

Assessing the Impact of Project-Based Learning on Enhancing Saudi EFL First Grade High-School Teachers' 21st Century Teaching Skills

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Abstract : The present study assessed the impact of utilizing the project-based learning approach (PBL) on developing the Saudi first grade high school EFL teachers' 21st century teaching skills. These skills are embodied in their content knowledge, confidence and self-efficacy to implement the PBL as a teaching method to deliver teaching instruction, realize their students' needs, improve their foreign language (FL) achievements and develop their metacognitive skills. The participants were 15 Saudi EFL teachers working in High schools, in Al-Majmaah City. Data collection relied on the use of a 21-item perception questionnaire to describe the development of participants' 21st century teaching skills due to the implementation of PBL teaching method. Data were analyzed qualitatively by using the percentage of the participants' responses to the questionnaire items. Results showed that the participants positively assessed the impact of employing PBL to enhance their 21st century teaching skills. The study introduced pedagogical implications to incorporate PBL into the FL curriculum taught to Saudi first grade high school students.

Keywords: professional development, teaching methods, students' performance, curriculum planning, digital age

تقييم تأثير التعلم القائم على المشروع على تطوير مهارات القرن الحادي والعشرين للمعلمين السعوديين للغة الإنجليزية
للفصل الأول الثانوي بالمدارس الثانوية
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بجامعة المجمعة

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المستخلص: قامت الدراسة الحالية بتقييم تأثير استخدام التعلم القائم على المشروع على تطوير مهارات القرن الحادي والعشرين للمعلمين السعوديين للغة الإنجليزية في المدارس الثانوية بمدينة المجمعة. وتمثل هذه المهارات في المعرفة بالمحتوى التدريسي، والثقة والكفاءة الذاتية في تطبيق التعلم القائم على المشروع كطريقة تدريس تقدم تعليمات التدريس، وتحقيق احتياجات الطلاب، وتنمي تحصيلهم الدراسي في اللغة الأجنبية، وتطور مهارات ما وراء المعرفة، وتضمنت عينة الدراسة خمسة عشر معلماً سعودياً للغة الأجنبية - كلغة أجنبية - بالفصل الأول الثانوي في المدارس الثانوية بمدينة المجمعة، وتم جمع البيانات البحثية باستخدام استبيان الإدراك المكون من 21 بنداً؛ لوصف تطور مهارات القرن الحادي والعشرين للمشاركين؛ نظراً لاستخدام طريقة تدريس التعلم القائم على المشروع، وتم تحليل البيانات البحثية كميّاً باستخدام النسب المئوية لردود المشاركين على بنود الاستبيان. وأشارت النتائج إلى أن المشاركين لديهم تقييماً إيجابياً بشأن تأثير التعلم القائم على المشروع على تطوير مهارات القرن الحادي والعشرين لديهم، وقدمت الدراسة مضامين تربوية لدمج طريقة التعلم القائم على المشروع في منهج اللغة الأجنبية الذي يتم تدريسه للطلاب السعوديين بالفصل الأول الثانوي بالمدارس الثانوية.

الكلمات المفتاحية: التنمية المهنية، طرائق التدريس، أداء الطلاب، تطوير المناهج، تصميم المناهج، العصر الرقمي.

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Introduction

Project-based learning (PBL) has emerged as an inquiry-based teaching method whose popularity has been increasingly growing in the field of education. Zhang and Ma (2023) pointed out that the PBL approach can be traced to the American educator John Dewey who emphasized the importance of learning through doing projects as specified in his pedagogical book entitled *Pedagogical Creed*. The PBL approach appeared as an instructional approach that expands the students' role in learning, it allows the students' involvement in learning by making learning projects that enhance their skills in overcoming real world challenges. Krsmanovic (2021) and Martinez (2022) explained that PBL sustains the students' collaboration in their quest to look for knowledge through creating a project. In PBL, teachers are usually held responsible for guiding and facilitating the students' practice of teamwork skills, collaboration with peers, and innovation in project creation. Paragae (2023) clarified that PBL is one of the most useful recent innovative teaching strategies because it enhances collaboration and interaction between teachers and students.

Alyani (2021) and Kemaloglu-Er and Sahin (2022) clarified that PBL also encourages students to present the created projects by the end of the school term. Thus, the students can have opportunities to improve their communication skills while presenting the created projects. As such, Amaral, Araujo, and dos Santos (2018) and Belwal, Belwal, Sufian and Al Badi (2020) indicated that PBL encourages the students' active participation in the classrooms, and crucial involvement in the learning process. The PBL changes the students' role from negative recipients of knowledge to the main source of providing knowledge. Consequently, the teachers' role is changed into facilitating and guiding the students' efforts to find knowledge.

Being a centered-learner teaching approach, PBL has numerous benefits. Almulla

(2020) and Belwal et al., (2020) pointed out that PBL sustains EFL learners' creativity, attention, interaction ability, interest in learning English, and practice learning activities outside the classrooms. It provides EFL learners with opportunities to conduct deep investigation and analysis of the English knowledge being taught to them. The PBL approach also makes EFL learners actively engaged in the teaching process by suggesting solutions to English-learning related problems, able to draw conclusions to English learning related tasks, and sharing knowledge with their peers. Khandakar, Chowdhury, Gonzales, Touati, Emadi, and Ayari (2020) and Shaalan (2020) clarified that PBL also enables EFL learners to exert high interest in taking parts in activities pertinent to their experience and community. It deepens their ability to comprehend the contents of English lessons. Suhroh, Cahyono and Astuti (2020) and Al-Busaidi and Al-Seyabi (2021) asserted that PBL enhances EFL learners' ability to use authentic learning materials and apply them in their daily life-activities. It turns the EFL classrooms into an enjoyable, creative, and motivating environment.

Pedagogically, the PBL approach can largely affect the EFL learners' learning strategies, preferences and school achievements in English examinations. Amaral et al, (2018) and Almulla (2020) indicated that due to the employment of PBL approach, EFL learners can also use language confidently, sustain their ability of autonomous learning, become more motivated to learn English, and develop their learning of metacognitive skills. The PBL approach can change the way EFL learners perceive the learning of English. Mali (2016) Saldana (2016) and explained that Instead of being viewed as a school subject, the EFL learners would view English as a useful tool of communication that serves their daily-life communicative purposes. The improvement of language skills on the part of EFL learners can certainly improve their relations with peers and teachers because it sustains collaboration among

learners and increases the EFL teachers' satisfaction with their students' FL performance.

Astawa, Artini and Nitiasih (2017) and Gratani and Giannandrea. (2022) emphasized that the employment of PBL as a teaching method and learning approach is consistent with the various attempts to develop EFL teachers' self-efficacy to attain the demands of FL curricula by tackling the EFL learners' needs in the technology-dominated 21st century. The EFL teachers are expected in the 21st century to be able to determine the main domains of school reform models and exert practical skills that sustain the implementation of FL curricula in the 21st century. Improving the process of foreign language (TEFL) in the 21st century requires teachers who are strongly knowledgeable of the FL content and the teaching strategies that enable their students to apply the FL content and knowledge in the real-life activities. According to Baghoussi and El Ouchdi (2019) and Al-Busaidi and Al-Seyabi (2021), FL curricula should be based on the concepts of collaboration, enhancement of students' classroom engagement, and increased social and emotional welfare.

Thus, Giao and Nguyen (2021) clarified that the EFL teachers' 21st century teaching skills reveal the connection between teaching strategies and practices inside the classrooms and the improvement of students' achievement and psychological development. That is, the quality of teaching instruction can highly affect the improvement of learning ability and social and emotional development. In other words, the quality of providing teaching instruction can influence the quality of learning in the 21st century. Belwal et al., (2020) and Andriyani and Anam (2022) ascertained that The balance between these two types of quality can be found in attaining high quality of teaching skills consistent with the skills which EFL learners are required to be equipped with in the 21st century. As such, Johnson and Cuevas (2016) asserted that the EFL teachers are required in the 21st century to

help their students to be creative, independent learners, competent in communication, able to think critically, solve problems, and efficiently use technology and digital devices.

When there is a lack of realizing good learning outcomes, the quality of teaching should be explored. The challenge of achieving the cherished improvements in the instruction process dwells on the poor comprehension of the EFL teachers' teaching strategies and practices and the purposive support which EFL teachers require to be professionally developed. In this regard, the posed question is related to ways of improving the EFL teachers' 21st century teaching skills in to produce a generation of EFL learners equipped with the 21st century skills. According to Miles, Huberman and Saldana (2014), the PBL has been recently discussed as an effective tool for providing EFL instruction and helping EFL learners to possess the 21st century required skills.

Consequently, Miles et al., (2014), Huysken, Olivey, McElmurry, Gao, and Avis (2019) and Belwal et al., (2020) emphasized that there was a need to explore the effect of incorporating the project-based learning (PBL) in improving the quality of teaching English to EFL learners at school levels. In other words, EFL teachers should adjust their teaching skills in line with employing the PBL teaching method. This raises a question on the impact of utilizing PBL teaching method on developing the Saudi EFL high school teachers' 21st century teaching skills.

Therefore, there was a need to assess the perception of some Saudi EFL teachers of the impact which may result from using the PBL on the development of their 21st teaching skills.

The study differs from other studies in the sense that the Saudi EFL context is different from other contexts because the Saudi context reflects different cultural and social criteria from the other EFL contexts.

The value of the present study in the first place is embodied in sustaining the efforts to elevate the professional competence of Saudi EFL teachers in the 21st century.

Operational definitions

21st Century Teaching Skills

The term *21st century teaching* skills refers to the ability of Saudi EFL teachers to implement the PBL teaching and learning approach while teaching FL curriculum to the Saudi EFL first grade high-school students, Al-Majmaah City. In other words, it refers to the participants' confidence and self-efficacy in using the PBL approach to provide FL instruction, attain the students' learning needs, and improve the students' FL achievement and metacognitive skills.

Project-Based Learning (PBL)

The PBL term is utilized in the present study as a teaching method used by the Saudi EFL high school teachers in providing instruction and teaching FL curriculum to first grade high-school Saudi EFL students.

Statement of the Problem

The present study assessed the impact of utilizing the project-based learning approach (PBL) on developing the Saudi EFL high-school teachers' 21st century teaching skills. These skills are embodied in their content knowledge (i.e. knowledge of FL curriculum and language proficiency), confidence and self-efficacy to implement the PBL as a teaching method to deliver teaching instruction, realize their students' needs, improve their foreign language (FL) achievements and develop their metacognitive skills. The assessment was based on four main indicators, namely content knowledge, confidence, benefits, and challenges. The first indicator handled the impact of PBL on changing the participants' content knowledge. The second indicator analyzed the enhancement of the participants' confidence in utilizing the PBL teaching method in teaching English to first grade high-school students. The

third indicator discussed the participants' views on the benefits resulting from applying the PBL teaching method to the process of teaching and learning English to first grade students. The fourth indicator described the difficulties which the participants encountered in implementing the PBL teaching method.

Hypotheses

The main hypothesis is that the BPL teaching method has negative effect on the examined variables. Thus, there is insignificant impact of the PBL teaching method on:

The Saudi EFL teachers' content knowledge.

The development of the participants' confidence in delivering instruction to their first grade high-school students.

The participants' perception of the benefits of using the PBL teaching method.

The participants' perception of challenges when applying the PBL teaching method.

Study Questions

The study tried to provide answers to the following questions:

How did the use of PBL teaching method affect the Saudi EFL teachers' knowledge?
How did the use of PBL impact the confidence of Saudi EFL teachers in delivering instructions?

What was the impact of utilizing PBL on developing the Saudi EFL teachers' confidence of providing instructions to their students?

How did the participants perceive the benefits resulted from using the PBL teaching method?

What were the challenges faced Saudi EFL teachers when implementing the PBL teaching method?

Study Aims

The study aimed to:

Assess the changes in Saudi EFL teachers' knowledge of the content taught through the use of PBL instruction.

Identify the change of Saudi EFL teachers' confidence because of using the PBL teaching method.

Describe the participants' perception of the benefits resulted from employing the PBL teaching method.

State the challenges encountered Saudi EFL teachers due to the implementation the PBL teaching method.

Significance of the Study

Significance of the present study can be summarized as follows:

Supporting English teaching goals and policies in Saudi high schools.

1. Contributing to the development of FL curricula taught in Saudi high schools.
2. Developing the preparation programs of Saudi EFL teachers.
3. Selecting the appropriate FL teaching methods in the Saudi high schools.
4. Enhancing the FL language skills of Saudi EFL first grade high school students.

Review of Literature

Almulla (2020) discussed the increasingly prevalent usage of PBL method leads to debates about its educational benefits. Some critics threw doubts on using such technology-based method to sustain teachers' practices and strategies instead of relying direct teaching instructions which respond to the students' main concept of teaching and learning. The study investigated the benefits that could be attained by using the PBL teaching method in order to sustain the students' engagement through collaborative, authentic, iterative and organized learning. Being a quantitative study, the model of

structural equation was employed to analyze the 124 participants' responses to the PBL perception questionnaire. Almulla (2020) found that the participants had high positive perception of using the PBL teaching method which could reinforce different learning strategies among students like collaboration, disciplinary and iterative learning. The participants clarified that PBL mainly encourages the increased students' engagement in the learning activities inside the classroom environment. According to the participants, the students became more active in obtaining, sharing and discussing knowledge. In other words, the findings asserted the role of PBL method in developing the students' participation in the teaching and learning process and the necessity of integrating PBL method to realize purposes of teaching and educating students.

Gratani and Giannandrea (2022) pointed out that it is inevitable to adjust the methods of teaching and strategies of learning according to the current advanced technology. The increasingly growing exploitation of the *21st century* skills necessitates the reform of out-dated curricula being taught in schools. In this regard, one of the capable educational tools that can help attain the *21st century* skills is robotics. Robotics also plays important roles in developing the students' skills of collaboration, creativity, metacognition, solving problems, and critical thinking. Thus, the study designed a project aimed at incorporating robotics into the curricula being taught to the primary and lower secondary school students. The project spanned one school year and comprised 50 Italian students at grades 4 and 5. The longitudinal project followed up the participants till they moved to the higher grades. The project adopted the UN prescribed goals in its *2030 Agenda*. The 50 participants worked in groups to solve each goal which was presented as a challenge. The findings showed that robotics can enhance the students' creative ability to design, compose, and revise. On

the other hand, the study also investigated the 50 participants' perception of the 21st century skills and their impacts on the participants' self-efficacy. For that purpose, the 50 participants were required to respond to two questionnaires. The two sets of questionnaires were a pre-questionnaire which was administered while doing the project and post-questionnaire that was administered after the end of the project. The findings indicated that the participants had improved their personal and interpersonal skills of organization and management.

Kemaloglu-Er and Sahin (2022) clarified that the challenges of teaching English in Turkish schools located in rural areas were investigated in the light of integrating the PBL approach into the EFL classes. These challenges include among others shortage of resources and interest lack of learning English among Turkish EFL students. The study investigated the possibility of creating and devising an PBL model for the purpose of teaching English in the Turkish rural areas. The study also focused on the effectiveness of employing PBL in developing the Turkish EFL learners' linguistic competence. The study determined the benefits and challenges resulted from utilizing PBL in the Turkish context. The participants comprised ten Turkish grade seven students. Data were collected by using three instruments, namely questionnaires, semi-structured interviews and the participants' outputs.

Data collection employed among other instruments an 18-item closed-ended questionnaire to assess the participants' language and real-life related skills. The examined participants' language skills covered mastering of the English four skills. In addition, the participants' real-life skills covered their personal communication skills. Furthermore, the participants were interviewed to express their views on the challenges and benefits of using the PBL model and the solutions that might improve the employment of PBL model. The participants' PBL outputs were also assessed including writing

production, oral presents, and narration of English stories.

Kemaloglu-Er and Sahin (2022) found that PBL model has multiple effects on developing the teaching of in English in the Turkish rural schools. There was evidence on developing the participants' interest and confidence in learning and using English. The benefits results from utilizing the PBL model were not only restricted to the participants' language skills but also extended to personal skills such as mastering the use of computers, conducting oral presentation, managing time, independent decision making, and developing creative skills. On the other hand, the challenges of using PBL model include time consumption and the increase of learners' workload.

Sulaiman and Ismail (2020) examined the competence of Malaysian ESL teachers is mainly interrelated to the development of their 21st century skills. Thus, this study investigated the interrelationship between the 21st century skills and the teaching competence of Malaysian ESL teachers. The participants were 242 Malaysian ESL secondary school teachers. Notably, the term secondary school in Malaysia is equal to the term middle school in the KSA. Teachers' competence was identified in accordance with the standards of Malaysian teachers determined by the ministry of education, Malaysia. The term '21st century skills' was identified according to the framework of teacher educator. Data were collected through the instruments of (1) the 42-item *Standards of Malaysian Teachers* which were exploited to measure the participants' teaching competence; and (2) the 32-item skills of teacher preparation. The findings indicated that there was a vividly positive interrelation between the 21st century skills and the development of teachers' competence. It was also found that the dimensions of Malaysian ESL teachers' competence can possibly contribute to further development of the concepts related to the 21st learning. It was concluded that the 21st century skills are the milestones upon which Malaysian ESL

teachers can enhance their teaching quality in accordance with the existing developments in the Malaysian educational system.

Varas, Santana, Nussbaum, Claro, and Imbarack (2023) explained that students should be provided through education systems with the necessary skill of success in the 21st century. Different countries were unable to integrate the 21st century skills within their school FL curricula. The study explored EFL teachers' comprehension and obstacles in various Latin American country of teaching such skills. Online surveys were distributed to 1391 EFL teachers in Latin America. The participants revealed different ways of comprehending the concept of the 21st century skills. A large number of participants were unable to determine the most popular 21st century skills. Some participants mentioned that they may use some up-to-date teaching strategies such as those implied in the PBL model without knowing the intended 21st century to be taught. For example, the expressed awareness of the need to train their students to be creative, think critically, collaborate with peers, communicate meaningfully, and use technology efficiently. However, they were unaware of the main pedagogical framework under which these skills should be classified. The participants do not have common comprehension of the 21st century skills and how these skills can be developed. The participants named some required skills to be taught to the EFL students. These skills focused on the EFL students' ability to communicate properly, make ultimate usage of advanced technology in their attempts to master English, work creatively and collaboratively, and think critically. The conclusion asserted that all such skills can be attained through the employment of PBL teaching method. The study also concluded that the reasons impede the teaching of 21st century skills do not only exist in the Latin America region, but can also be extended in other EFL classrooms around the world. The study emphasized that the

future uncertainty requires the development of skills that enable EFL learners to constantly adapt themselves with the new situations including the continually developed technology. The development of EFL learners' 21st century skills is essential for acquiring FL knowledge.

Methodology

Research design

The analytical qualitative approach was employed in the current study to provide in-depth analysis of the PBL impact on enhancing the Saudi EFL high school teachers' 21st century skills (Miles et al., 2014, Saldana, 2016, Astawa et al., 2017, Amaral et al., 2018 and Gratani and Giannandrea, 2022). The qualitative analysis helps to provide in-depth analysis because it is based on thematic analysis of the research problem being investigated. As such, the employment of qualitative analysis helps to realize the research objectives in the sense of investigating the 21st teaching skills of the research participants. The qualitative approach helped to provide further details on developing the participants' content knowledge, confidence and self-efficacy in using the PBL teaching methods while teaching English to the Saudi first grade students. The selection of EFL teachers working in high schools reflects the importance of this educational stage in sustaining the English language proficiency of its students.

Participants and setting

The study adopted the purposive sampling procedure. Participants were 15 Saudi EFL teachers. They worked in public high schools, Al-Majmaah City. They were all male teachers with varying years of working experience. The participants voluntarily agreed to take part in the study following the researcher's explanation of nature and objectives of his study. The number of participants is limited due to the nature of the in-depth qualitative analysis. Five participants had

taught English for five years, other had teaching experience of ten years, and the working experience of the last five participants exceeded ten years. Their age ranged between 27-40 years old. All of them are English language teachers by profession as they all hold bachelor degrees in teaching English. Four of them obtained post-graduate studies in education, namely general and special diplomas in teaching English. Only two of them obtained Master of Education (M.Ed.) in teaching English. In

The 15 EFL teachers applied the PBL teaching method in providing instruction for teaching the first grade high school FL curriculum. The participants asked their first grade high school students to be engaged in different projects covering the first term FL units. These activities covered various types of English learning knowledge which the first grade high school students are required to study in line with curriculum devised by the Ministry of Education. The projects include authentic learning materials of the four language skills, namely listening, speaking, reading and writing (Appendix 1). The 15 participants guided their students in planning and implementing these

Data elicitation mainly relied on the design of a 21-item questionnaire developed on the basis on other studies (Miles et al., 2014, Steenhuis and Rowland, 2018, Almulla, 2020, Belwal, et al., 2020, and Andriyani and Anam 2022). The questionnaire was divided into four sections (Appendix 2). Section one, which comprises five items, dealt with the impact of PBL on changing the participants' content knowledge. Section one aimed to seek information about the participants' knowledge of English content and curriculum in order to be able to select the appropriate PBL learning materials for teaching their students. Section two includes four items and analyzed the enhancement of the participants' confidence in utilizing the PBL teaching method in teaching

addition, like other high schools in different parts of KSA, the high schools in Al-Majmaah City are seeking the attainment of excellence in education in line with the Royal Vision of 2030. As such the high schools in Al-Majmaah City seek to improve the interactional processes of teaching and learning. Hence, it was necessary to explore the PBL effect on developing the EFL teachers in the high schools in Al-Majmaah City.

Procedure

projects. At the end of the term, the 15 participants assessed the impact of utilizing PBL on enhancing their 21st century skills by responding to a 21-item questionnaire. The questionnaire items were subjected to amendments in accordance with the four curriculum and instruction experts' comments. The four experts had a large experience in the field of teaching English as a foreign language. The questionnaire was also piloted by using 10 Saudi EFL high school teachers. The reliability coefficient was .87 suggesting high reliability of the questionnaire items. The questionnaire was also valid as it items measured the main 21st century teaching skills.

Data collection instrument

English to first grade high school students. Section two aimed to explore the effect of repeated use and application of RBL materials on the teachers' confidence of using those materials. Section three comprises five items related to the participants' views on the benefits resulted from applying the PBL teaching method to the process of teaching and learning English to first grade students. Section three proves tangible analysis of the the teachers' perception of using the PBL method. Section four includes seven items about the difficulties which the participants encountered in implementing the PBL teaching method. Section four aimed to identify the problems which the participants encountered when using the PBL method. The questionnaire was designed on the basis of five-point Likert scale

providing five possible responses, namely Strongly Agree (SA)=1, Agree (A)=2, Not Sure (NS)=3, Strongly Disagree (SD)= 4, and Disagree (D)=5.

Results

Table 1 : PBL impact on changing the participants' knowledge

Skills	SA%	A%	NS%	SD%	D%
1.Creating questions which stimulate students' engagement	44	40	3	7	6
2.Creating adequately deep projects consistent with the required first grade curriculum	45	43	2	6	4
3.Effectively assess the first grade students' projects	40	42	3	8	7
4.Organizing the first grade students into groups	44	45	1	6	4
5.Facilitating the first grade students' learning of the taught content	42	43	2	7	6

The employed qualitative approach of data analysis relied on the computation of percentage scores of the participants' responses to the questionnaire various sections. Table 1 indicates that the participants had largely higher percentage scores of the responses Strongly Agree (SA) and Agree (A) in comparison to other optional responses of Not Sure (NS), Strongly Disagree (SD), and Disagree (A). In other words, more than

80 percent of the participants strongly agreed and agreed to the items representing the PBL impacts on changing their content knowledge. Less than ten percent of the participants expressed their strong disagreement and disagreement to the changes occurred to their content knowledge because of employing the PBL teaching method. On the other hand, a very few participants could not decide on

the PBL impact on changing their content knowledge.

Table 2 : PBL impact on changing the participants' confidence

Items	SA	A	NS	SD	D
6.Teaching the first grade students skills of self- regulation including establishment of goals, monitoring of projects, and reflecting on projects	46	42	1	7	3
7.Effective classroom management	44	46	2	4	4
8.Effective provision of feedback	41	45	3	7	4
9.Teaching first grade students skills of solving problems	39	46	1	9	5

Table 2 shows that the participants' confidence was increased as a result of using the PBL teaching method. Most participants shared positive assessment of the PBL impact on developing their confidence as shown in the higher percentage scores of the two responses of Strongly Agree (SA) and Agree (A). Meanwhile a little

percentage of the participants opposed the development of Saudi EFL teachers' confidence because of using the PBL teaching method. A very limited number of participants was unable to decide on the positive impact which PBL teaching method had on the development of teaching confidence.

Table 3 : Perceiving PBL benefits

Items	SA	A	NS	SD	D
10.Varying the teaching and learning styles	42	47	2	7	2
11.Realizing the effectiveness of teaching	42	40	4	8	6
12.Teaching daily-life required skills	45	40	3	5	7
15.Promoting the first grade students' engagement	43	46	2	3	6
13.achieving the personalization of teaching	42	41	4	5	8

Table 3 shows that majority of participants held positive perception of the benefits of employing PBL teaching method when teaching English to Saudi first grade students. Overwhelmingly, the participants strongly agree and agreed to the item of the questionnaire third

section. The minority of participants strongly opposed or only opposed these benefits. Similarly to the previous questionnaire sections, a very few participants were unable to make decision regarding the PBL benefits.

Table 4 : Perceiving PBL challenges

Items	SA	A	NS	SD	D
14.Large size of EFL classes	3	5	5	43	44
15.Lack of learning resources	4	7	4	46	39

16.Inadequate time for creating projects	36	39	7	8	10
17.First grade students' inadequate experience in creating projects	42	45	5	3	5
18.limited space of the EFL classrooms	39	41	4	7	9
19.First grade students' poor attendance in EFL classrooms	9	5	2	40	44
20. First grade students' misbehavior in the EFL classrooms	29	34	4	15	18
21.Inadequate development of the teachers' profession of using PBL	25	31	6	20	18

Table 4 indicates variance in the participants' responses to the challenges resulting from the implementation of the PBL teaching method. Majority of participants expressed strongly disagreement and disagreement to some items (14-15-19) of the challenges posed by using PBL teaching method. Meanwhile, minority of

Discussion

Findings of the study first question indicated that the majority of participants highlighted the positive impact which the PBL utilization had on changing their English content knowledge. The PBL teaching method allowed the participants to increasingly stimulate their high school students to be actively engaged in the process of teaching and learning English. The

participants expressed strong agreement and agreement to these items. On the other hand, most participants had higher percentage scores of strongly agreed and agreed responses to items (16-17-18-20-21) which constitute some obstacles for using PBL projects as a instruction method in the Saudi EFL classrooms.

students' active participation was embodied in designing seep projects suitable for the first grade high school curriculum. Furthermore, the PBL teaching method allowed the participants to carry out effective assessment of the students' English language projects. The PBL teaching method also enabled the participants to divide students into equally organized groups. The investigated PBL

teaching method contributed to the facilitation of the students' learning of the taught English contents. The findings led to the rejection of first null hypothesis that the participants' content knowledge did not change due to the utilization of PBL teaching method. The findings are in agreement with reviewed studies Johnson Cuevas (2016), Wongdaeng and Hajihama (2018), Gratani and Giannandrea (2022), and Varas (2023).

As for the findings of the study second question, most of the participants were in favour of the positively effective impact which PBL utilization had on developing their teaching confidence. Due to PBL teaching method, the participants managed to enhance their students' self-regulation skills. Thus, Saudi first grade high-school students were able to establish goals, monitor projects, and reflect on those projects. The participants also managed to have effective management of the English classrooms and trained their students on ways to solve learning problems. Thus, they managed to create a suitable learning environment which facilitated their mission of providing effective feedback. The findings rejected the second null hypothesis that the participants' confidence in providing instructions was not developed due to the implementation of PBL teaching method. The findings are compatible with those reported in studies Miles et al., (2014), Baghoussi and El Ouchdi (2019), Giao and Nguyen (2021), and Yoon (2022).

Findings of the study third question indicated that the participants were mostly in favour of the good benefits that can be gained by applying the PBL teaching method in Saudi EFL high school classrooms. These distinct benefits cannot be restricted only to the participants' variation of teaching styles, but also extended to affect the various styles which their students exerted in learning English. The students showed different learning styles and strategies, particularly in designing various learning projects pertinent to the first grade high-school FL curriculum. As such, the employment of PBL teaching method helped the Saudi EFL high school teachers to attain effective teaching in their English classes. It also developed

the students' involvement in the process of teaching and learning as they took part in projects design. The participants also indicated that PBL teaching method gave opportunities to develop the non-linguistic skills of their students represented the use of English outside classrooms for the purpose of conducting daily life activities. The findings led to the rejection of the research third null hypothesis that the participants held negative perception of using the PBL teaching method. The findings are consistent with those reported in other studies such as Johnson and Cuevas (2016), Shaalan (2020), Sulaiman and Ismail (2020), and Andriyani and Anam (2022).

As for the findings of the study fourth question, the participants did not show consensus of what can constitute challenges for implementing the PBL teaching method in the Saudi EFL context. Majority of the participants strongly disagreed and disagreed to some factors that can considered as challenges which impede the employment of PBL teaching. These factors include large size of the English classes because the Saudi EFL classes are relatively small compared to English classes in other countries. Lack of learning sources cannot also be considered as an obstacle for using PBL teaching method because the Saudi ministry of education is keen on providing adequate learning sources to its students at different educational stages. On the other hand, majority of the participants identified the real challenges of using PBL in Saudi EFL classrooms as insufficient classroom time for creating projects, misbehavior on the part of some students, and teachers' undeveloped professional skills of using PBL.

Conclusion

The present study concluded that the PBL has positive influence on changing the Saudi EFL high school teachers' content knowledge. This finding reflects the positive effect resulting from using the PBL teaching method. The PBL instructions deepen and widen the EFL teachers' knowledge in the English contents delivered to the first grade high school Saudi EFL learners. The participants were highly engaged in designing various authentic learning materials for their

students covering the English language four skills. This engagement, certainly, sustains their knowledge of the taught English contents.

In addition, the PBL teaching method positively contributed to develop the participants; confidence of providing instructions. That change was reflected on the development of Saudi first grade high-school students' skills of self-regulation, problems solving and projects reflection. Undoubtedly, the PBL teaching method allowed the participants to confidently managed the English classes and provide suitable learning environment for the process of teaching and learning English in high schools.

Implications of the study

There are reasons for the incorporation of PBL into curriculum design and planning. There is an overwhelming perception among the participants of the benefits that resulted from using the PBL teaching method. Thus, curriculum design and planning should take into consideration the importance of incorporating the PBL teaching method into the English language syllabi taught to Saudi EFL students not only in high schools but also at other educational stages such as primary and high schools. The PBL teaching method sustains collaboration among students perceived by the participants who indicated that their students collaborated to design various learning projects in accordance with first grade high-school English language curriculum. The participants and their students also varied their teaching and learning styles due to the employment of PBL teaching method. Benefits of using such a teaching method are only confined to the English classrooms, but can be extended to the students' daily life activities where the managed to use English for communication purposes.

Saudi EFL teachers indicated specific features of what can be counted as callneges resulted from using the PBL approach. For Saudi EFL teachers some factors do not represent

The present study introduced the following topics for further research:

challenges for implementing PBL teaching method in the Saudi EFL context. The factors include the large size of English classes, lack of learning sources, and poor attendance of students. On the other hand, the real challenges can be embodied in the development of Saudi EFL teachers' professional skills to employ PBL, the time allocated for EFL classes, and the misbehavior of some students. Thus, the Saudi ministry of education should enhance the Saudi EFL teachers' capabilities of using such a genuinely productive teaching method. This enhancement should start at an early stage of preparing student-teachers at various colleges of education. The in-service Saudi EFL teachers should plan their lessons in a way that allows the utilization of PBL teaching method within the parameters of classroom time management. The Saudi EFL teachers can brief their students about the benefits which they can gain from using PBL teaching method. As such students can adhere to discipline and avoid misbehavior to attain the utmost learning gains.

Limitations

The expected results of the present study were mainly meant to the improvement of the 21st century skills of Saudi EFL teachers working in high schools, Al-Majmaah City. However, other Saudi high schools may benefit from those results to develop their teachers' 21st century skills as well. The small size of participants can impede the generalization of the findings of the present study to all Saudi EFL teachers. Gender is considered as another limitation of the present study as all participants were Saudi male EFL teachers. Thus, the findings do not observe the element of gender balance. The use of questionnaire for data collection can be one of the limitations of the current study. Thus, future studies can overcome this limitation through triangulation of data by using observation and or interviews with students. The study is also limited to the investigation of the 21st teaching skills rather than other teaching skills.

Recommendations

Other different educational stages including Saudi primary and middle

schools can also experience the application of PBL teaching method.

The impact of PBL can be studied in relation to programs of Saudi EFL teachers' preparation.

It is also valuable to investigate the PBL effect on English language curriculum design at different educational stages.

It is recommended to examine the impact of using PBL teaching method of developing the teaching competency of Saudi EFL teachers as well.

It is necessary to discuss the effect of using PBL teaching method on developing the Saudi EFL learners' language skills.

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Appendix 1

Examples of the PBL Authentic Learning materials

Listening activity

<https://youtu.be/rzsVh8YwZEQ>

Speaking activity

<https://youtu.be/YYfDFfmAufY>

Reading

<https://youtu.be/H6S1Sh0T8gU>

Writing

<https://youtu.be/u4VzIv4iWq0>

Appendix 2

A perception questionnaire of PBL impact on developing the participants' 21st century skills

Section 1: PBL impact on changing the participants' knowledge						
Items	SA	A	NS	SD	D	
1.Creating questions which stimulate students' engagement						
2.Creating adequately deep projects consistent with the required first grade curriculum						
3.Effectively assess the first grade students' projects						
4.Organizing the first grade students into groups						
5.Facilitating the first grade students' learning of the taught content						

Section 2: PBL impact on changing the participants' confidence						
Items	SA	A	NS	SD	D	
6.Teaching the first grade students skills of self-regulation including establishment of goals, monitoring of projects, and reflecting on projects						
7.Effective classroom management						
8.Effective provision of feedback						
9.Teaching first grade students skills of solving problems						
Section 3: Perceiving PBL benefits						
Items	SA	A	NS	SD	D	
10.Varinng the teaching and learning styles						

11.Realizing the effectiveness of teaching					
12.Teaching daily-life required skills					
15.Promoting the first grade students' engagement					
13.achieving the personalization of teaching					
Section 4: Perceiving PBL challenges					
Items	SA	A	NS	SD	D
14.Large size of EFL classes					
15.Lack of learning resources					
16.Inadequate time for creating projects					
17.First grade students' inadequate experience in creating projects					

18.limited space of the EFL classrooms					
19.First grade students' poor attendance of EFL classrooms					
20. First grade students' misbehavior in the EFL classrooms					
21.Inadequate development of the teachers' profession of using PBL					