



# Integrating technology and CAPE framework towards improving the language skills of learners

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Accepted: 3 December 2022 / Published online: 9 December 2022  
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## Abstract

Digitally enhanced teaching does not imply neglecting appropriate teaching strategies and approaches. There are assertions that negative learning outcomes obtained in blended learning could be a result of neglecting the use of an appropriate lesson planning framework, teaching strategies and approaches. Already, there are calls for the use of more responsive lesson planning frameworks against the traditional frameworks. While there are suppositions that responsive frameworks produce significant improvement in the language skills of learners, there is less empirical evidence to show this. To bridge these gaps in scientific literature, this study decides to investigate the effectiveness of integrating technology with different lesson design frameworks. The study utilized a mixed-method design with an experimental approach. The findings of the study show that although the blend of technology and CAPE framework was effective in improving some language skills, the reading skills of the participants remained unchanged. Notably, the study provides useful empirical evidence showing the usefulness of incorporating technology and effective teaching frameworks in producing positive learning outcomes in a digitally enhanced learning environment.

**Keywords** Technology · CAPE framework · Lesson planning framework · English as a foreign language

## Introduction

Research on technology and language teaching has been ongoing for decades. For decades of language education research, one of the most popular ideas in language literature is the idea that utilizing effective teaching strategies, and effective methodologies are vital for positive learning outcomes. Scientific literature affirms that positive learning outcomes are achievable through the integration of technology and appropriate lesson planning (Romero-Rodríguez et al, 2020). Besides, proponents of responsive frameworks like the context-analysis-practice-exploration (CAPE) advocate for lesson planning frameworks that embraces the use of comprehensible-rich contexts for language teaching (Anderson,

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2020). This appeal is made on the premise that to improve language skills of students, language teaching should utilize contextual inputs that promotes meaningful language use among language learners (Anderson, 2020; Ironsi & Bostanci, 2022). However, this is achievable through careful lesson planning alongside innovative educational technologies. Moreover, educational technology has significantly improved instruction over the years and it is commendable that there are notable studies on the role of technology in language teaching and learning, such studies have shown the application of technology in various educational domains (Chun, 2017; Heift & Vyatkina, 2017). For instance, recent reports reveal the numerous positive contributions of technology to teaching and learning. Research recognizes that learners using technological devices for more than 60 min per week achieve higher academic results (Chun, 2016; Jake et al., 2021). Concerning e-learning and education, there are reports that 43% of learners perceive digital technology to be helpful in learning (Adams & Mitchell, 2020; Erin, 2020). The same reports that 36% of learners affirm its usefulness in organizing their educational learning activities while 81% uphold that digital technologies play a significant role in boosting their grades. Analyzing these reports, it is evident that technological resources have been applied in different areas of education with significant result.

Regardless of these notable contributions, digital illiteracy among teachers and learners continues to pose a threat in online teaching recently. A few studies acknowledge dramatic changes in the use of technology and they foresee that understanding the strategies for implementing technology would bridge learning and teaching gaps, paving way for improved instruction (Arifah, 2014; Cutter, 2015; Heift & Vyatkina, 2017; Hubbard, 2021; Yılmaz & Baydık, 2020). In language education, effective strategies, approaches, and lesson planning frameworks (LPfs) were identified as useful for instructional delivery and applied with great success and challenges (Arifani et al., 2020; Hubbard, 2021; Liaw & English, 2017). The major challenge is the difficulty of integrating technology without lesson planning. Already, research reemphasizes the need for appropriate appraisal of technologies and frameworks before integrating into a language program (Hubbard, 2021). The major challenge is the difficulty of integrating technology without lesson planning. Already, research reemphasizes the need for appropriate appraisal of technologies and frameworks before integrating into a language program (Hubbard, 2021). Recently, the change from face-to-face teaching to an online mode of instructional delivery presented an opportunity to integrate technology, and this has witnessed challenges (Hofmann & Müller, 2021; Li et al., 2018; Yılmaz & Baydık, 2020). Although research reports the successful integration of technology though with challenges, some suggestions that integrating technology with appropriate LPfs may yield more success.

Concerning the use of technology for teaching language skills, applaudable studies document novel contributions of technology to language teaching. For example, few recent studies applied technology with remarkable improvement in learners' language skills (Altun, 2015; Larsen-Freeman & Anderson, 2011; Shadieff & Yang, 2020). Other studies found clear evidence for positive attitudes of learners while using technology and flipped learning (Khezrlou, 2019; Novianti, 2017; Peregoy & Boyle, 2012; Rodinadze & Zarbazoa, 2012; Webb & Doman, 2020). Similar results were obtained when social media tools were applied in improving the language performance of students (Aburezeq & Ish-taiwa, 2013). Prior and recent studies affirm that these technological tools were effective in improving language learning among EFL learners (Goodwin, 2012; Gunuç & Babacan, 2018; Kitchakarn, 2016; Lai et al., 2016; Liton, 2015; Zhou & Wei, 2018). However, some reports document several challenges of using technology for language teaching. Such studies reiterate that issues like distractions, inadequate technology education, digital

illiteracy, and poor approach to technology integration, require urgent attention (Borthwick & Gallagher-Brett, 2014; Khatoony & Nezhadmehr, 2020; Rasheed et al., 2020; Son, 2018; Supriyanto et al., 2020; Whalen, 2021). These solicitations are made in recognition of the need to apply good teaching practice alongside technology to achieve positive learning outcomes. Besides, there are reports that regardless of the use of sophisticated technology for language teaching, the language skills of learners remain unchanged (Teo et al., 2018; Trisnasari, 2018; Ullah et al., 2020).

Before the pandemic outbreak, some studies revealed that language instructors experienced difficulties while implementing a particular LPfs in a technologically-enhanced learning environment. Already, research documents several challenges for teachers while implementing technology in classrooms (Ironsi, 2022; Rasheed et al., 2020; Whalen, 2021). Given this, researchers recommend teacher training, and the use of good teaching practices while utilizing technology (Kasumi, 2017; Romero-Rodríguez et al., 2020; Supriyanto et al., 2020). Novel scientific contributions affirm that one of the reasons for poor learning outcomes in online instruction is the neglect of good teaching practices achievable through appropriate lesson planning (Gray & Lewis, 2020; Iveson, 2019; Kim, 2018). Others contend that instructional planning carried out in a technologically-enhanced environment without an adequate lesson plan may affect the success of the instruction (Khatoony & Nezhadmehr, 2020). Overall, it seems that the common problem is the use of technology without consideration for appropriate lesson planning and good teaching practices. Moreover, there are applaudable studies that provides guides on how to understand, implement and integrate technology in the classroom (Hofmann & Müller, 2021; Hubbard, 2021; Kessler & Hubbard, 2017). From the exegesis of the above studies, this study anticipates the challenges of technology-enhanced instruction can be bridged if appropriate lesson planning and teaching practices are considered.

Concerning lesson planning and good teaching practices, research documents the importance of lesson planning in language education and education in general. For instance, commendable studies admonish that to achieve positive learning outcomes, choosing appropriate LPfs like presentation-practice-produce (PPP) is vital in language teaching (König et al., 2020; Xhakaj et al., 2017). Appropriate LPfs are recommended on the premise that to solve the numerous challenges of teaching language skills in a blended learning environment, LPfs that produce positive learning outcomes are required. Besides, careful exegesis of studies on LPfs shows a shift from traditional frameworks to more responsive frameworks (Anderson, 2017). The proponents of these frameworks claim that given recent changes in designs of English Language Teaching (ELT) coursebooks, language planning should shift from a structural format to a more responsive approach that embraces context and task-assisted/supported language learning (Anderson, 2020; Burns, 2012; Ellis, 2020). These studies counsel that this approach encourages the use of the language use in a meaningful context (Anderson, 2017, 2020; Andon & Norrington-Davies, 2019). Examples of such frameworks are the context-analysis-practice-exploration (CAPE) framework, text-analysis-task-exploration (TATE) frameworks, and so on.

In addition, there are numerous propositions on the use of responsive frameworks like CAPE, and TATE in improving the language skills of learners. Reports in broader literature assert that responsive LPfs are effective in integrated language skill teaching where all language skills are enhanced (Anderson, 2020). Furthermore, they insist that language instruction must encourage the self-expression and independence of learners (Ellis, 2016, 2020; Ellis & Shintani, 2014; Gonzalez & Deal, 2019; Long, 2015; Meddings & Thornbury, 2009). Also, there are recommendations for implementing evidence-based reflection as such reflection fosters purposeful language instruction (Ellis, 2019, 2020; Gonzalez &

Deal, 2019). Drawing on these assertions, it seems that variables like collaboration, reflection, and independence of learners encourage responsive language teaching and learning where there are shared responsibilities between the teachers and the learners (Anderson, 2020; Gillon & Macfarlane, 2017). Although explanations concerning responsive LPfs suggest their use for curriculum planning (Anderson, 2017), a critical analysis of these LPfs suggest that they may be well-suited as lesson plans. In light of several reports recommending good teaching practices and technology use (Asad et al., 2020; Backfisch et al., 2020; Ní Fhloinn & Fitzmaurice, 2021; Tuma, 2021), and given the need for integrating good teaching practices in the technologically-enhanced learning environment, the use of appropriate LPfs should be considered.

However, while considering the above, it is important to pinpoint that there are ongoing criticisms regarding the above frameworks. A scan of studies shows that propositions for responsive LPfs do not have adequate empirical evidence to support their efficacy. Recently the use of technology in language teaching has received a warm embrace as a result of the global pandemic (Hofmann & Müller, 2021; Kevin, 2020; Li et al., 2018). More so, research recognizes the need for considering good teaching practices before implementing technology in blended learning environments (Hofmann & Müller, 2021; Hubbard, 2021; Yılmaz & Baydik, 2020). Given recommendations that a successful online instruction may hinge on an appropriate integration of technology with appropriate teaching methods and strategies (Khatoony & Nezhadmehr, 2020; Supriyanto et al., 2020), integrating the CAPE framework towards improving the learners' language skills through technology presents an interesting area to investigate. This will help to determine the possibility of producing positive learning outcomes in an instruction that utilizes appropriate LPfs and technology. Much more, previously, traditional LPfs have been implemented with and without the use of technology yet there are indications that these platforms may not be adequate for language learning (Anderson, 2020). Hinging on these, this study foresees that this understudied area bothering on responsive LPfs and technology integration requires more investigation. This investigation will help unveil the need for adopting good teaching practices and approaches while integrating technology in a digitally enhanced learning environment.

Although proponents of CAPE LPf claim that it is effective in integrated language skill teaching, empirical research is necessary to validate these assertions. Several questions regarding utilizing the CAPE framework in digitally-enhanced learning remain to be addressed. Though research has acknowledged that the CAPE LPf could be used for language teaching, questions on its effectiveness when integrated with technology have never been addressed. Previous commendable studies on the CAPE LPf cannot be considered conclusive as they fail to give evidence for its effectiveness in improving the language skills of learners. Moreover, although research illuminates the role of responsive LPfs like CAPE, and TATE, no study to date has implemented this in a classroom setting nor integrated it with technology in improving language skills. These numerous knowledge gaps in literature can be bridged by investigating this understudied area of technology and LPfs. Moreover, research counsels on the need to re-investigate an issue when there is insufficient information on such topics (Miles, 2017). Others encourage further investigation of areas that are understudied with numerous empirical evidence gaps (Müller-Bloch & Kranz, 2015). Drawing from these, this study applauds the laudable studies on the CAPE framework while acknowledging the need to fill up the empirical and knowledge gaps in the scientific literature that has been identified. By doing this, this study will contribute to providing the first empirical evidence on the effectiveness of the CAPE framework and its effectiveness when integrated with technology. To achieve this, the following research questions were investigated;

- Are there improvements in the language skills of learners using a blend of technology and CAPE planning frameworks?
- What are improvements in the language skills of learners using traditional lesson planning frameworks?
- How significant are the improvements in the language skill of learners compared with the two groups?
- What are the perceptions of learners with regards to the use of the two lesson planning frameworks in improving their language skills?

## Method

### Research design

The study adopted a mixed-method research design with an experimental approach that makes use of experiments, interviews, and questionnaires in eliciting information from participants concerning their views and opinions on an issue (Black, 1999). This research design was deemed suitable for this study as assists in unveiling the significant role of LDfs in improving the language skills of learners. The study will comprise two groups; an experimental group and a controlled group. The objective of the lesson was to use the CAPE/PPP LPfs and innovative interactive technology as the instructional design to improve the language skills of EFL students in an English foundation school. For the experimental group, the lessons were designed through blended learning instruction using a e-text format of the language textbook, mobile application, whiteboard, and interactive educational resources (*flipgrid*, *nearpod*, *Mentimeter*, *canvas*), with the CAPE LPf. Afterward, the results of their improvements in language skills were compared with the results of the controlled group where lessons were designed using a face-to-face instructional design, traditional textbooks, alongside a presentation-practice-produce (PPP) traditional LPf without technology. The schema of PPP LPf is illustrated in Fig. 1.

For the experimental group, the lesson plan was designed according to the CAPE framework as illustrated in Fig. 2.

### Participants

The participants comprise 67 English as foreign language students who were recruited for this study. They were divided into two groups A and B, the experimental group was comprised of 32 students while the controlled group comprise 32 students. They were chosen through a purposive sampling technique as the objective of the study was to elicit information from the participants on their opinions on the effectiveness of the two lesson design frameworks in improving their language skills. These participants were chosen from a private university in North Cyprus after agreeing to participate in the study. The researcher obtained oral and written consent from the participants before commencing the study. The participants were coded for the interviews as B1 to B10 for group A and C1 to C10 for group B. This was carried out to maintain anonymity.

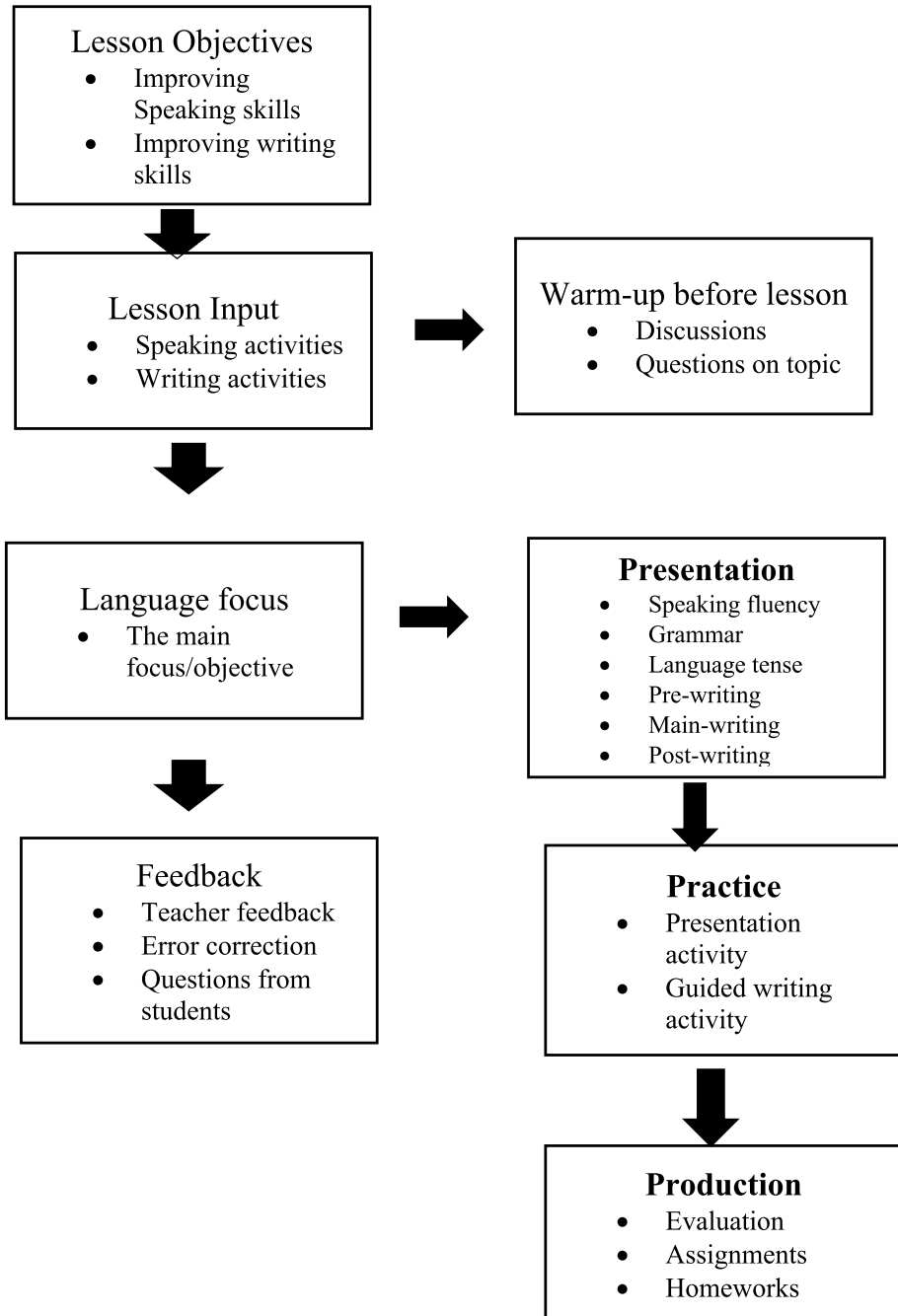
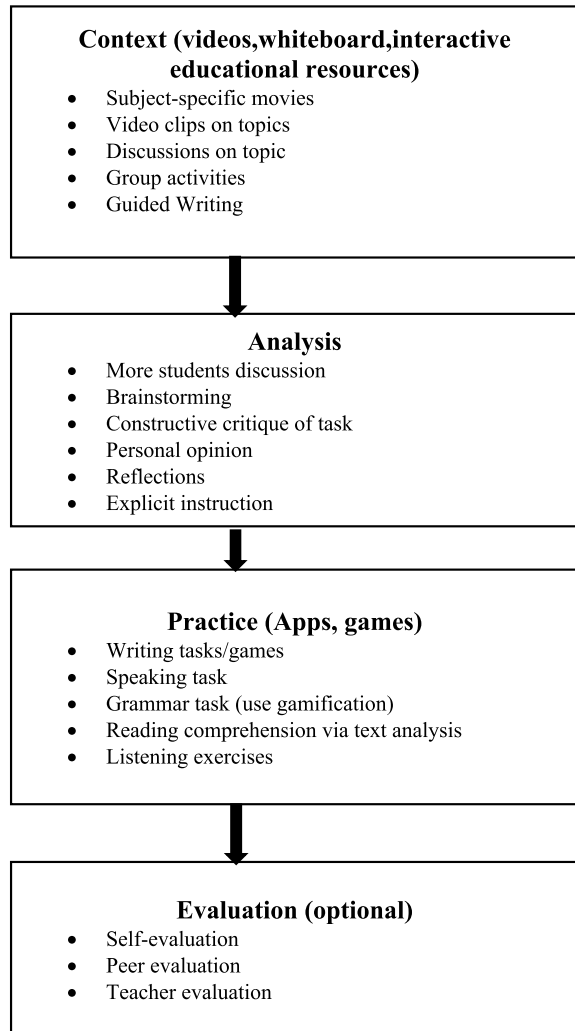


Fig. 1 Flow chart of PPP framework used for the study

**Fig. 2** Flow chart of CAP(E) framework used for the study



## Data collection

The instruments for data collection were post-test and interviews. The post-test was designed to cover the four language skills; reading writing speaking and listening. Section A was a reading/comprehension exercise that was developed to test their level of reading and understanding, also a writing task on descriptive and argumentative essays was administered. For speaking, they were asked to make an oral presentation on a topic of their choice while for listening, an audio listening exercise was played for the students and they were asked to answer questions from the listening exercise. Before administering these tests, a pre-moderation exercise was carried out where the items of the test were face validated to ensure the test items were relevant and appropriate to the students' level before administering the same to the students.

For the assessment of the test, a scoring rubric was developed to measure different language skills. The rubric was faced constructed and validated by 2 expert raters to ensure that the instrument measures the appropriate constructs of students' language skills. After awarding the grades to the students, the researcher ensured that a standardization session was carried out, this was through thorough reviewing until a consensus is reached. This helps to ensure that each examiner made valid and fair assessments of each student. All these processes were carried out to eliminate inconsistency in the entire process especially as the examiners could interpret different sections of the assessment differently. Afterward, the researcher carried out a comparison of the grades to determine if a correlation exists and a Spearman correlation of 0.88,  $p < 0.01$  was obtained which shows a high level of consistency. Additionally, interviews were administered to the participants, and their responses were recorded and analyzed. Four semi-structured interview guides were formulated and the interviewees were requested to answer the questions. The questions were developed to answer the research questions. The researcher considered the analytical approach for this study and thereupon designed questions that will ensure that interviewees give an in-depth description of their experiences. In general, the researcher designed the interview questions in line with the objective of the study. For validity, the researcher ensured that the interview guides were reviewed by external colleagues, this led to restructuring some questions that were deemed irrelevant. Afterward, the researcher conducted a first interview session with a participant randomly chosen, and the participant was requested to answer the interview questions. Afterward, the participants' responses were reviewed and conclusions were made on the final version of the interview questions to be used for the study. This final version was administered to 10 participants chosen for the interview session.

## Data analysis

After administering the post-test and the interviews, the researcher collected the instrument and analyzed the same using SPSS analytical tool. Data retrieved from the post-test were analyzed based on the cut-off points for the test and a chi-square/independent t-test was used to determine if a significant relationship exists between the two groups in using different LDfs in improving the language skills of learners. For the interviews, their responses were analyzed through a thematic analysis. Before the interview, the researcher ensured that a restricted amount of information was shared with the interviewees to avoid biased responses from interviewees. First, the researcher generated the initial codes after identifying patterns in the data, thereafter themes were searched and generated. To achieve this, the researcher interpreted the codes and discarded the codes that did not fit while the codes that describe an aspect of the data were accepted. The researcher reviewed the themes repeatedly, transcribed the data and all aspects of the analysis were documented. After the transcription, the data were re-reviewed by the interviewees to confirm that the transcribed data was a true representation of their responses. The themes were compared with the researcher's analysis, reviewed by other experts, and a consensus on the themes was reached. Afterward, the themes were generated, defined, and named, thereafter presented in tables.



**Table 1** Language skill Test Scores of group A EFL Learners (CAP(E))

	N	Pass grade	Fail grade	%Pass grade (%)	%Fail grade (%)	Remarks
Listening	32	25	7	78	22	Improvement
Reading	32	2	30	7	93	No Improvement
Speaking	32	18	14	56	44	Improvement
Writing	32	22	10	69	31	Improvement

## Findings

This section presents the empirical findings on the language skill improvements of the participants. Also, the thematic analysis of the responses of the interviewees is presented in this section, they are presented in the tables below (Table 1);

### **RQ1: Are there improvements in the language skills of learners using a blend of technology and CAPE planning frameworks**

Table one presents language skill test scores of participants in group A who were taught using the CAPE lesson design framework. The table shows that 25 out of 32 students representing 78% of the students obtained a passing grade for listening as compared to 22% of the participants that obtained a fail grade. This indicates that there was an improvement in the listening skills of the participants in this group. For reading, the table shows that there was no improvement in their language skills as 30 out of 32 students representing 93% of the participants in group A obtained a fail grade while only 2% obtained a passing grade. Furthermore, for speaking and writing skills, a passing grade of 56%, 69% representing 18 out of 32 and 22 out of 32 students was obtained which indicates an improvement in these language skills.

### **RQ2: What are improvements in the language skills of learners using traditional lesson planning frameworks**

Table 2 presents the findings on the language skill test scores of participants from group B who were taught using a traditional LDf without technology. The table indicates that 24 out of 32 students representing 75% of the students obtained a passing grade for listening while 8 out of 32 representing 25% of the students obtained a fail grade. Also, the table illustrates that there was no improvement in their reading skills as only 4 out 32 students obtained a passing grade for this language skill. The table reports that 28 out of 32 students obtained a fail grade for this language skill as well. Similar to other results, the table shows that 20 out of 32 students representing 63% of the students obtained a passing grade while 12 out of 32 representing 27% of the students obtained a fail grade, this shows an improvement in their speaking language skills.

**Table 2** Language skill Test Scores of group B EFL Learners

	N	Pass grade	Fail grade	%Pass grade (%)	%Fail grade (%)	Remarks
Listening	32	24	8	75	25	Improvement
Reading	32	4	28	13	87	No improvement
Speaking	32	20	12	63	27	Improvement
Writing	32	23	9	72	28	Improvement

**Table 3** Mean and standard deviation between group A and group B

Gender	N	Mean	Std deviation	Std error Mean
Group A	32	4.36	1.45	2.476
Group B	32	4.34	.86	2.107

Furthermore, the table indicates that 23 out of 32 participants representing 72% of the students obtained a passing grade while 9 out of 32 participants representing 28% of the students obtained a fail grade.

Table 3 shows that a mean value of 4.36 (SD 1.45) was obtained for group A while a mean value of 4.34 (SD 0.86) was obtained for group B. This indicates that no significant improvement was obtained in their language skills though group A obtained higher mean values scores compared to group B. However, an independent t-test was administered and the findings obtained from this analysis are presented in the next table.

**RQ3:How significant are the improvements in the language skill of learners compared with the two groups**

Table 4 presents the independent t-test of language skills of participants from the two groups. The table reveals that variance was homogeneous as shown by Levene's test of equality variances. The table further shows that an independent t-test was run with a 95% confidence level and a value of  $t(85) = 4.88$ ,  $p < 0.01$  and this shows no significant difference in improvement in the language skills of the participants. This further indicates that when two LDfs were used for teaching the two groups, there was no significant difference in improvements concerning the four language skills of the participants. The null hypothesis was retained.

**Table 4** Independent t-test analysis of scores across the groups

	Levene's test for equality of variances					t-Test for equality of means			
	f	sig	t	df	Sig (2-tailed)	Mean difference	Std. Error difference	95% confidence interval of the difference	
Number of errors									
Equal variances assumed	.174	.000	4.829	1	.803	5.207	2.6791	Lower - 0.2829	Upper 10.9932
Equal variances not assumed	.079	.000	4.730	1	.776	5.111	2.8428	2744	10.8559

**Table 5** Students' perception of language skill improvements and their experience while learning (Group A)

Themes	f (%)
Technology-enhanced language skill acquisition	9
More communicative approach	8
Improved language skills	7
More learner-centered approach	7

## Interview results

The findings of the interview with the participants were analyzed through thematic analysis and the findings are presented in the table below;

### **RQ4: What are the perceptions of learners with regards to the use of the two lesson planning frameworks in improving their language skills?**

Table 5 presents a thematic analysis of students' perception of their language teaching improvements while receiving language lessons from group A. When the interviewees were requested to indicate their opinions on the level of improvement in their language skills, 4 themes emerged namely; *technology-enhanced language skill acquisition, more communicative approach, improved language skills and more learner-centered*. The themes were related to perceptions and experience while learning. The themes are discussed below;

#### **Theme 1: Technology-enhanced language skill acquisition**

This theme showed that the use of technology was vital in the acquisition of language skills while teaching. The consistent manner in which the participants responded indicates that the use of technology-enhanced the language learning and fostered improvement in their language skills. Below are some of the comments of the participants that reflect this theme;

Technology is the key to language learning...The use of technology made me understand and practice my speaking and writing effectively (B9)

Another adds;

The teacher skillfully uses the chatbox to make us write though we were being taught through the zoom application. He ensures that everyone writes using the chatbox as he called out our names and reads aloud all our writing. This motivated me to participate during lessons (B4)

This was the comment of another participant;

The teacher allowed everyone to speak during the lesson and he usually assigns us to different zoom rooms to practice our speaking and listening with other students while he monitors our conversation and adds his comments as well. It was an excellent tactic using technology to achieve this (B3)

Another participant upheld the vital role of technology in improving language skill acquisition;

I was skeptical about language learning while using the online learning platform or technology but after my lessons, I changed my notion about language teaching online...The skill of the teacher in using technology to improve all language skills was excellent because he engaged all the students throughout the lessons (B10)

Discussing student engagement, this was another response;

Before the lessons, I was expecting a boring classroom where the teacher comes and lectures because I thought the use of technology was not an effective way to teach languages...I was proven wrong by this teacher as he excellently used all technology resources available to improve our language skills. His teaching was so engaging that he made us read, write, and listen while others speak, and this has improved my language skills so far (B8).

As evidenced in the responses above, it is obvious that technology played two significant roles, first, technology helped improve language teaching by using different technological resources relevant to language teaching. Secondly, the use of technology facilitated the acquisition of language skills during lessons. These were found in the responses of the participants and they reflect the theme above.

### **Theme 2: More communicative approach**

This theme describes a major characteristic feature of language learning using this lesson design. Participants in this group utilized this approach while learning language during the semester. Some of the comments of the interviewees regarding this theme are presented below;

I usually enjoy the time when the teacher allows us to speak during the lessons (B10).

Another participant adds;

The teacher always starts by allowing us to contribute to the lessons...this enables us to practice our language and use the language as well (B8)

Additionally, this theme is reflected in another participant's comment;

The difference from this teacher is that he allows us to speak and practice our use of English while we are learning, this makes me happy because I speak during the lessons and after the lessons (B2)

The aforementioned comments are some of the responses to the interviews which reflect this theme. The theme upholds that language teaching through this LPf is usually a more communicative approach.

### **Theme 3: Improved language skills**

The second theme indicates a significant improvement in their language skills. This theme describes that utilizing this LPf for language teaching improves the language skills of language learners. Below are some of the comments that reflect this theme;

Importantly, my language skills have improved. My speaking, listening, and writing have improved compared to the previous semester...I am happy (B5)

This is the comment of another participant;

I think the use of this language teaching strategy has made my language skills better. Now I can speak read and write very well. The teacher made sure that he taught us all language skills while he was teaching and this is good (B7)

Another participant adds;

While we were learning, the teacher always encourage us to write using the chatbox, this improved my writing skills because I was practicing writing every day. Also, he made sure that we practice speaking and listening as well. This type of language teach-

ing strategy is teaching a mixture of all language skills in one lesson and this is a good strategy (B1)

Also another participant's comments;

My teacher made sure that we learned all the language skills. For example, while we are speaking, we are practicing listening and then we are learning two language skills... Also, he allows us to speak to other students as a way of practicing our speaking skills during the lesson (B2)

Through the comments of the interviewees, it is evident that language teaching using this strategy assisted in improving the language skills of learners while learning.

#### **Theme 4: More learner-centered**

This theme describes that language learning through this model was more learner-centered and improved the language skills of language learners. The responses of the interviewees were indicators that the approach to teaching was more learners oriented where learners were allowed to practice language skills more frequently while learning in the classroom. These were some of their comments;

it was as if the lessons were focused on us because we did lots of exercises which improved our language skills (B9)

Another participant adds;

The lessons were planned to ensure that we learn the language. The teacher was always asking the students questions and making everyone participate in classroom activities. This constant practice of language made my language skills improve... the lessons were centered on the students (B6)

The comments above reflect the theme and further shows that language lesson design was carried out in a more learner-centered format which fosters integrated language skill teaching. From the comments of the interviewees, it can be deduced that this approach enhanced improvement in learners' language skills.

Table 6 presents a thematic analysis of students' perception of their language teaching improvements while receiving language lessons from group B. The table shows that when the interviewees were requested to indicate their opinions on the level of improvement in their language skills, 2 themes emerged namely; *Improved language skills and difficulty in reading*. The themes obtained are related to the opinions of the participants on language skill improvements during lessons. The themes obtained are discussed below;

#### **Theme 1: Improve language skills**

This theme describes that the use of this language design framework improves the language skills of learners. This is reflected in the opinions of the interviewees who affirmed through their responses that utilizing this LPf improved their language skills while learning during the semester. Their responses reflect this theme and some of their statements are presented below;

**Table 6** Students' perception of language skill improvements (Group B)

Themes	f (%)
Improved language skills	9
Difficulty in improving reading skill	7

I am happy that my speaking and listening skills have improved...I am happy learning in this group ( C5)

Another participant adds;

My teacher ensured that we practice different language skills and this has improved my language skills, especially my speaking and writing skills (C7)

Also, another participant's comment reflects this theme, this was her response;

Previously I was not enjoying my lessons because were taught through hybrid instruction and it was difficult to practice my language skills as I was selected into the group for face-to-face teaching. But recently, my language skills have improved while studying in this group. This is because my teacher made use of effective teaching skills which enabled us to practice our language skills regularly (C1)

Another participant comments;

I was excited about learning through the hybrid instructional model. While we were using technology to learn, sometimes we meet in the classroom to practice what we have been taught. This has helped improve my language skills, especially my speaking skills (C10)

These were some of the comments of the participants in this group. Their comments reflect the theme above and further show that using this LPf for language teaching was vital in improving learners' language skills. Though the next theme indicates that language learners experienced difficulty while learning one of the language skills and this is discussed in the next theme.

### **Theme 2:Difficulty in improving reading skill**

This theme describes that language learners experienced difficulty in improving their reading skills while using this LPf. Through their responses, it was evident that a significant number of the participants indicated that their reading skill was not improved while learning in this group. Their responses reflect this theme and are presented below;

I am not happy with my reading skills, I don't know why (C1)

Another gives reason for poor reading skills;

I think if we are given enough reading exercises, then this will allow us to practice our reading more and it will improve this language skill (C10)

Another participant gives a clue about reading difficulty, this was his comment;

The large class size could be the reason why the teacher did not encourage lots of students to practice their reading. I barely read an article in the English textbook and this has not assisted in improving my reading skills... I think if the class size is reduced then more students can practice and improve their reading skills (C7)

Similarly, another participant argues that less time was allocated to reading and he could not practice reading most time. This was his response;

Lots of time and attention were channeled to other language skill activities and this made me not a participant in reading. We practice speaking, listening, and writing more while there was less time for reading...I hope that equal time and attention can be given to all language skills so that students can improve all language skills at the same time (C5)

These responses from the participant indicate that learners experienced difficulty improving reading skills. Though some complained of the less teaching time allocated to reading activities, others thought that the class size was large which made it difficult for the instructor to ensure that all students practiced their reading. However, it was evident from their responses that learners reading skills were not improved as they experienced difficulty learning through this medium of instruction.

## Discussion

After careful analysis of data, the following findings were unveiled. Our result found evidence that there were improvements in the listening, speaking, and writing skills of the students when the CAPE lesson design framework was used for teaching. This result ties well with previous studies wherein the lesson design framework was adjoined to be effective in improving language teaching and acquisition (Anderson, 2017, 2020). However, contrary to the assertions of similar studies on the efficacy of the framework (Anderson, 2017; Ellis & Shintani, 2014; Long, 2015), there were no significant improvements in the learners' reading skills. Though there was no empirical explanation for this result, it was deduced from the interview results that large class sizes and limited classroom teaching time contributed to this phenomenon which invariably affected their improvements. This is another area to explore which will help answer questions on the effect of large class size and limited lesson time on the language instruction that utilizes responsive LPfs.

Similarly, the results indicate that a similar result was obtained from the second group which utilized the PPP framework without technology. Our result showed that all language skill of learners except reading was improved. This result shows two things, first, the result demonstrated that using traditional LPfs without technology could be effective in improving the language skills of learners. Secondly, the result contradicts the assertions of proponents of responsive frameworks who claim that such traditional frameworks may not be effective when solely applied in the language classroom (Anderson, 2020; Ellis, 2020; Long, 2015). This result can be viewed from this perspective; although there is evidence from this study to suggest the effectiveness of the CAPE framework, using traditional frameworks without technology could be effective in improving the language skills of learners. Already, previous and recent studies have affirmed the effectiveness of PPP and other traditional frameworks in improving language skills (Dowling, 2017; Ellis, 2019; Vitta, 2016). This was a novel finding of this study.

Additionally, by comparing the two results obtained from the investigation, it was deduced that no significant improvement was obtained across the two groups. The difference in mean values was too small and was interpreted as no significant improvement. This interpretation is in line with studies that suggest that no significant difference interpretation should be interpreted for an independent t-test with small mean values (Abebe, 2019; Gerald, 2018). Comparatively, there was no significant difference in improvements in the four language skills of the participants regardless of the blend of technology and other language frameworks. This contradicts numerous studies which claim that utilizing responsive LPfs may yield better results compared to traditional frameworks (Anderson, 2017; Andon & Norrington-Davies, 2019; Ellis, 2019). Nevertheless, this study found evidence for the role of technology in improving language teaching and language skills of students which is in tandem with numerous studies (Altun, 2015; Larsen-Freeman & Anderson, 2011; Shadiev & Yang, 2020).

However, careful analysis of the findings obtained through the interviews conducted for group A shows that four themes emerged. The themes obtained are indications that the students thought that the medium of instruction was technologically-enhanced language teaching which enhanced language skill acquisition. This ties well with the studies showing the efficacy of technology in language education (Kitchakarn, 2016; Zhou & Wei, 2018). Additionally, other aforementioned themes describe the lesson design format as using a more communicative language teaching approach and more learner-centered. These themes derived from the analysis are in tandem with the supposition of similar studies which upheld that responsive LPfs like CAPE involves learner-focused use of language in a meaningful context where learners take responsibility alongside their instructors for what they learn (Anderson, 2017; Gonzalez & Deal, 2019). The themes obtained further validate the conclusions of other authors who conclude that responsive LPfs assists in improving language skills, especially when taught utilizing a blend of language teaching methods and a communicative language teaching approach (Long, 2015; Ellis & Shintani, 2014; Meddings & Thornbury, 2009; Ellis, 2020; Gonzalez & Deal, 2019).

Nonetheless, the study deduced that two themes were obtained from the interviews with group B. The result indicates that the participants thought that using traditional frameworks improves language skills as compared with CAPE frameworks that used technology, and this finding aligns with the submissions that traditional LPfs like PPP, TTT, and others could be useful in improving language skills (Ikeda, 2019; Maftoon & Sarem, 2015). Although none of these aforementioned studies have shown that students could experience reading difficulty while using this LPf, the interview text reveals that large class sizes and limited classroom teaching time resulted in reading difficulties.

## Conclusions

This study aimed to examine the effectiveness of a blend of technology and CAPE lesson framework in improving the language skill of EFL learners. After a thorough investigation, the paper concludes by arguing that there is no significant difference in language skill improvements of students using CAPE frameworks and traditional frameworks. This further allows the conclusion that while responsive language teaching like CAPE frameworks is effective in improving the language skills of learners, traditional frameworks like the PPP and TTT could be used to achieve the same objective. Additionally, this study found evidence to show that although there is empirical evidence to confirm the significant role of technology in language skill acquisition, improvements in language skills may not be solely dependent on a blend of technology and framework but rather on other variables that were not investigated in this study. The only explanation for this phenomenon is the empirical evidence to show the effectiveness of traditional frameworks in improving language skills though the study anticipated a significant difference in improvements in the language skills of the first group.

Furthermore, the study found evidence of reading difficulty. On this basis, the study concludes that while there was no evidence to suggest that any of the frameworks impedes students reading skills, the findings of this study can be understood that language instructors with large class sizes may experience difficulty in reading activities especially while using technology for instructional delivery. This study has further shown that this problem could result in difficulty in reading. Be that as it may, the paper concludes that adequate planning of lessons using responsive LPfs may assist in allocating adequate teaching time



to each language skill. This would help ensure that time allocated for reading exercises is used for this language skill.

Importantly, it seems that the blend of technology and language teaching frameworks did not significantly improve language skills as anticipated by the study and the proponents of the CAPE LPfs. This conclusion is made as it is evident that when comparing the group regarding the level of improvement, it was obvious that there was no significant improvement in their language skills. This further reiterates the above conclusions of this study that although a blend of technology and CAPE framework may be effective in improving the language skills of learners, other frameworks can also be used without technology to achieve the same objective. Also, this may be dependent on other factors like the expertise of the language instructor and the context of teaching. On this premise, the paper submits that an investigation on the same topic in a different context is necessary for future research.

On this note, future investigations are necessary to validate the kinds of conclusions that were drawn from this study. Future research on this topic might open up other possible explanations for the reading difficulties while using other frameworks. Future studies could investigate the effectiveness of technology-enhanced LPfs in improving specific language skills. Further studies may focus on designing lessons with the CAPE framework alongside a new English language textbook different from *top notch*. This study foresees that interesting results may be obtained with lessons planned with different textbooks using the CAPE LPfs. Nonetheless, it was obvious that though the blend of technology and responsive frameworks improved the language skills, there was no significant difference when compared to other lesson design frameworks.

**Acknowledgements** The author sincerely wishes to appreciate the Board of Directors of Rauf Denktas University for their assistance throughout the duration of this research. The author sends his warm regards to the Rector of Rauf Denktas University Prof Hassan Bicak for providing classrooms and educational technologies for this project. Also, my sincere appreciation goes to the entire team of the Foreign Language English Preparatory School of Rauf Denktas University and not forgetting Prof Mustafa Ilkan and Prof Danju Dambala for their continued scholarly support. Thank you all.

**Data availability** The author declares that data associated with this paper will be made available upon reasonable request.

## Declarations

**Conflict of interest** The authors wish to declare that no conflicting interests exist regarding this study. Also, the author wishes to state that no financial interest exists regarding this publication as no funding was received for this study.

**Research involving human participants and/or animals** The authors declare that this study did not inflict or induce any harm on the participants. All participants voluntarily declared their willingness to participate throughout the study.

**Informed consent** The authors wish to declare that oral consent was obtained from the participants before commencing the study. They stated their willingness to participate or withdraw from the study at any given time.

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