and a broader understanding of different perspectives. Reading Pablo Neruda's passionate odes or Maya Angelou's powerful reflections on identity and struggle opens windows into different cultural experiences and historical contexts. This not only enhances language skills but also builds cultural awareness and sensitivity.

## Here are some effective ways to incorporate poetry into your lessons:

### I. Language Practice

- Method:** Have students read poems aloud, focusing on pronunciation and fluency. Follow up with comprehension questions or discussions.
- Example:** Have students read Langston Hughes' "Dreams" aloud, paying attention to rhythm and tone. Discuss the poem's message and ask students to express their own dreams.

"Hope is the Thing with Feathers" is one of Emily Dickinson's most famous and beloved poems, written around 1861. In this poem, Dickinson uses the extended metaphor of a bird to represent hope, depicting it as a small creature that perches in the soul and sings continuously, even in the face of adversity. The bird's song is resilient and unwavering, offering comfort and inspiration to the speaker.

Dickinson's characteristic concise and evocative style shines through in this poem, with its vivid imagery and gentle rhythm. The poem emphasizes the enduring nature of hope, suggesting that it is an intrinsic and vital part of the human spirit, capable of sustaining us through even the toughest times. As you read, consider how Dickinson's use of metaphor and imagery brings the abstract concept of hope to life, and reflect on the ways in which this quiet yet powerful force can manifest in your own experiences.

## "Hope" Is The Thing With Feathers by Emily Dickinson



Hope is the thing with feathers  
That perches in the soul,  
And sings the tune without the words,  
And never stops at all;  
And sweetest in the gale is heard;  
And sore must be the storm  
That could abash the little bird  
That kept so many warm:  
I've heard it in the chillest land,  
And on the strangest sea;  
Yet, never, in extremity,  
It asked a crumb of me.



As a creative response,

- Reflect on a time when you experienced hope in a difficult situation. How did hope help you overcome the challenge?

## Activity Instructions

Read "Annabel Lee" by Edgar Allan Poe carefully. Then, answer the following comprehension questions. Share your answers in the comments section to engage with other readers.

1. Where does the poem take place, and how does the setting contribute to the overall mood of the poem?
2. Describe the relationship between the speaker and Annabel Lee. How does Poe convey the intensity and purity of their love?
3. What role do the angels play in the poem, and what do they symbolize in the context of the story?
4. Identify and explain the use of imagery in "Annabel Lee." How does the imagery enhance the emotional impact of the poem?
5. What is the significance of the poem's ending, and how does the speaker describe his connection to Annabel Lee after her death?



## TRAVEL EXPERIENCES

- June 01, 2024

### TIME TO TRAVEL !!

When I arrived in Chicago, I took a taxi to the accommodation I had rented. When I arrived at the address, the landlord welcomed me and showed me where I would stay. The house I rented was in Chinatown. The taxi driver told me that this part of the city was safe and easy to reach, close to the subway. The thing I had the most difficulty with while staying here was that places to eat according to my taste were not within walking distance. Since I am not open to trying seafood, I preferred to consume fast food instead of Chinese cuisine. Now that I have arrived in the city, it's time for some sightseeing!



On my first day, I decided to take a delightful excursion along the Riverwalk in Chicago, enjoying the scenic views. After that, I went to see The Bean, the first monument that comes to mind when Chicago is mentioned. This was an area with many tourist attractions. I took some photos and walked around Millennium Park. I left before evening, bought a ticket for the Skydeck Chicago, and set off. It was an unforgettable experience for me. I was 412 meters above the ground, with nothing but glass under my feet. The Skydeck gave me the opportunity to see the best view of the city.

On my second day in Chicago, I went to the Lincoln Park Zoo. This zoo was very different from the zoos in Turkey. In the zoo, animals did not live in small cages but in larger areas. There was a small natural habitat for birds. The outside of some animals' living spaces was covered with glass, and there were signs on the glass saying that visitors should not disturb them. It was a much larger zoo than I expected. I didn't have time to see all the animals. On my way out, I bought keychains in the shape of animal figures from the souvenir shop.



My second travel destination was New York. When we arrived in New York, I was very surprised by the crowd and traffic. I took me a long time to get to the Airbnb I booked, even by taxi. The place I stayed was close to the Empire State. After settling in, I took my backpack and went to the most important tourist attraction in New York, Times Square. Times Square was fascinating. I witnessed different celebrations such as the Mexico's Independence Day. Shows and entertainment continued throughout the night. There were people dressed like the statue of Liberty working here with tips. Even though they say they do not charge you when the photo is taken, they expect a tip, and we can say that this tip is customary.

On the second day, I took the subway and headed towards the Statue of Liberty. To go to the Statue of Liberty, you need to buy a ticket. It is a round trip ticket so a ship drops you there and then comes back and drops you off at the point where it picked you up. There is a museum inside the Statue of Liberty. Inside the museum, various well-known characters such as Barbie and Bugs Bunny are designed like the statue of liberty. In addition, the museum also contains the history and first designs of the Statue of Liberty. I also gained cultural knowledge by reading these.

Finally, I walked across Brooklyn Bridge. Here, you can find a lot of souvenirs for low costs. If you go to New York and look for souvenirs, do not forget to stop by here! You can encounter various mascots here, just like in Times Square. When I was looking at my photos after returning to my country, I realized that I had been captured with a Spider-Man. 🕷️



Let's try to guess the meanings of the underlined words. Complete the fill-in-the-blank exercise that I shared as a link below.

<https://wordwall.net/tr/resource/73939539>

## INTRODUCTION

# INTRODUCTION



- May 26, 2024

Welcome to Hila's English Learning Blog! I created this blog to share my work and travel experiences and teach English through them. I worked at an amusement park in Iowa and also traveled to two different states. I can't wait to share these experiences with you and help you practice your English. Note: All of the photographs in this blog's trip posts and podcast were captured by me.

 [Post a Comment](#)

[READ MORE](#)

## TRAVEL EXPERIENCES



- June 01, 2024



**TIME TO TRAVEL !!** When I arrived in Chicago, I took a taxi to the accommodation I had rented. When I arrived at the address, the landlord welcomed me and showed me where I would stay. The house I rented was in Chinatown. The taxi driver told me that this part of the city was safe and easy to reach, close to the subway. The thing I had the most difficulty with while staying here was that places to eat according to my taste were not within walking distance. Since I am

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## WORK EXPERIENCES



- June 01, 2024



**WORK EXPERIENCE IN IOWA** I worked at Adventureland as a ride assistant in Iowa. My main duties were to ensure that people on the rides were safe, to measure height for rides with height restrictions, and to check the seatbelts—in short, to ensure that people were safe while having fun. I had serious concerns about ensuring security in an amusement park. Because of these concerns, I even thought about changing my job before I went there. However, when

 [Post a Comment](#)

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## MY FAVORITE PLACES TO EAT



- June 01, 2024

 [Post a Comment](#)

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# ORDERING IN A RESTAURANT

1.Waiter:Hi,**What can I get for you** today?  
Customer:**I'll have** a hamburger,please.  
Waiter:Would you like anything to drink?  
Customer:No,thanks.

2.Customer:**Can I get** the bill, please?  
Waiter:Here is your bill.Cash or card?  
Customer:I'll **pay by cash**.

Waiter:**What would you like to order?**  
Customer:**I would like to order** a deep dish pizza,please.

## ROLE PLAY TIME

Let's divide into pairs for a practice exercise. One person in each pair will act as the waiter, and the other will be the customer. You'll use the menu below .

### STARTERS

|              |        |
|--------------|--------|
| Tomato Soup  | \$3.90 |
| Chicken soup | \$4.90 |

### MAIN COURSES

|                       |         |
|-----------------------|---------|
| Pasta                 | \$7.90  |
| Fish and French Fries | \$15.90 |
| Chicken Burrito       | \$10.90 |
| Deep Dish Pizza       | \$25.90 |

### DRINKS

|              |         |
|--------------|---------|
| Apple Juice  | \$3.90  |
| Ficed Tea    | \$4.90  |
| Mexican Coke | \$3.90. |

### WORD BANK

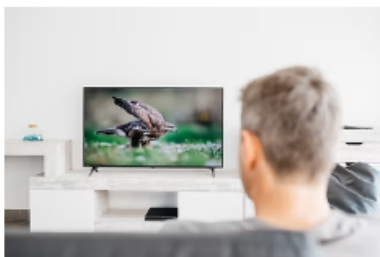
Napkin: A piece of paper that you use for cleaning.  
Cutlery:knives, forks and spoons, used for eating and serving food  
Side: a small amount of food served with the main course of a meal.  
Appetizer:a small amount of food or a drink that you have before a meal

## Teaching Adults using Game Activities

Here you can find a wide range of short activities to use in your adult classroom. All of our activities are designed around themes engaging and relevant to adult learners and can be used to complement your course curriculum, giving students an opportunity to develop their English language and skills in motivating and enjoyable ways. Written by English language teaching experts from around the world, our activities are easy to use and aim to give your students the skills and confidence they need to enjoy learning English.

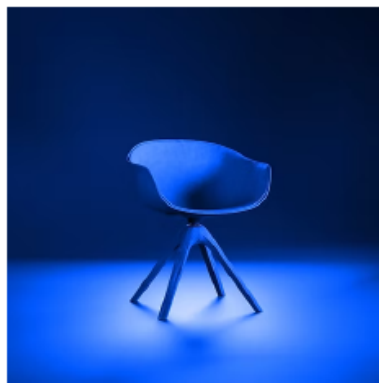
### Pre Intermediate - A2

#### Sitcom activity: commentary



This activity is suitable for pre-intermediate level students and above. The students work in pairs A and B. They take it in turns to watch a sitcom clip and give a commentary to their partner who cannot see the screen. This is particularly useful for practising present continuous and descriptive language.

#### Hotseat



To play this lively vocabulary game, split your class into teams and have them face the board. Place an empty chair (a 'hot seat') for each team at the front of the class, facing the team members with their backs to the board. One student from each team sits in the hot seat. As the

teacher, write a vocabulary word on the board that only the team members can see. The team describes the word using synonyms, antonyms, and definitions, while the hot seat student tries to guess it. The first to guess correctly earns a point for their team. Rotate the hot seat students and continue with new words. This game can be adjusted for different class sizes by managing team turns and the number of students describing. Have fun!

Here you can find a range of short activities to use in your adult classroom with students at intermediate level. All of our activities are designed around engaging themes and relevant to adult learners of English. Written by experts from around the world, our activities are easy to use and aim to give your students the skills and confidence they need to enjoy learning English.

### Guessing the Entry



Before the lesson, ensure there is an English Wikipedia entry for the place you will discuss. During class, Internet access is useful but not essential, as printouts can be used. Have students work in pairs or groups to brainstorm facts and important points to include. Start individually, then compare with a partner, and finally draft in small groups. If possible, go online to compare their drafts with the actual Wikipedia entry, noting similarities, differences, language features, and organizational principles. You can add a competitive element by awarding points for accurate predictions. As an extension, focus on different Wikipedia entries, such as a favorite singer or sports team, and compare their predictions. Alternatively, students can write imaginary

Wikipedia entries on topics like their family, school, or future selves, and share these around the class or on a blog.

### Blockbusters



To engage learners in identifying rhyming words, especially homophones, this activity is based on the 'Blockbusters' game, where teams compete to win squares on a grid. Prepare enough photocopies of worksheet A for each learner, and if possible, display the grid on an overhead projector or the board. Start by writing the word 'right' on the board and eliciting rhyming words, highlighting homophones. Divide the class into two groups, distribute the grids, and give students five minutes to prepare rhyming words. In the game, teams take turns choosing grid words and providing acceptable rhymes to win squares, aiming to connect one side of the grid to the other. They can block each other, and special rules apply to the middle square, introducing the schwa sound. Review the rhyming words and their spellings after the game.

These activities can also be adapted into other proficiency classes but are very good examples on how to 'Gamify' an ESL Classroom! I hope these give some insight and idea on how to make your lessons more fun! Feel free to comment and let's meet in the comment section.

## EducaPlay Activity

In my experience of teaching I had to teach continents to my 4th grade students. As they are all still young learners songs and games were always in my favourite. I will share with you one of my lesson activities that was very successful.

### Use a Song

Me and my students loved listening to this song and singing throughout the lesson. Check the link below.



[Song](#)

### Use my EducaPlay Activity

My Students were always so excited to play some games I prepared on educaplay. Feel free to check out my Game and use it in your own class or easily make your own game!

[EducaPlay](#)

After these activities you can be free to maybe do some colorings or have a quick quiz and maybe role-playing the continents according to the song would be brilliant for our small students!



Map Quiz  
Continents



## PRACTICE

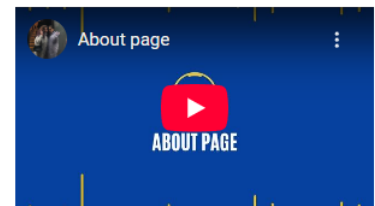


What does the idiom "pull yourself together" mean?

- ☐ To physically hold yourself tightly.
- ☐ To collect scattered items.
- ☐ To calm down and regain composure.
- ☐ To bring people together.

< 3 / 9 >

ABOUT PAGE



## APPENDIX-16. Etik Kurul İzni

Evrak Kayıt Tarihi: 15.03.2022 Protokol No: 288214

Tarih: 25.03.2022



ANADOLU ÜNİVERSİTESİ  
SOSYAL VE BEŞERÎ BİLİMLER BİLİMSEL ARAŞTIRMA VE YAYIN ETİĞİ KURULU  
KARAR BELGESİ

|                       |                                                                                                                                                                                                             |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ÇALIŞMANIN TÜRÜ:      | Doktora Tez Çalışması                                                                                                                                                                                       |
| KONU:                 | Eğitim Bilimleri                                                                                                                                                                                            |
| BAŞLIK:               | Development and Implementation of an Instructional Design: Technology Integration in English Language Teaching.<br>Bir Öğretim Tasarımı Dizaynı ve Uygulaması: İngilizce Öğretiminde Teknoloji Entegrasyonu |
| PROJE/TEZ YÜRÜTÜCÜSÜ: | Dr. Öğr. Üyesi Hülya İPEK                                                                                                                                                                                   |
| TEZ YAZARI:           | Bayram ÇİBK                                                                                                                                                                                                 |
| ALT KOMİSYON GÖRÜŞÜ:  | -                                                                                                                                                                                                           |
| KARAR:                | Olumlu                                                                                                                                                                                                      |

## ÖZGEÇMİŞ

Adı Soyadı : Bayram ÇİBİK  
Yabancı Dili : İngilizce  
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### **Yayınları ve/veya Bilimsel/Sanatsal Faaliyetleri:**

#### **Bildiriler**

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- **Makaleler**

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- **Editörlük**

Önder, F. H. Ö., Karalık, T., Çibik, B., Civan Biçer, İ., & Deniz, S. (Eds.). (2024). *Selected Essays on Turkish Linguistics: The Anadolu Meeting: Proceedings of the 20th International Conference on Turkish Linguistics*. Harrassowitz Verlag. <http://www.jstor.org/stable/jj.16192350>

