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# Role of the integration of the 4C model in the professional training of foreign language teachers

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**Introduction:** This study explored the opinions and experiences of senior EFL teachers and experts regarding the appropriate training of foreign language teachers to implement the 4C (critical thinking, creativity, communication, and collaboration) model of education in foreign language teaching.

**Methods:** To achieve its goal, the study employed a mixed-methods approach, using both qualitative and quantitative methods. Purposive sampling was used to select 12 participants who were the most knowledgeable and experienced in the research topic, and in-depth one-on-one interviews were conducted with them. Thematic analysis was used to identify major themes and patterns in the participants' responses. Additionally, a survey was conducted with 60 EFL students to assess the impact of the 4C training on their learning outcomes.

**Results:** The findings of the study revealed that participants perceived the 4C model of education as an effective approach for teaching foreign languages. They also emphasized the importance of providing appropriate training to foreign language teachers to enable them to effectively implement the 4C model. The survey data showed that the 4C training had a positive impact on the students' learning outcomes.

**Discussion:** The study contributes to the existing literature on foreign language education by providing insights into the perceptions and experiences of senior EFL teachers and experts regarding the appropriate training of foreign language teachers to implement the 4C model. The study recommends that teacher training programs be revised to include the 4C model of education to improve the quality of foreign language education in Kazakhstan.

## KEYWORDS

education, 4C model, future teacher, foreign language, school, Kazakhstan

## 1. Introduction

The Republic of Kazakhstan is a democratic, secular, and constitutional unitary state. Since its inception, the country has been incorporating various initiatives and introducing various reforms within the political and socio-economic spheres. Given the importance of language policy as an important feature of political interaction and action, various initiatives have been

introduced in the country (Tlepbergen et al., 2022). Generally, it is worth noting that in Kazakhstan, education has always been regarded as one of the major priorities of the development and long-term strategy of the country as declared in the Kazakhstan 2050 vision. One of the major objectives of Kazakhstan's education reform is to adapt its education system to the world-class and interactional standards of education. In this regard, in 2019, the country introduced the adoption of 21st-century skills for developing universal competencies in their education system, ensuring that it is at par with global education standards. As that is practiced worldwide, the 4C (critical thinking, creativity, communication and collaboration) model has become an integral part of the contemporary educational system; the educational sector in Kazakhstan also introduced the 4C model in the curriculum (Official Website of the President of the Republic of Kazakhstan, 2018). Kazakhstan's commitment to democracy and education reform has led to various initiatives aimed at improving language policy and adapting the education system to world-class standards, including the adoption of 21st-century skills and the integration of the 4C model in the curriculum.

Subsequently, it is asserted that it is imperative for the teachers in the country to ensure they have sufficient knowledge and skills necessary for adopting global competencies. Furthermore, in the past few years, Kazakhstan has made great achievements in education. Subsequently, the introduction of new educational content and reforms has remained the center of the educational agenda of the country. The education sector in the country has been focused on the integration of critical thinking, communication, collaboration, and creativity in the education system of the country to position the education sector as internationally competent (Salybekova, 2019). In the same context, it is also worth noting that foreign language learning has been one of the important focus areas of Kazakhstan's educational system owing to the rising globalization, the country's reforms to transform the educational sector, and the country's vision establishment on the political, economic, and social contacts in the global context. Besides, international integration in the context of the education sector, as established, is aimed at aligning the education sector of Kazakhstan with international educational institutes, which ultimately increases the importance of foreign language competence in the country (Gerfanova, 2018). This demonstrates the importance of aligning foreign language learning in Kazakhstan with the contemporary 21st-century skills being adopted in the national curriculum.

## 1.1. Problem statement

The importance of incorporating the 4C model (critical thinking, creativity, communication, and collaboration) in foreign language teacher training is a topic that has been widely discussed in the literature on language education. Many studies have highlighted the need for language teachers to develop these competencies to enhance the effectiveness of language learning for their students (Erdoğan, 2019). Some recent studies have also explored specific approaches and techniques for integrating the 4C model in foreign language teacher training (Ratminingsih et al., 2021), such as using project-based learning (Budiarti et al., 2021) or online collaborative tools (Medeiros et al., 2017). Additionally, there have been discussions on the challenges and limitations of incorporating the 4C model in teacher

training, such as the need for adequate resources and support from institutions and the potential resistance from teachers who may be unfamiliar with these competencies.

As established, Kazakhstan has been incorporating reforms and initiatives for the modernization of the education system to position it at par with international education standards. Subsequently, the shift in the teaching paradigm focused on the core subject knowledge and teacher-led techniques for learning in the 21st century means a profound shift in the techniques, methods, and tools used for teaching and learning (Salybekova, 2019). Thus, traditional teaching techniques may not be sufficient for achieving educational agendas pertinent to the adoption of 21st-century skills. In this context, similar to other educational areas, foreign language teaching and learning are also required to be aligned with contemporary 21st-century skills with the adoption of the 4C model of education. In this regard, it is important to ensure that the teachers in the country are well-equipped to implement 21st-century skills in their curriculum planning (Official Website of the President of the Republic of Kazakhstan, 2018). In the context of foreign language learning and teaching, this implies that it is essential to develop professional training for the future teachers of foreign language in Kazakhstan to demonstrate sufficient capacity to ensure the successful integration of the 4C model in their foreign language teaching.

## 1.2. Research aim and objectives

In recognition of the aforementioned research problem, this article aims to analyze the adoption of 21st-century skills in the context of foreign language learning in Kazakhstan with a focus on the development of teachers' competence. In particular, the article aims to analyze the importance of the integration of the 4C model in the professional training of foreign language teachers. Besides, the paper aims to propose techniques and methods that can be incorporated into the professional training of future teachers of a foreign language in Kazakhstan to develop their ability to implement the 4C model of education at schools.

This article focuses specifically on the professional training of foreign language teachers in Kazakhstan and provides guidance on how to incorporate the 4C model (critical thinking, creativity, communication, and collaboration) in their training. There are very few training opportunities for foreign language teachers to enhance their skills in teaching English as a foreign language (EFL) and their ability to implement the 4C model in their classrooms. Therefore, this study contributes to the literature by identifying specific techniques and methods that can be incorporated into the professional training of future foreign language teachers in Kazakhstan to enable them to develop their ability to implement the 4C model of education at schools.

## 1.3. Research significance

The significance of this research is to fill the existing gap in theoretical and conceptual reasoning of the importance of the professional training of future foreign language teachers to implement the 4C model in the educational institutes of Kazakhstan. The study will enhance the existing literature and provide a better understanding

of the implementation of the 4C model in schools. The study also paves the way for future researchers to further study the other aspects of implementing the 4C education model rather than the professional training in education in Kazakhstan.

## 2. Literature review

This study is guided by several theoretical perspectives that underlie the adoption of 21st-century skills in the context of foreign language learning and teaching. First, the study is situated within the framework of the 4C model of education, which emphasizes the importance of critical thinking, creativity, communication, and collaboration in developing the competencies necessary for success in the 21st century. This framework has been widely adopted in various fields, including education, and has a positive impact on learning outcomes (Fink, 2013; Voogt et al., 2015).

Second, the study draws on the concept of professional development, which refers to the continuous learning and growth of educators to enhance their knowledge, skills, and competencies (Guskey, 2002; Yoon et al., 2007). The development of foreign language teachers' competencies in the 4C model is crucial for improving the quality of language education, and this study contributes to the development of effective professional training programs for future foreign language teachers in Kazakhstan.

Third, the study is based on the concept of mixed-methods research, which involves the use of both quantitative and qualitative data collection methods to provide a more comprehensive understanding of a research problem (Johnson and Onwuegbuzie, 2004; Creswell, 2014). The mixed-method approach used in this study involved in-depth interviews with senior EFL teachers and experts from five Kazakh institutes, an achievement test at the AGI Language and Culture School, and a perception survey by EFL students. The findings of the interview were used to develop a comprehensive professional training for the EFL teachers to implement the 4C model of education.

Finally, the study is based on the concept of an educational change, which refers to the process of improving educational practices to enhance student learning outcomes (Fullan, 2007; Hargreaves and Shirley, 2009). The integration of the 4C model in foreign language teacher training is a form of educational change that requires careful consideration of the challenges and limitations involved in the adoption of new teaching practices. This study identifies specific techniques and methods that can be incorporated into the professional training of future foreign language teachers in Kazakhstan to enable them to implement the 4C model of education at schools while also addressing the challenges and limitations of this process.

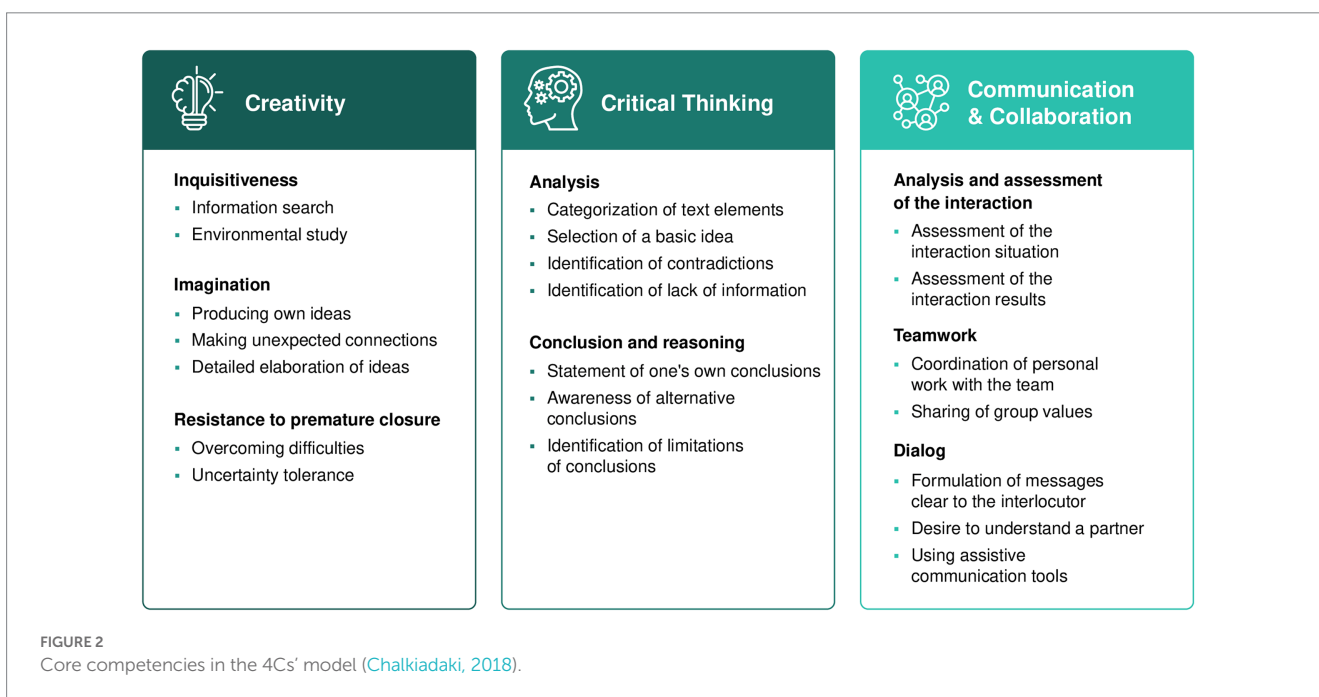
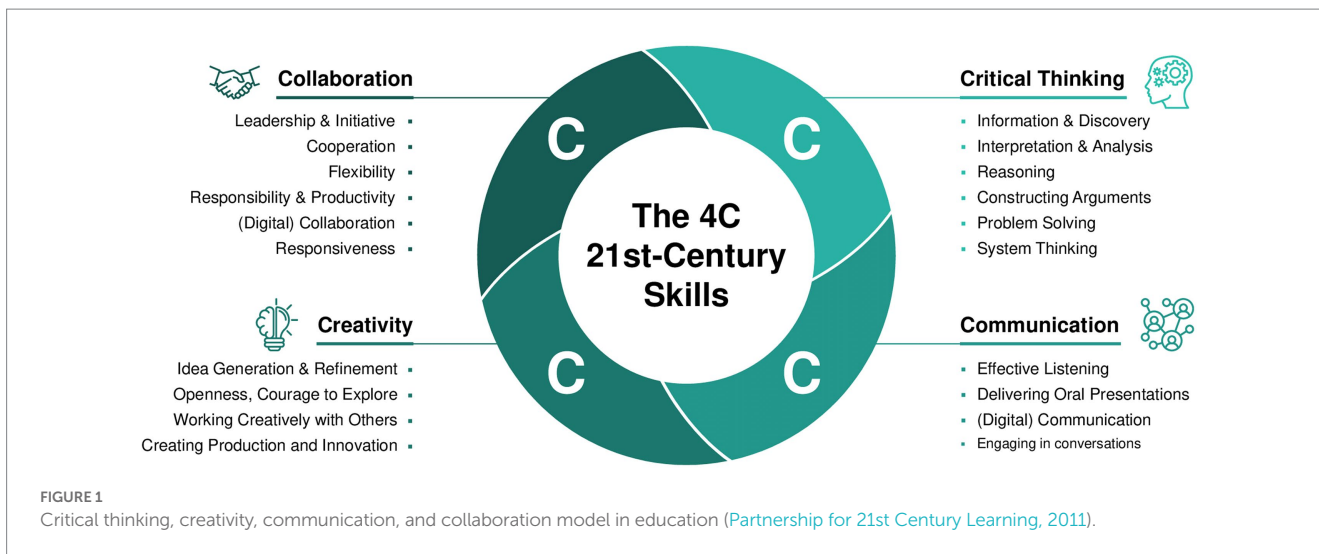
### 2.1. 4C model of education

The 4C model has emerged as one of the most important tools in the context of modern education. As per the *Partnership for 21st Century Learning* (2011), the 4C model has emerged as crucial in the 21st-century education system that entails communication, collaboration, critical thinking, and creativity (Figure 1).

The teachers must integrate the 4C model in the teaching and ensure that the students master these 4Cs to prepare them for the

future and foster their learning and innovation skills (Abdollahi et al., 2022). These are transferable skills that an individual can transfer from one task to another and from one job to another (Galabova, 2022). Additionally, on the basis of several recent findings, the *National Education Association* (2015) has deduced that the 4C model is required to be fully and comprehensively integrated into learning and teaching to create well-prepared employees for the contemporary world. The 4C model has also been widely integrated within the educational system of China as it blends well with its cultural values while cultivating the teachers with the added value to improve the problem-solving and creative skills of the students in a multidisciplinary context. As per Yang et al. (2020), the 4C model encompasses the Piaget's constructivism theory as it is designed in line with the characteristics pertaining to the knowledge acquisition by the students and their learning capabilities to promote long-term educational practice in China. Similarly, Supena et al. (2021) added that 4C model of education has also influenced the teachers in Indonesia to enhance the students' learning outcomes. The learning process in Indonesia had many weaknesses and lack of critical thinking ability of the students was the foremost concern. However, with the integration of 4Cs, teachers have been able to combine the scientific methods and collaborative critical thinking abilities of the students in the classroom learning. Moreover, similar experiences have been witnessed in the developed nations, where the embedment of 4C model has led to improved creativity and provision of a collaborative learning environment. This model in education involves teachers integrating techniques that have become crucial for the person to integrate for growth and become successful in the 21st century (Fathurrochman et al., 2021). The worldwide educational system emphasizes building these four major competencies within students through their early childhood education to achieve proficiency in them. According to Chahin-Dörflinger (2020), educational institutes should implement such models and teaching practices that highly focus on building the competencies of students, making them successful personalities in the future. Therefore, the educational and work paradigm is noted to be shifting globally, and the skills like these serve as an opportunity to ensure growth in the future.

These four competencies are regarded as "soft skills," "life skills" and "graduate skills" owing to their crucial importance in contemporary education and their role in preparing students for future employability experience. The first two skills proposed by the model, communication and collaboration, are regarded as team-working, particularly in the context of heterogeneous environments. These skills are concerned with effective conflict management, idea and knowledge sharing, open-mindedness, initiative-taking, and innovation (Voogt and Roblin, 2012; Chalkiadaki, 2018). The third competency, critical thinking, is aimed at increasing self-development and autonomy (Basri et al., 2019). The competency is concerned with the ability of introspection, independent thinking, autonomous action, self-organization, objective analysis and evaluation, and enhancing rights and emotional intelligence (Sassin, 2019). Additionally, it facilitates analytical reasoning, problem-solving, and higher-order reasoning (Chalkiadaki, 2018). Finally, creativity is associated with higher imaginativeness, innovativeness, curiosity, and the ability to think out of the box (Chalkiadaki, 2018; Figure 2).



## 2.2. 4C model for professional training of the future teacher

It is asserted that teaching quality is the most crucial factor that shapes the learning experience of the students (Rozak et al., 2022). Thus, the teaching quality must be continuously improved with effective training and development (Doringin and Sasmoko, 2017). The concept of creativity in teaching requires teachers to create a more flexible and healthier environment to encourage students to think creatively. The teachers go beyond textbooks to foster creativity in the classrooms. In the context of critical thinking, teachers must possess the ability to improve their analytical skills to find the best solutions and instill this ability in the students by encouraging them to objectively analyze and evaluate (Sunardi and Doringin, 2020). Furthermore, de Villa (2017) has stressed the role of the teachers in the creation of an inquiry-based environment and in the provision of

the tools to the students to exercise critical thinking. Thus, an adequately trained and well-informed teacher can greatly assist learners in developing this type of thinking by presenting them with challenging situations and encouraging them to incorporate different perspectives and proffer solutions. Furthermore, fostering collaborative engagement among the students is yet another important aspect of teaching requiring teachers to encourage students to collaborate and develop and create integrated solutions to various problems. Finally, teachers are required to foster open communication among the students in order to foster learning and engagement (Sunardi and Doringin, 2020).

Rusdin and Ali (2019) have articulated how the implementation of the 4C model in teaching and learning can pave the way for increasing teachers' understanding and enhancing their teaching quality. With a deeper understanding, the teacher would be able to improve teaching practices that meet the 21st-century educational



agendas and be more effective in promoting the adoption of the 4C model competencies in learning. In this regard, although there is a great need to re-evaluate and improve teaching practices in line with current changes, many teachers of the past still practice traditional teaching methods using teacher-centered strategies to this day (Azmi and Nurzatulshima, 2017). Thus, the system of imparting knowledge is inherently passive. As a consequent impact of this, students' engagement in learning is delayed, the learning process is constrained, and the student does not optimally acquire subject-related knowledge and skills, as well as the 4C skills. When teachers apply limited strategies, techniques, methods, and approaches, students lose interest in the learning experience (Yunos, 2015). Thus, students fail to integrate 4C skills in their learning experience because teachers do not promote them (Rusdin and Ali, 2019).

Students should be given the opportunity to engage in various activities that encourage them to work together to solve problems or complete tasks as a group to promote participation, achievement, and motivation in learning (Alismail and McGuire, 2015; Nuphanudin et al., 2022). Kristanto and Santoso (2020) found that incorporating appropriate strategies and approaches in teaching plays an important role in arousing students' interest in a subject and changing their perception of subject difficulty. Thus, teachers must be proficiently trained and prepared to ensure the provision of engaging and effective learning students for students. Teachers must be given sufficient training to incorporate the 4C model in teaching.

### 3. Research methodology

#### 3.1. Research approach

The research approach of the study is the framework that comprises the procedures of broad assumptions to comprehensive methods and approaches used in data collection, evaluation, and interpretation (Mitchell, 2018). For the current study, the research approach opted for is the inductive approach as the researchers aim to reach the research objectives based on existing issues. The inductive approach in this study is used to analyze the importance of professional training for foreign language teachers to successfully integrate the 4C model in the educational institutes of Kazakhstan. As numerous existing types of research have previously highlighted the importance and challenges in the integration of the 4C model integration, the study further investigates the aspect of professional training of foreign teachers to improve and enhance the integration of the 4C model in Kazakhstan. This research approach facilitated the current study in analyzing already existing studies and based on it drawing conclusions for the following research. Besides, the use of the inductive approach facilitated the following study by testing different probabilities and aspects that can lead to the need for the professional training of future foreign language teachers.

#### 3.2. Research methods

The research methodology procedure used in this study is a mixed-methods approach, combining both qualitative and quantitative methods (Brannen, 2017). This approach allows for a more comprehensive understanding of the research problem by examining both the subjective experiences of teachers and the

objective impact of training on student learning outcomes (Creswell and Plano Clark, 2018a,b). The study employs an inductive research approach to explore the opinions and experiences of EFL senior teachers and experts regarding the appropriate training of foreign language teachers to implement the 4C model of education in foreign language learning. This approach is based on the theoretical framework of grounded theory, which emphasizes the importance of generating new insights and theories based on empirical data rather than preconceived notions or assumptions (Charmaz, 2014). The study uses a purposive sampling technique to select 12 senior EFL teachers and experts from five Kazakh institutes. Purposive sampling allows for selecting participants who are most knowledgeable and experienced in the research topic (Creswell and Plano Clark, 2018a,b). In-depth one-on-one interviews were conducted with these participants, using semi-structured questions to explore their opinions and experiences regarding the 4C model of education and foreign language teacher training.

Thematic analysis is used to analyze the interview data and identify major themes and patterns in the participants' responses. Thematic analysis is a qualitative data analysis technique that involves identifying, analyzing, and reporting patterns (themes) within data (Braun and Clarke, 2019). In addition to the interviews, a survey was conducted with 60 EFL students at the AGI Language and Culture School to assess the impact of the 4C training on their learning outcomes. The survey is conducted twice, once before and once after the 4C training, using a pre-test/post-test design. The data collected from the survey is analyzed using descriptive statistics to determine the effectiveness of the 4C training on improving the students' language learning outcomes.

#### 3.3. Research design

To analyze the influence of professional training on future foreign language teachers to integrate the 4C model, the following study opted for descriptive research analysis. The descriptive design in the current study enabled the researchers to provide an in-depth analysis of the findings. Descriptive research analysis was selected as it aligned with the chosen mixed-method research and enhanced the data collected through this approach by providing the in-depth analysis, interpretation, and presentation of the research conducted understandably.

#### 3.4. Research philosophy

The current study is based upon the interpretivism philosophy as it will enable the study to further investigate information related to the research while emphasizing the subjective aspects. Interpretivism philosophy facilitated the qualitative research design for the study while enabling the researchers to understand and reflect on different aspects of the findings. Hence, interpretivism was deemed appropriate research philosophy for the professional development of future foreign language teachers.

#### 3.5. Data collection method

The experiment was conducted with students of the Department of Modern Languages and Translation Studies, M. Auezov South

Kazakhstan University, specialty 6B01730 “Foreign Language: Two Foreign Languages.” To understand the need for the professional training for future foreign language teachers to integrate the 4C model in schools in Kazakhstan, the data collection method that the current research has opted for is the primary data collection method. This method enabled the following study to gain first-hand knowledge about the current situation and the need for professional training for foreign language teachers in Kazakhstan as well as enabled the researchers to have unbiased opinions and experiences of the foreign language teachers to better identify the potential of the professional training. The use of the primary data collection method also enabled the researcher to maintain a focus on the research issue. Due to these reasons, the primary data collection method was deemed appropriate for the research.

### 3.6. Research instruments

The research instruments are the tools through which the data for the study is collected. For this study, to obtain an in-depth analysis of the research issue, the research instrument used is the interviews and a survey. The interview enabled the researchers to investigate the underlying research phenomenon based on open-ended questions. A survey with closed-ended questions enabled assessing the perception of EFL learners. For the current research, the study conducted face-to-face interviews and an online survey with the foreign language teachers employed in the primary education sectors of Kazakhstan, which enabled the research to acquire the current challenges while analyzing the areas or improvements based on the professional training. The study uses a purposive sampling technique to select 12 senior EFL teachers and experts from five Kazakh institutes, while the survey was conducted from 60 EFL students at the AGI Language and Culture School. These interviewees were interviewed on the basis of semi-structured questions to analyze the need for professional training for future foreign teachers. The survey was conducted twice before and after the 4C training to assess the impact of training on improving the framework competency.

The study uses a purposive sampling technique to select participants who are most knowledgeable and experienced in the research topic. In-depth one-on-one interviews are conducted with these participants, using semi-structured questions to explore their opinions and experiences regarding the 4C model of education and foreign language teacher training. The survey portion of the study employs a pre-test/post-test design to assess the impact of the 4C training on the students’ learning outcomes. It is worth noting that both the interviews and survey were conducted in Kazakh, which is the language used by the participants. The use of Kazakh was intended to facilitate effective communication and understanding between the researcher and the participants, as well as to ensure that the data collected accurately reflects the perspectives and experiences of the participants. This approach is consistent with the methodological principle of using appropriate language and cultural context to facilitate data collection and analysis in studies.

### 3.7. Data analysis techniques

For the current research to analyze the data collected through semi-structured interviews with foreign language teachers in the primary schools of Kazakhstan, the data analysis technique used was a thematic

approach, while the survey findings were analyzed statistically. This approach is the most appropriate for the current study as the research has already identified the pre-determined framework. Hence, the thematic approach facilitated in generating common themes from the information collected directly from the respondents. Although the thematic analytical process is time-consuming, it is the most preferred approach as it helps in understanding the viewpoint of respondents from their personal experiences and helps in categorizing the data based on commonalities found in the answers. Additionally, the statistical analysis helped in understanding the training effectiveness. Thus, to analyze their experience and opinions regarding the appropriate training of the teacher of a foreign language to implement the 4C model of education in foreign language learning, thematic and statistical analyses were deemed appropriate for the study.

### 3.8. Ethical considerations

Ethical considerations refer to the set of principles complied with while conducting the research (Mishra and Alok, 2022). For the following study, all ethical values and principles have been abided by, including voluntary participation, which indicates that the participants were not forced to share any information they did not want to. Moreover, their confidentiality was maintained, and the analysis was done based on the expertise and skills of the respondents, which correlated with the aims and objectives of the study. Moreover, the participants were well informed of the value that their responses hold in the current research and the purpose of the following research is conducted. Hence, the current study complies with the ethical principles.

## 4. Results

### 4.1. Qualitative interviews for developing future training methods

For uniformity and simplicity, in-depth one-on-one interviews with EFL senior teachers and experts in Kazakhstan were conducted to analyze their experience and opinions regarding the appropriate training of the teacher of a foreign language to implement the 4C model of education in foreign language learning. In this regard, interviews with 12 teachers from five Kazakh institutes were conducted including the AGI Language and Culture School, University of Foreign Language and Professional Career, Kazakhstan International School, Kazakh Ablai Khan University of International Relations and World Languages, and Al-Farabi Kazakh National University. Using thematic analysis, the following themes were identified from the interviews:

### 4.2. The incorporation of the 4C model in foreign language teaching and learning

A major pedagogical aspect highlighted in all the responses was the relevance of the 4Cs in foreign language learning. All four competencies offered by the 4C model have been found to be important for enhancing the effectiveness of foreign language learning for students. One of the respondents asserted,

Teachers should create an inquiry-based environment for developing the critical thinking of the students. A well-trained teacher can greatly assist learners in developing this type of thinking by presenting them with challenging situations. In particular, foreign language teachers can use debate, group discussions, media analysis, and problem-solving activities to promote critical thinking among foreign language students, which ultimately enhances their ability to comprehend and solve communication problems in the target language.

Another respondent asserted, “Contemporary language learners should be encouraged to become self-adjusted and aspiring language analysts to solve all communication problems.”

Similarly, all the respondents agreed on the importance of collaboration in foreign language learning. A respondent asserted,

Collaboration entails students working together to achieve a common goal. When teachers foster collaborative learning, students work in teams and interact, which enhances their language proficiency and social skills with the use of a foreign language. Thus, they can converse in a foreign language in social settings. In addition to this, teachers can develop a perception of “positive interdependence” by fostering a sense of belonging to the group, which is an important aspect of language learning as a language serves as a means of social interactions and relationships.

In the context of communication, all the respondents in the study presented “communication as the major aspect of language learning.” One respondent particularly emphasized, “If the language teachers do not foster communication in the class, this will significantly affect the language fluency and competence of the students.”

Finally, the promotion of creativity has also been highlighted as the major requirement for foreign language teachers to enhance the effectiveness of foreign language training. A respondent asserted,

The promotion of creativity by teachers in foreign language classrooms can also enhance the effectiveness of language learning and learners’ competence, developing foreign language teachers’ skills for developing knowledge pertinent to how to implement creativity in the classroom by developing creative practices and activities. The creativity of the EFL students can be encouraged by creating assignments about meaningful communication situations in real social settings. In fact, they can include various activities such as storytelling and role plays.

According to these findings, [Table 1](#) shows major themes pertinent to the relevance of each of the four competencies to foreign language learning.

### 4.3. Implementation of the 4C model in future training of foreign language teachers

All the teachers in the study asserted that at present, very few training opportunities exist for the teachers to enhance their Teaching English as a Foreign Language skills in Kazakhstan. All the teachers

agreed on the need for the incorporation of the 4C model to develop adequate training of future foreign language teachers, stating, “If they are trained to incorporate 4C competencies in their teaching, they can enhance the language learning proficiency and competence of the students.”

Another respondent asserted, “The 21st century competencies are relatively new to the foreign language curriculum of Kazakhstan, so teachers are not really trained to work with these competencies.” Thus, there exists a need for the implementation of the 4C model in the training of future language teachers in Kazakhstan. One of the respondents asserted,

I believe long-term intensive and integrated training should be provided to the EFL teachers to enhance their ability to incorporate communication, creativity, critical thinking, and collaboration in teaching. In fact, it is important that teachers take professional courses to enhance their language competence with 4Cs. Otherwise, it is unreasonable to expect the teachers to use these skills in their classroom when they are not competent in these skills.

TABLE 1 Interview themes for the relevance of 4Cs.

Competencies	Relevance of 4Cs to foreign language teaching and learning
Critical thinking	<ul style="list-style-type: none"> <li>Using debate, group discussions, media analysis, and problem-solving activities</li> <li>Encouraging the students to incorporate critical thinking skills in their learning of a foreign language.</li> <li>Leading to the development of self-adjusted and self-sufficient language speakers who can use appropriate words, terms, and phrases in particular contexts</li> </ul>
Creativity	<ul style="list-style-type: none"> <li>Incorporation of creative activities such as role plays, games, and storytelling</li> <li>Leading to the development of the ability to use language in various contexts</li> <li>Fostering better engagement and enjoyable learning process</li> </ul>
Collaboration	<ul style="list-style-type: none"> <li>Learning language use <i>via</i> collaboration among students</li> <li>Practicing language skills in an interdependent manner</li> <li>Leading to the establishment of a sense of interdependence in the language use</li> <li>Enhancing oral language skills</li> <li>Encouraging the students to depend on each other for learning new language codes and skills</li> </ul>
Communication	<ul style="list-style-type: none"> <li>Active interaction among students</li> <li>Enhancing information exchanges</li> <li>Enhancing conversation skills and competency of the students in the foreign language</li> </ul>

Accordingly, all the senior teachers have suggested various strategies to be incorporated for intensive training of the EFL and other language teachers in Kazakhstan. Succinctly, on the basis of the suggestions of the respondents, for comprehensive training of foreign language teachers training, an integrated training course has been suggested to be incorporated by authorities in Kazakhstan. Some respondents in the study suggested regularly organizing professional workshops and seminars for the EFL teachers in Kazakhstan. A respondent asserted, “EFL teachers can be encouraged to regularly attend these workshops and seminars to update their knowledge and comprehension of 4Cs and learn ideas on how they can integrate the four competencies in their language teaching.”

Some respondents gave the idea to organize meetings of foreign language teachers and experts, whereby they can discuss the incorporation of 4Cs into foreign language learning and build curricula and professional development based on integrating the 4Cs into educational research to promote the 4Cs in language learning. One of the respondents posited, “Foreign language teachers of the country can have such meetings organized by the higher education commission, whereby the teachers can support each other as they share their experiences in putting together the 4C skills.” In a similar vein, another respondent suggested that education institutes can also create a foreign language teachers’ group, whereby they allocate an hour or two every 2 weeks for discussing various practices that can be incorporated to maximize the integration of 4Cs in foreign language learning.

For communication particularly, respondents emphasized that to improve communication with the foreign language teachers, it is important to focus on the attitudes, verbal and written as well as digital communication of the foreign language teachers. One of the respondents in the interview asserted,

In the present times, communication competence entails proficiency in interpersonal and digital communication. The teachers must be proficient in informing, instructing, motivating, and persuading the students and incorporating various media and activities to facilitate communication in language learning.

Another respondent suggested that “along with developing the conventional oral and written communication of the students in the target language, the foreign language teachers must also be able to induce ICT-mediated-conversation abilities, and this calls for the usage of ICT as studying tools. In this regard, ICT-mediated cooperative learning can be used to train the teachers so that teachers can incorporate contemporary ICT tools in their language teaching encouraging students to actively communicate and converse to develop their language proficiency.” This implies that information technology should be a major component in the training of the foreign language teachers.

The respondents also suggested various types of instructional approaches to enhance the ability of foreign language teachers to foster active communication in their language teaching. The two major ideas observed across the responses were content-based instruction and task-based language teaching. A respondent suggested,

As a part of the professional training of the English language teachers, it is useful to incorporate a content-based instruction

approach for their professional on-the-job training. The teachers can be asked to perform their day-to-day tasks while ensuring to use the English language as their means of communication with their peers and colleagues.

Similarly, for a task-based language teaching approach, a respondent asserted that “teachers should be trained to be able to engage the students in various tasks to improve their language proficiency. For instance, they can be asked to make reservations or write letters in the target language.” This implies that preparing teachers to incorporate such interactive activities should also be incorporated into the professional training of foreign language teachers in Kazakhstan.

It was also found from the analysis of the interview responses that at present, the training of the teachers lacks any kind of critical approach due to which teachers cannot develop their critical thinking and incorporate activities that can foster critical thinking in the context of foreign language learning in Kazakhstan. In this regard, one of the respondents suggested,

Debates and meetings should be arranged by the institutes and educational sector of Kazakhstan, whereby all the teachers can engage in critical discussion and debates regarding the curriculum and other academic issues while using the target language as their medium of conversation. This way, the teachers will be able to develop their ability to integrate critical thinking with the language teaching and will ultimately be able to foster this in their classrooms.

As teachers are also required to foster creativity in their classrooms to facilitate active language learning by the students, the respondents also offered varying suggestions to work on the development of teachers’ creative abilities. One of the respondents in the interview asserted, “At present, most of the teachers use a very rigid approach following a curriculum provided by the education commission in their language teaching. This greatly limits the ability of the students to integrate their creativity into language learning. It is therefore important to train teachers to use more problem-based learning approaches whereby the students can demonstrate their creativity.” Similarly, various other respondents also voiced the same ideas stating that teachers’ training should entail the demonstration of various activities that they can incorporate into their lesson planning to ensure greater creative autonomy in their classrooms.

Based on the aforementioned findings, [Table 2](#) displays the major themes identified from the interview responses.

#### 4.4. Quantitative findings: Validating the new training methods

The validation of the new training based on the 4C model was assessed in two phases. The first phase entailed training the EFL teachers to implement the 4C model in their lessons and achievement assessment of the EFL students to assess the effectiveness of training. The second phase was comprised of a Perception survey involving the EFL students to assess their awareness of the reflective and the control aspects of their learning experience.



### 4.5. Experiment for training effectiveness

According to Table 2, training was developed, and a training session was conducted at the AGI Language and Culture School. The EFL faculty were trained to use activities based on the 4C model in their EFL teaching. To validate the use of the 4C model for the professional training of future teachers of foreign languages, a pre-test was conducted before the teachers were trained. In the pre-test, an achievement assessment was conducted involving a class of 60 EFL students at the AGI Language and Culture School. The assessment comprised spelling tasks, problem-solving and critical thinking essays, argumentative essays, vocabulary tests, and story writing. The test was conducted to measure the effectiveness of the conventional teaching methods used by EFL teachers before the provision of any training. The overall score for the assessment was 100.

Right after this pre-test, the training of the EFL faculty of the AGI Language and Culture School started and they were

concurrently asked to implement the 4C techniques in their EFL lessons in the classrooms. As a part of this training, the EFL faculty would have a formal meeting to make adjustments to the EFL curriculum and incorporate elements of the 4C model such as debating, task-based language teaching, storytelling, and creative writing. The training went on for 2 weeks, while the EFL teachers were asked to extensively use the new model in their lessons in the classroom for 1 month. At the end of this period, a post-test was scheduled. The learning of the EFL students with the 4C model was closely monitored, and a visible difference was observed in their learning style. At the end of the month, the post-test (achievement test) was conducted, comprising tasks similar to those of the pre-test, howbeit the content was different as the test had to be administered by the same group of students, and the overall score was again 100.

The results of the pre-test and post-test were compared. Tables 3, 4 present a summary of the arithmetic means and the standard deviation of the pre-test and post-test. It can be seen that students scored a mean score of 87.2300 with a standard deviation value of 3.21213 in the post-test. However, the mean score of the same group of students in the post-test was 68.36323 at a standard deviation of 3.98567. Hence, the mean score of the students in the post-test was greater than their mean score in the pre-test.

To analyze the difference between the scores of the two assessments conducted before and after the provision of 4C training of the teachers and to find the differential impact of the 4C EFL lessons on the students, a t-test was conducted. The result in Table 5 shows that no equal variances were assumed owing to the value of  $p=0.000$ , which demonstrated a 100 per cent significance level. Thus, the values in the second column are considered in the results. The results show that the mean value of the difference between the scores of the pre-test and post-test was found to be 18.8668 at a degree of freedom of 37.992.

The scores of the students on the achievement tests showed that the professional training of the EFL teachers using the 4C model was found to be effective for the learning of the EFL students. When the students were taught using the 4C model activities, their learning effectiveness increased, which contributed to increased language skills and comprehension, which is evident by their scores on the post-test.

TABLE 2 Major themes from the interview responses.

Themes	Implications/Details
Lack of adequate training (based on the 4C model) for foreign language teachers in Kazakhstan	Lacking the competence and ability of foreign language teachers in Kazakhstan to use the 4C model in their language teaching planning
	Extant need for developing training of future Kazakh teachers to enable them to use the 4C model in their language teaching
	Need for integrated training to enhance future teachers' ability to use communication, creativity, critical thinking, and collaboration in teaching foreign language
The need for an "integrated" training course	Use of various strategies for training foreign language teachers in Kazakhstan.
	Attending workshops, seminars, and workshops
	Organizing meetings with foreign language teachers to share ideas and experiences
	Creation of foreign language teachers' groups
	Initial teacher education program
Use of communication in language teaching	Training for verbal, written, and digital communication Use of ICT in training
	Use of content-based instruction and task-based language teaching
Use of collaboration in language teaching	Use of task-based language teaching
	Use of interactive activities to reinforce cooperative learning and engagement
Use of critical thinking in language teaching	Debates and meetings should be arranged by the institutes and educational sector of Kazakhstan
	Use of group discussions and reciprocal peer questioning sessions
Use of creativity in language teaching	Use of screenwriting and chain games
	Training for problem-based learning approach
	Active practices of brainstorming, story writing, and creative writing
	Use of language play

### 4.6. Perception survey of EFL learners

The evaluation of the learning of EFL students was conducted using the Perception survey. A self-administered questionnaire was used, comprising 12 items and a four-point Likert scale with "Not at all" and "Very much so" at the two extremes. The students were asked to fill out the questionnaire after their post-test demonstrating the extent to which they agree with the statement in the given questionnaire. Table 6 presents the results of the survey.

The results of the survey show that the standard deviation values for all items are lower than the mean values, indicating that all data points are consistent and free from significant variations. Thus, the students responded consistently to the items provided. All items have a mean higher than 3.5 showing skewness on the skewness. Thus, all the students demonstrated high agreement with the given statements, showing that they agree that the new EFL curriculum based on the 4C model increases the effectiveness of learning.

TABLE 3 The case processing summary.

	Cases					
	Included		Excluded		Total	
	N	Percent	N	Percent	N	Percent
Pre-test	60	100.0%	0	0.0%	60	100.0%
Post-test	60	100.0%	0	0.0%	60	100.0%

TABLE 4 Mean values of the achievement assessments of EFL students.

Report		
	Pre-test	Post-test
Mean	87.2300	68.3632
Std. deviation	3.21213	3.98567

TABLE 5 Independent t-test results of the effectiveness assessment.

Independent sample test					
	Mean difference	Std. error difference	t	df	Sig. (two-tailed)
Equal variances assumed	18.8668	1.342	8.348	38.000	0.000
Equal variances not assumed	18.8668	1.342	8.348	37.992	0.000

Hartley test for equal variance:  $F = 1.029$ , Sig. = 0.4746

## 5. Discussion

The relevance of the 4Cs in foreign language learning has been highlighted by all the Kazakh teachers involved in the interviews. The findings were found to be in line with the extant literature. The results showed that each of the four competencies of the 4C model is important for foreign language learning and teaching. For instance, it was found emphasized by the respondents that language teachers should be able to develop self-adjusted and aspiring language analysts. This is well supported by the extant literature. Critical thinking has been regarded as an important skill for improving language pedagogy (Harizaj and Hajrulla, 2017). Critical thinking entails understanding, application, analysis, synthesis, evaluation, interpretation, reasoning, explanation, and self-regulation. All these cognitive actions can enhance the language learning efficiency of linguistic students (Saleh, 2019). However, none of these cognitive actions can be performed by linguistic students with limited or underdeveloped critical thinking skills. This explains the need to integrate critical thinking into education in general and in particular in foreign language learning (Khatib et al., 2012).

Furthermore, it was found that using collaboration in future teachers' training can enable the teachers to develop a perception of "positive interdependence." In line with this response, Johnson et al.

(2014) defined collaborative learning as students working in groups and teams to maximize learning for themselves and others. Collaborative learning is a hallmark of progressive education, an integral part of effective teaching and important to better educate foreign language learners and provide effective training to language instructors (Martin-Beltran and Peercy, 2014). Collaborative learning fosters active learning in terms of team learning and peer-assisted learning, which helps develop speaking skills in language students (Espina et al., 2017).

Similarly, communication was emphasized by all the senior teachers in the study as the cornerstone of language teaching. This idea is supported by various linguistic scholars. It is asserted that developing the learner's ability to communicate in the target language is a major goal of language teaching and learning, as language is a means of communication (Shi and Chen, 2015). Another respondent also emphasized the use of the communicative language teaching approach for enhancing communication in a language classroom. As per Rivera (2010), the communicative language teaching approach is used to develop and facilitate communication and interaction among language learners to enhance the effectiveness of language learning and develop speaking proficiency in the target language. Thus, to foster effective interaction and communication within the foreign language classroom, the teachers must use various communication strategies. Mesgarshahr and Abdollahzadeh (2014) highlighted the positive impact of incorporating various communication strategies in language learning. With the communicative language teaching approach, the learners can interact with each other, build better relationships, and learn from one another (Shi and Chen, 2015).

Finally, the promotion of creativity has also been highlighted as a major requirement for foreign language teaching. The extant literature also supports these responses. As per Avila (2015), teachers can integrate creativity in language learning classrooms by incorporating creative writing activities, games, visual aids, and the like that ultimately enhance the speaking and writing fluency of the foreign language students and improve their understanding of the grammar and structure of the target language. Similarly, Cho and Kim (2018) suggested that the application of language play activities in the classroom can enhance the communicative competence of the students. Besides, Fitriah (2017) postulated that fostering creativity in the language classroom is not only imperative for fostering engagement among the students but also for enhancing the creativity of the students in the target language.

All this discussion proves the critical importance of the 4C model for language learning and teaching. However, it was found from the interviews that at present there exists a dearth of training and development opportunities for EFL or foreign language teachers in Kazakhstan. The teachers reported that the introduction of the 21st-century competencies (4Cs) is relatively new to the foreign language curriculum of Kazakhstan due to which teachers are not really equipped with the knowledge and competence to implement this model in their foreign language teaching. This makes this model a good prospect for the training of foreign language teachers in Kazakhstan. This implies that it is important to first educate and train the foreign language teachers about 4Cs to make them competent enough to implement the model in their teaching of a foreign language to the students. This is consistent with Handayani's (2017) position that the competence of the teachers is the most crucial factor for achieving high teaching efficacy. Therefore, to teach effectively in the

TABLE 6 The results of the survey.

Items	Min	Max	Mean	SD
I believe that I was better prepared to take the assessment after the EFL lessons based on the 4C model were used by my teacher	2.00	5.00	3.9753	0.13879
After the 4C lessons and activities, I could comprehensively understand the meaning of the tasks in the assessment	2.00	5.00	3.7586	0.12797
The change in the EFL curriculum and lessons contributed well to my performance in the assessment	2.00	5.00	3.5246	0.74965
I felt satisfied with my level of performance and comprehension during the assessment	2.00	5.00	3.8651	1.19765
Compared to my pre-test, I could understand the questions with greater ease	2.00	5.00	3.8571	0.16483
I was better able to organize my writing in the post-test	1.00	5.00	3.5437	0.28549
I could ensure that there was no language issue in the post-test unlike the pre-test	2.00	5.00	3.6518	0.15769
I used better vocabulary in the post-test than the pre-test	2.00	5.00	3.8631	0.25698
I think that the 4C model shall become a permanent component of the EFL curriculum	2.00	5.00	3.7932	0.46975
I believe that the use of the 4C model in EFL teaching has enabled me to improve my language comprehension	1.00	5.00	3.8623	0.36845
I believe that the use of the 4C model in EFL teaching has helped me improve my vocabulary	1.00	5.00	3.5443	0.19765
I believe that the change in the EFL curriculum is good and improves the effectiveness of the EFL learning	2.00	5.00	3.7752	0.12976

classroom, it is necessary to develop and train qualified teachers. Similarly, [Hernawati \(2017\)](#) points out that EFL teachers' competence holds crucial importance in the language learning process in 21st-century educational programs. They should be adequately trained to guide the learning of their students.

To design the training plans for future teachers, integrated training has been suggested as the most useful approach. The integrated training would be long-term and continuous training of the teachers leveraging various activities and practices. In line with these suggestions, [Shabrina and Astuti \(2022\)](#) have asserted that foreign language teachers can regularly attend conferences, seminars, and workshops to continuously update their language competence and proficiency by learning contemporary language skills to gain deeper insight into the subject matter. Similarly, [Ula \(2019\)](#) asserted that a teacher's competence in terms of team skills, pedagogical competence, and language proficiency, can be considered in an initial teacher education program. Ultimately, foreign language teachers must constantly push their pedagogical competencies and professional qualifications to a higher level to teach effectively in the classroom. In summary, as foreign language teachers must update their skill set by incorporating 4Cs, these teachers must actively participate in conferences, seminars, workshops, and foreign language group meetings sponsored by institutes and the education sector of Kazakhstan.

For developing communicative competence, it was suggested to develop teachers' written and verbal as well as digital communication skills. In line with this suggestion, it is asserted that the technology applications in learning strengthen communication among the learners and reinforce the collaborative and coordination skills and competencies of the learners. Thus, the use of ICT-enhanced communication among learners enables them to further develop their language proficiency ([Budiman, 2020](#)). Thus, ICT should be incorporated into the professional training of the teachers to develop their proficiency in technology and enable them to actively make use of ICT in their language teaching, making it more interactive.

Furthermore, content-based instruction and task-based language teaching were suggested as appropriate strategies for enhancing

communication as well as collaborative competence among the teachers. This implies that preparing teachers to incorporate such interactive activities should also be incorporated into the professional training of foreign language teachers in Kazakhstan. This will enhance the ability of the teachers to reinforce cooperative learning in the classrooms enable the students to actively communicate with their peers for exchanging ideas and completing a task together that improves their language comprehension and proficiency ([Namaziandost et al., 2020](#)). Thus, with the use of such techniques, teachers' ability to foster collaboration and cooperative learning in their classrooms increases.

The findings of the interview also suggest that active debates, meetings, and discussions should be arranged by educational institutes to enhance the critical thinking abilities of foreign language teachers. This idea has been supported by various scholars as [Wahyuni et al. \(2019\)](#) have suggested debates and problem-solving as effective techniques that can be used by EFL teachers to develop and foster critical thinking in language teaching and learning. [Tekliuk \(2020\)](#) supported this idea stating that instructional strategies such as group discussions, reciprocal peer questioning, and debating in English can add to critical thinking and enhance EFL proficiency. Similarly, for developing the linguistic creativity skills of foreign language teachers, all the senior teachers and experts suggest to organize creative and interactive activities for the teachers. In this regard, [Wang and Kokotsaki \(2018\)](#) have suggested the use of screenwriting and chain games for improving proficiency in the target language and their knowledge of grammar and structure. [Gursoy and Bag \(2018\)](#) have also suggested that a problem-based learning approach inspires students to think creatively. Activities such as brainstorming, story writing, creative writing, and listening through the usage of imagination improve creativity in the target language. [Cho and Kim \(2018\)](#) also suggested that various types of language play can be used to improve the communication skills of the learners in the target language and offer them the space that they need to be creative. With the use of such interactive activities, it would be possible for the learners to demonstrate creative and exploratory abilities. Thus,

foreign language teachers should be provided with useful guidelines for incorporating language games into the classroom.

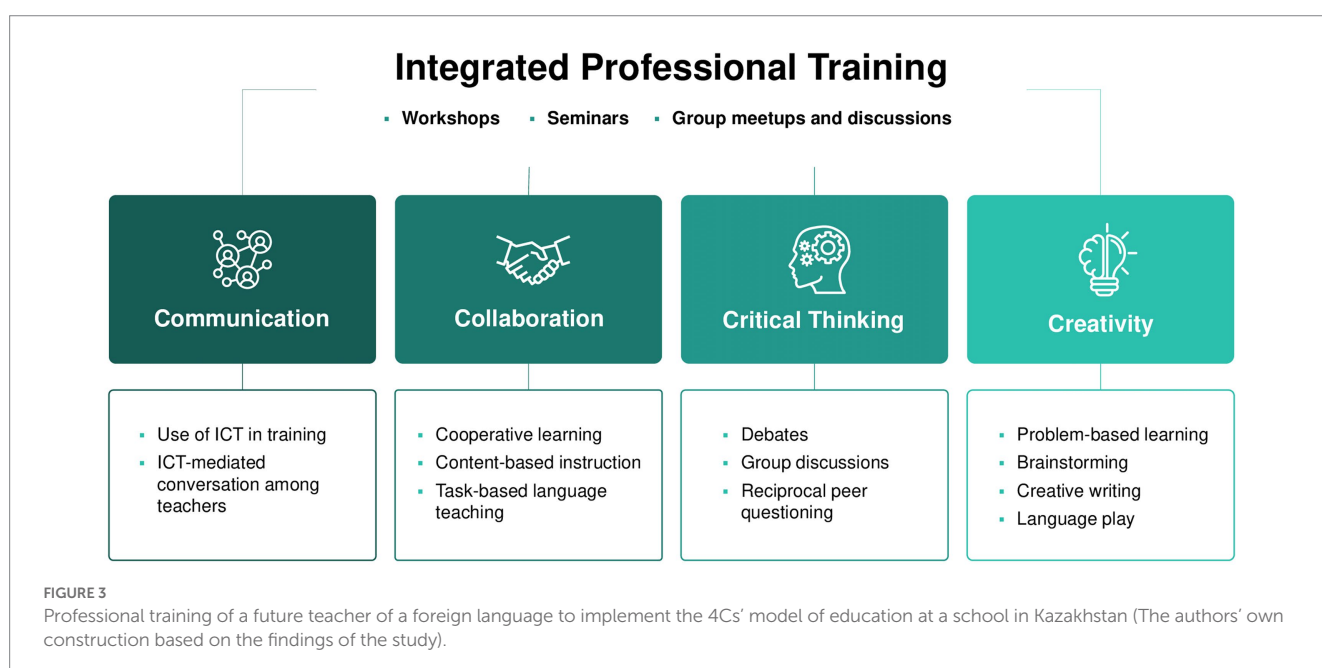
The results of the experiment and survey also showed that the new curriculum based on the 4C model can contribute to enhancing the EFL students' learning effectiveness. The results of the achievement test and the perception survey validated the use of the professional training based on the 4C model for future teachers of foreign language. Reflecting on the aforementioned findings, it is deduced that it is imperative for foreign language teachers in Kazakhstan to enlarge their horizons in order to incorporate the 4C model of education at schools. Thus, it is important for the professional training of foreign language teachers in Kazakhstan to adequately prepare them to integrate the four competencies offered by the 4C model, communication, collaboration, critical thinking, and creativity, in their foreign language teaching. In this regard, it is possible to incorporate the activities suggested in the aforementioned discussion for the professional training of foreign language teachers in Kazakhstan to prepare them to implement the 4C model of education at school. Based on the suggested techniques and methods for developing the professional training of foreign language teachers in Kazakhstan, Figure 3 presents an overview of the professional training content for the teachers to develop their ability to incorporate the 4C model.

Based on the interview responses and analysis of the extant literature, the article suggested developing and incorporating integrated training of future foreign language teachers, comprising workshops, seminars, and group meetings and discussions sponsored by their institutes and the educational sector of Kazakhstan. The professional training of future teachers should be focused on developing the abilities of the teachers in the four competencies: communication, collaboration, critical thinking, and creativity. Succinctly, for communication, it is important to develop ICT-mediated cooperative learning for the teachers to develop their interpersonal as well as digital communication (Fansury et al., 2020; Sassin, 2020). This way, teachers will be well-prepared and well-equipped to incorporate these in their language teaching at schools.

For developing collaboration, the paper suggests the use of content-based instruction and task-based language teaching in the professional training of teachers. This will, in turn, develop the ability of the teachers to reinforce cooperative learning in the classrooms that will enable the students to actively communicate with one another for the exchange of ideas. Ultimately, this will improve communication and the language proficiency of the students. For the development and implementation of critical thinking, the article suggests the use of debates, group discussions, and reciprocal peer questioning among the teachers of the foreign language that will enhance their critical thinking ability in the target language and develop their ability to foster the critical thinking in the students' foreign language learning. Finally, for developing creativity, problem-based learning approaches are suggested to be incorporated into the professional training of the students. This way, teachers will be able to learn various activities that they can incorporate for fostering creativity in their classrooms.

## 5.1. Comparison with previous studies

The findings of the paper are found to be in line with the findings of the extant literature that support the stance of this study, which is to incorporate the 4C model in the professional training of foreign language teachers in Kazakhstan to enable them to implement this model in the classrooms. Generally, the importance of the implementation of the 4C model in teaching and learning has been emphasized by various scholars. As per Rusdin and Ali (2019), this contributes to the increment of the teachers' understanding and enhances their teaching quality. Furthermore, with such a deeper understanding, teachers become more sufficient to improve their teaching practices and ensure that they are in accordance with 21st-century educational agendas. The quality of critical thinking has been suggested as crucial for foreign language learning and teaching as it improves language pedagogy (Khatib et al., 2012; Harizaj and Hajrulla, 2017; Saleh, 2019). Furthermore, collaboration has been





regarded as an important feature for improving the interaction, oral skills, sense of interdependence in language use and engagement which has been greatly emphasized in the extant literature (Johnson et al., 2014; Martin-Beltran and Peercy, 2014; Espina et al., 2017). Similarly, communication is important for enabling teachers to enhance the language fluency and competence of the students (Shi and Chen, 2015). Finally, the article suggested incorporating creativity in the teachers' training to enable them to deliver effective and enjoyable learning courses and encourage students to learn effectively (Avila, 2015; Fitriah, 2017; Cho and Kim, 2018).

## 6. Conclusion

The article proposed techniques and methods to incorporate into the professional training of the future teachers of a foreign language in Kazakhstan to develop their ability to implement the 4C model of education at schools. The concepts of communication, collaboration, critical thinking, and creativity have been comprehensively discussed in this article in the context of foreign language learning and training and the development of professional training for future teachers. The paper incorporated a qualitative approach and in-depth interviews were conducted with EFL senior teachers and experts in Kazakhstan in order to incorporate their experience and suggestions for developing adequate training for foreign language teachers.

Succinctly, all four competencies offered by the 4C model are found to be applicable in the context of foreign language learning and can be used to enhance the efficiency of foreign language learning in the classrooms of Kazakh foreign language institutes. The effective training to implement the 4C model in their language training was found to be important for the future foreign language teachers in Kazakhstan owing to the lack of training opportunities for foreign language teachers in the country. Besides, it was also found that the concept of 4Cs has been introduced in the language teaching curriculum in Kazakhstan. However, because the concept is relatively new for foreign language teachers in the country, they lack sufficient skills across the four competencies in the context of language teaching. In this regard, there exists a need for the professional training of the future foreign language teachers to enhance their ability to implement the 4C model of education. The EFL senior teachers and experts had a consensus on the fact that well-trained teachers can greatly assist learners in developing their foreign language proficiency by incorporating the 4C model. In this recognition, a schematic model has been proposed for the integrated and continuous training of foreign language teachers to develop their four competencies, critical thinking, creativity, collaboration, and communication, with the incorporation of a wide variety of activities and methods.

All in all, the findings demonstrate the need for the development and implementation of continuous professional training of foreign language teachers in Kazakhstan to enable them to implement the 4C model in the classrooms for effective teaching of foreign languages. This article offers practical implications for the foreign language institutes of Kazakhstan pertinent to the development of their future teachers to enhance their effectiveness in foreign language teaching with the incorporation of 4Cs. In particular, the educational sector of Kazakhstan should develop and organize long-term training opportunities for foreign language teachers, which currently appears to be lacking. Similarly, the educational institutes that are offering

foreign language courses such as EFL in Kazakhstan must develop appropriate activities and programs for the foreign language teachers such as foreign language teacher's groups that enhance the ability of their teachers to integrate the 4C model in the language teaching.

The strengths of this study are reflected in its theoretical contribution to the extant literature. Besides, as per the knowledge of the researcher, this is the first study to advise and suggest professional training of foreign language teachers to implement the 4C model in foreign language teaching in the classrooms. Despite such contributions, there are certain limitations of the study that must be acknowledged. The recommendations of the study for developing the professional training of the future teachers of a foreign language in Kazakhstan are majorly based on the suggestions and opinions of the language teachers and experts in Kazakhstan. This may limit the ability of the findings to be generalized in all contexts.

As it is established that the ability of this study to generate generalizable findings is limited by the narrow focus of the data collection (perceptions and experience of the EFL senior teachers and experts in Kazakhstan, future researchers must overcome this limitation of the study to generate more effective results). In this regard, it is suggested that future researchers conduct a more comprehensive study taking into account the perspectives of various stakeholders (teachers, educational leaders, etc.) from various regions to develop more comprehensive training for the teachers that can be applied to varying contexts.

## Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

## Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

## Author contributions

FS and NA were responsible for conceptualization and in charge of the methodology. AS processed the data. GK performed a formal analysis. GK and GN conducted the investigation. FS supervised the project. AS and MK searched and provided the literature resources. NA carried out the validation. MK prepared the manuscript draft. GN reviewed and edited the manuscript draft. All authors contributed to the manuscript revision, read, and approved the submitted version.

## Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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## References

- Abdollahi, A., Gardanova, Z. R., Ramaiah, P., Zainal, A. G., Abdelbasset, W. K., Asmundson, G. J. G., et al. (2022). Moderating role of self-compassion in the relationships between the three forms of perfectionism with anger, aggression, and hostility. *Psychol. Rep.* 332941221087911. doi: 10.1177/00332941221087911
- Alismail, H. A., and McGuire, P. (2015). 21st century standards and curriculum: current research and practice. *J. Educ. Pract.* 6, 150–154.
- Avila, H. A. (2015). Creativity in the English class: activities to promote EFL learning. *HOW J.* 22, 91–103. doi: 10.19183/how.22.2.141
- Azmi, M. N., and Nurzatulshima, N. (2017). Infusing high order thinking skills: teachers' readiness in teaching and learning of primary school design and technology subject. *Int. Res. J. Educ. Sci.* 1
- Basri, H., Purwanto Asari, A. R., and Sisworo, S. (2019). Critical thinking skills, critical reading and foreign language reading anxiety in Iran context. *Int. J. Instr.* 12, 219–238. doi: 10.29333/iji.2019.12414a
- Brannen, J. (2017). "Combining qualitative and quantitative approaches: an overview" in *Mixing methods: Qualitative and quantitative research*. ed. J. Brannen (London: Routledge), 3–37.
- Braun, V., and Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qual. Res. Sport Exerc. Health* 11, 589–597. doi: 10.1080/2159676X.2019.1628806
- Budiarti, M., Macqueen, S., Reynolds, R., and Ferguson-Patrick, K. (2021). Global project based learning as an approach to teaching the 4Cs in schools. *J. Int. Soc. Stud.* 11, 33–62.
- Budiman, A. (2020). ICT and foreign language learning: an overview. *Tarling J. Lang. Educ.* 3, 245–267. doi: 10.24090/tarling.v3i2.3913
- Chahin-Dörflinger, F. (2020). Reflection and evaluation of distance education in school. *Int. Dialog. Educ.* 7, 22–27. doi: 10.53308/ide.v7i1/2.21
- Chalkiadaki, A. (2018). A systematic literature review of 21st century skills and competencies in primary education. *Int. J. Instr.* 11, 1–16. doi: 10.12973/IJL.2018.1131A
- Charmaz, K. (2014). *Constructing grounded theory*. London: Sage.
- Cho, H., and Kim, H. K. (2018). Promoting creativity through language play in EFL classrooms. *TESOL J.* 9, 1–9. doi: 10.1002/tesj.416
- Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage Publications.
- Creswell, J. W., and Plano Clark, V. L. (2018a). *Designing and conducting mixed methods research*. London: Sage.
- Creswell, J. W., and Plano Clark, V. L. (2018b). *Research design: Qualitative, quantitative, and mixed methods approaches*. London: Sage.
- de Villa, A. (2017). Critical thinking in language learning and teaching. *History Res.* 7, 73–77. doi: 10.17265/2159-550X%2F2017.02.002
- Doringin, F., and Sasmoko, (2017). The model of professional development program for the internationalization of secondary education: case study in SMA Lokon, North Sulawesi. In Proceedings of the 2017 international symposium on educational technology (Piscataway, NJ: Institute of Electrical and Electronics Engineers), 251–255
- Erdoğan, V. (2019). Integrating 4C skills of 21st century into 4 language skills in EFL classes. *Int. J. Educ. Res.* 7, 113–124.
- Espina, F., Lagos, J., Medina, A., and Pilquinao, S. (2017). Collaborative action research in the Chilean EFL classroom. Doctoral dissertation, Santiago de Chile: Universidad Andrés Bello.
- Fansury, A. H., Januarti, R., Rahman, A. W., and Syawal, (2020). Digital content for millennial generations: teaching the English foreign language learner on COVID-19 pandemic. *J. Southwest Jiaotong Uni.* 55, 1–12. doi: 10.35741/issn.0258-2724.55.3.40
- Fathurrohman, I., Danim, S., Anwar, A. S., and Kurniah, N. (2021). The school principals' role in education management at the regional level: an analysis of educational policy in the industrial revolution 4.0. In Proceedings of the international conference on educational sciences and teacher profession, Eds M.L. Firdaus, Wachidi Badeni, M. Kristiawan, I Syafryadin, Maisarah Noermanzah and E. Nursaadahet al. (Atlantis Press), 237–242
- Fink, L. D. (2013). *Creating significant learning experiences: An integrated approach to designing college courses*. San Francisco, CA: Jossey-Bass.
- Fitriah, F. (2017). Teachers' beliefs about creativity in EFL classrooms in Indonesian higher education. Doctoral dissertation, Bruce, University of Canberra
- Fullan, M. (2007). *The new meaning of educational change*. New York: Teachers College Press.
- Galabova, D. (2022). Developing STEM competence in future teachers in mathematics in the trend of STEM education. *Math. Educ. Math.* 51, 124–136.
- Gerfanova, E. (2018). Foreign language education of Kazakhstan: current trends and future perspectives. *People Int. J. Soc. Sci.* 4, 735–745. doi: 10.20319/pijss.2018.43.735745
- Gursoy, E., and Bag, H. K. (2018). Is it possible to enhance the creative thinking skills of EFL learners through training? *Adv. Lang. Liter. Stud.* 9, 172–182. doi: 10.7575/aiac.all.v.9n.6p.172
- Guskey, T. R. (2002). Professional development and teacher change. *Teach. Teach.* 8, 381–391. doi: 10.1080/135406002100000512
- Handayani, N. (2017). Becoming the effective English teachers in the 21st century: what should know and what should do? *ELLiC* 1, 156–164.
- Hargreaves, A., and Shirley, D. (2009). *The fourth way: The inspiring future for educational change*. London: Corwin Press
- Harizaj, M., and Hajrulla, V. (2017). Fostering learner's critical thinking skills in EFL: some practical activities. *Eur. Sci. J.* 13, 126–133. doi: 10.19044/esj.2017.v13n29p126
- Hernawati, S. S. (2017). What makes effective teaching in the 21st century. *Eng Lang Liter Int Conf Proceed* 1, 211–216.
- Johnson, D. W., Johnson, R. T., and Smith, K. A. (2014). Cooperative learning: improving university instruction by basing practice on validated theory. *J. Excell. Coll. Teach.* 25, 85–118.
- Johnson, R. B., and Onwuegbuzie, A. J. (2004). Mixed methods research: a research paradigm whose time has come. *Educ. Res.* 33, 14–26. doi: 10.3102/0013189X033007014
- Khatib, M., Marefat, F., and Ahmadi, M. (2012). Enhancing critical thinking abilities in EFL classrooms: through written and audiotaped dialogue journals. *Human. Soc. Sci. J.* 7, 33–45. doi: 10.5829/idosi.hssj.2012.7.1.1104
- Kristanto, Y. D., and Santoso, E. B. (2020). Towards a mathematics textbook for supporting 21st century learning: the student perspective. *J. Phys. Conf. Ser.* 1657:012037. doi: 10.1088/1742-6596/1657/1/012037
- Martin-Beltran, M., and Peercy, M. M. (2014). Collaboration to teach English language learners: opportunities for shared teacher learning. *Teach. Teach.* 20, 721–737. doi: 10.1080/13540602.2014.885704
- Medeiros, F., Júnior, P., Bender, M., Menegussi, L., and Curcher, M. (2017). A blended learning experience applying project-based learning in an interdisciplinary classroom. In proceeding of 10th annual International Conference of Education, Research and Innovation, 8665–8672
- Mesgarshahr, A., and Abdollahzadeh, E. (2014). The impact of teaching communication strategies on EFL learners' willingness to communicate. *Stud. Second Lang. Learn. Teach.* 4, 51–76. doi: 10.14746/ssl.2014.4.1.4
- Mishra, S. B., and Alok, S. (2022). *Handbook of research methodology*. New Delhi: Education.
- Mitchell, A. (2018). A review of mixed methods, pragmatism and abduction techniques. *Electron. J. Bus. Res. Methods* 16, 103–116.
- Namaziandost, E., Homayouni, M., and Rahmani, P. (2020). The impact of cooperative learning approach on the development of EFL learners' speaking fluency. *Cogent Arts Humanit.* 7:1780811. doi: 10.1080/23311983.2020.1780811
- National Education Association. (2015). Preparing 21st century students for a global society: an educator's guide to the four Cs. Available at: <http://www.voicesempower.com/wp-content/uploads/2015/08/A-Guide-to-Four-Cs.pdf> (Accessed October 20, 2022).
- Nuphanudin, K. A., Shvetsova, T., Gardanova, Z., Podzorova, M., Kurniady, D. A., Gladysheva, M., et al. (2022). Effectiveness of students' motivation factors in the competency-based approach: a case study of universities in Russia and Indonesia. *Emerg. Sci. J.* 6, 578–602. doi: 10.28991/ESJ-2022-06-03-012
- Official Website of the President of the Republic of Kazakhstan. (2018). State of the nation address of president of the Republic of Kazakhstan Nursultan Nazarbayev. Available at: [https://www.akorda.kz/ru/addresses/addresses\\_of\\_president/poсланie-prezidenta-respublikikazakhstan-n-nazarbaeva-narodu-kazahstana-10-yanvary-2018-g](https://www.akorda.kz/ru/addresses/addresses_of_president/poсланie-prezidenta-respublikikazakhstan-n-nazarbaeva-narodu-kazahstana-10-yanvary-2018-g) (Accessed October 20, 2022).
- Partnership for 21st Century Learning. (2011). Framework for 21st century learning. Available at: <https://www.p21.org> (Accessed October 20, 2022).
- Ratminingsih, N. M., Budasi, I. G., Piscayanti, K. S., Adnyayanti, N. L. P. E., and Paragae, I. P. N. S. (2021). 4C-based learning model: what, why, how. *J. Pendidikan Indonesia* 10, 244–255. doi: 10.23887/jpi-undiksha.v10i2.31400
- Rivera, J. D. H. (2010). Authentic oral interaction in the EFL class: what it means, what it does not. *Profile* 12, 47–61.

- Rozak, L. A., Bahri Arifin, M., Rykova, I. N., Grishina, O. A., Komariah, A., Nurdin, D., et al. (2022). Empirical evaluation of educational service quality in the current higher education system. *Emerg. Sci. J.* 6, 55–77. doi: 10.28991/ESJ-2022-SIED-05
- Rusdin, N. M., and Ali, S. R. (2019). Practice of fostering 4Cs skills in teaching and learning. *Int. J. Acad. Res. Bus. Soc. Sci.* 9, 1021–1035. doi: 10.6007/IJARBS/v9-i6/6063
- Saleh, S. (2019). Critical thinking as a 21st century skill: conceptions, implementation and challenges in the EFL classroom. *Eur. J. Foreign Lang. Teach.* 4, 1–16. doi: 10.46827/ejfl.v0i0.2209
- Salybekova, F. M. (2019). 4Cs model as a new learning paradigm in Kazakhstan educational system. *Qazaqtany* 1, 189–193.
- Sassin, W. (2019). De-creation of creation, or a new level of culture in the development of homo. *Beacon J. Stud. Ideol. Ment. Dimens.* 2:020510203. doi: 10.55269/thebeacon.2.020510203
- Sassin, W. (2020). Globalisation and digitisation - the exponential spread of infectious information and its possible containment. *Beacon J. Stud. Ideol. Ment. Dimens.* 3:010510201. doi: 10.55269/thebeacon.3.010510201
- Shabrina, A., and Astuti, U. P. (2022). The integration of 6Cs of the 21st century education into English skills: teachers' challenges and solutions. *J. Pendidikan* 7, 28–37. doi: 10.17977/jptpp.v7i1.15185
- Shi, X. C., and Chen, M. J. (2015). Communicative approach and teaching of spoken English in college. US-China foreign. *Language* 723. doi: 10.17265/1539-8080/2015.10.005
- Sunardi, S., and Doringin, F. (2020). The 4Cs learning model in teacher professional development program. *Humaniora* 11, 151–157. doi: 10.21512/humaniora.v11i2.6508
- Supena, I., Darmuki, A., and Hariyadi, A. (2021). The influence of 4C (constructive, critical, creativity, collaborative) learning model on students' learning outcomes. *Int. J. Instr.* 14, 873–892. doi: 10.29333/iji.2021.14351a
- Tekliuk, H. (2020). Techniques and strategies of critical thinking development in the process of ESL teaching. Science and education a new dimension. *Pedagog. Psychol.* VIII, 42–44. doi: 10.31174/SEND-PP2020-221VIII89-10
- Tlepbergen, D., Akzhigitova, A., and Zabrodskaja, A. (2022). Language-in-education policy of Kazakhstan: post-pandemic technology enhances language learning. *Educ. Sci.* 12:311. doi: 10.3390/educsci12050311
- Ula, R. L. (2019). Teachers perception toward the incorporation 4C skills in English lesson plan. Doctoral dissertation. Surabaya: Universitas Islam Negeri Sunan Ampel Surabaya.
- Voogt, J., Knezek, G., Cox, M. J., Knezek, D., and ten Brummelhuis, A. (2015). Under which conditions does ICT have a positive effect on teaching and learning? A call to action. *J. Comput. Assist. Learn.* 30, 252–271. doi: 10.1111/jcal.12054
- Voogt, J., and Roblin, N. P. (2012). A comparative analysis of international frameworks for 21st century competences: implications for national curriculum policies. *J. Curric. Stud.* 44, 299–321. doi: 10.1080/00220272.2012.668938
- Wahyuni, S., Qamariah, H., Gani, S. A., Yusuf, Y. Q., and Syahputra, M. (2019). Critical thinking skills: British parliamentary debate system to improve English as foreign language (EFL) students' critical speaking. *Budapest Int. Res. Critics. Inst. J.* 2, 429–433. doi: 10.33258/birci.v2i3.444
- Wang, L., and Kokotsaki, D. (2018). Primary school teachers' conceptions of creativity in teaching English as a foreign language (EFL) in China. *Think. Skills Creat.* 29, 115–130. doi: 10.1016/j.tsc.2018.06.002
- Yang, Y., Yan, W., and Yang, Y. (2020). STEAM activity design based on 4C education concept—take tie-dye of traditional culture as an example. *Front. Educ. Res.* 3, 7–14. doi: 10.25236/FER.2020.031202
- Yoon, K. S., Duncan, T., Lee, S. W.-Y., Scarloss, B., and Shapley, K. L. (2007). Reviewing the evidence on how teacher professional development affects student achievement (issues & answers report, REL 2007-no. 033). Available at: [https://ies.ed.gov/ncee/edlabs/regions/southwest/pdf/rel\\_2007033.pdf](https://ies.ed.gov/ncee/edlabs/regions/southwest/pdf/rel_2007033.pdf) (Accessed March 10, 2023).
- Yunos, M. (2015). Attitude relationship and students' perception through Malay language learning with 21st century skills. *Malay Lang. Educ. J.* 5, 22–30.