INTERNATIONAL JOURNAL OF MODERN EDUCATION (IJMOE)
www.ijmoe.com

A SYSTEMATIC REVIEW ON PROJECT-BASED LEARNING IN ENGLISH LANGUAGE TEACHING FOR TVET COLLEGES

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Abstract:

Project-based Learning (PjBL) as a promising learning approach has been implemented in different disciplines by which students can actively learn by engaging in real-world practices and meaningful projects. In this process, students need to achieve multiple skills which are required for 21st century. The current literature demonstrate insufficient research data regarding teaching English as a foreign language (EFL) or second language (ESL) in the field of TVET. Therefore, with the aim at understanding how PjBL is implemented into English teaching in TVET colleges as well as perspectives over the learning performance, this study employed a systematic literature review on 10 articles, identified from 150 related papers on WOS and SCOPUS from 2013 to 2023. The findings state students' English performance and motivation will be improved by the combination of ICT based activities and a consideration with students' educational background as vocational in project design. This study hopes to provide a guideline for English language teachers of TVET colleges in implementing project-based teaching and learning strategies.

Keywords:

Project-based Learning, English Language, TVET Colleges, Project Design, Learning Performance

Introduction

As a global language, English has been playing a significant role in economic globalization, from North American Free Trade, the Trans-Pacific Partnership to China's Belt and Road Initiative. Its vocational importance can be found in the cooperation between countries, and also can be identified when helping people build better images and put across ideas in the

international and professional settings(Piekkari and Zander 2005). In another word, the mastery in English as well as its local value is a key to success in the cross-cultural communication(Bennett, Aston et al. 2000, Davitishvili 2017).

Technical and vocational education and training (TVET) includes work-based learning, continuing training and professional development, with the aim at equipping all youth and adults with the skills required for employment (UNESCO). To benefit learners' skills in lifelong learning and strengthen their competitiveness in the job seeking and promotion, English has been included as a subject at TVET institutions of different countries(Ali, Firissa et al. 2017, Mingdan, Alias et al. 2020, KAREKEZI 2022).

On the other hand, the digit development in 21st century requires people to follow the time and continuously update their skills to adapt themselves to their work(Dede, Korte et al. 2005), including English communicative skills(Warschauer 2000). While two decades ago the successful communication in English were facilitated by using effective listening, speaking, reading and writing, it is common to employ technology in the daily social life which leads to a change of the context affecting the way of thinking, personal interaction, and solution-making to problems(Bigelow 2004). In view of this, the English subject in TVET needs to transfer the focus shifting from the four basic skills to providing opportunities for the involvement of 21st century skills(Bigelow 2004) which highlight higher-order thinking and prepare learners with ready-to-work skills.

Thus English teachers have been exploring different language teaching approaches to improve the learning performance, including the Grammar-Translation Method, the Audio-Lingual, Communicative Approach to Task-based Language Teaching, etc. These approaches are with the highlight on language itself(Richards and Rodgers 2014), and newer strategies are in need for the learners to obtain the necessary skills to meet up with the workplace needs(Richards and Rodgers 2014). Therefore, a more innovative approach becomes the option, which is project-based learning.

Project-based Learning
Project-based learning (PjBL) is a learning approach in which students learn by active participation in real-world and meaningful projects. It is a student-centered learning(Richards and Rodgers 2014). Students work in groups(Wing‐yi Cheng, Lam et al. 2008, de Los Rios, Cazorla et al. 2010, Filippatou and Kaldi 2010) to complete challenging tasks created based on real situations(de Los Rios, Cazorla et al. 2010), and finally make project reports and presentations. Compared with traditional face-to-face teaching, the project-based teaching method gives students more room to play. In the process of completing the project, students are motivated to take their initiatives(Shin 2018) in learning, and by the active engagement improves their critical thinking, creativity, teamwork, problem-solving and ICT skills.

Implementation Stages of Project-based Learning
The implementation of PjBL is divided into three stages. At the preparation stage, students and teachers negotiate to determine the themes, learning objectives and final expected results around the project, after which students discuss and decide the tasks given to each group member, with the supports and guidance from the teachers to clarify the specific steps of project implementation. At the implementation stage, students need to collect the necessary information, and then summarize and analyze the information as a group. If new questions arise

during the process, they need to continue to search, explore and work on the information till the conclusions. At the presentation stage, students need to demonstrate and present the final project outcomes by adding details and creativity to the expected outcomes and using presentation skills. After the presentation, teachers and students both need to evaluate and reflect on the final results.

Similarities with and Differences from Problem-based Learning

Problem-based Learning (PoBL) is another student-centred learning approach, which perceives learning is situated in the context of the problems students are asked to solve(Capon and Kuhn 2004). Similarities between PjBL and PoBL are that they both are based on self-direction and collaboration as well as disciplinary orientation. In terms of the implementation, both PjBL and PoBL start with an identified problem or situation, require high levels of student initiatives through the learning process and the project accomplishment. Both are open ended with regard to outcomes, and highlight student reflection(Mills and Treagust 2003). The differences are that tasks conducted in PjBL are closer to professional reality and project work is more directed to the application of knowledge instead of knowledge acquisition as featured in PoBL(Mills and Treagust 2003).

Since the nature of TVET is to cultivate qualified skilled people and prepare them ready for work, although both two strategies are innovative and have positive effect in stimulating students' motivation in learning, project-based learning has a naturally closer bond to TVET, In view of this, since the English subject in TVET is to serve the employment and thus has a strong vocational feature, project-based learning plays a positive and effective effect for 21st century skills acquisition in addition to the language skills.

Project-based Learning (PjBL) has been implemented in different disciplines(Tseng, Chang et al. 2013) and it is opined as (Shin 2018) which helps for their success in the 21st century. Yet the current literature demonstrate insufficient research data regarding adopting PjBL in teaching English as a foreign or second language for the field of TVET, in particular, the projects in English subjects literally sound different from the projects for vocational subjects. Hence, a literature review was conducted to answer the following two questions:
(1) How is PjBL implemented into English teaching in TVET colleges?
(2) What learning outcomes of PjBL regarding English subject are evaluated in TVET?

Methodology

This study employed a systematic literature review concerning the study of project-based learning in TVET, in particular, in the subject of English language as a second or foreign language.

Search

The search service provided by Universiti Teknologi Malaysia Library was used. In this study, the databases included Web of Science (WOS) and SCOPUS. The following search terms were used and presented in this way: Title OR Abstract contains "vocation" AND "project" AND "English". The publication date of the articles was set between 2013 and 2023. The material type of the results was articles, and the language of these studies was English. Besides, all the articles were confined to peer-reviewed. In total, 150 articles were found.

Selection

The following criteria were applied to further select the articles: (a) the studies had to focus on English which was taken as a foreign or second language; (b) the process of PjBL need to have conducted in vocational education; (c) the studies had be project-based learning or teaching, meeting the key characteristics of PjBL; (d) the studies had to be empirical with original data. Ultimately, 10 articles were selected for this review.

Analyses

A matrix that involved forms of projects, PjBL components, PjBL procedures, cognitive outcomes, affective outcomes and behavioral outcomes was applied to review the content of the selected articles, and then the analysis led to the finding and limitation of these studies over English teaching in TVET.

Findings

Findings were mainly identified from PjBL implementation in English subject and learning outcomes by analyzing data collected.

Implementation of PjBL in English Class of TVET

Forms of Project

As shown in Table 1, these 10 articles stated the projects in their English class were in the forms of physical objects (storyboard, whiteboard animation, info-graphic design), documents (a consultation letter, blog, written support, individual essays), videos (introduce or present a written product, drama) or activities (Q&A over a university brochure, and running text, etc.) To respond to the common outputs of English subject, "documents" was a popular means to display writing products while varies "activities" were adopted for either oral or reading communication. "Video" were also well received for its application of social media.

Components of PjBL in English Class of TVET

Based on these articles, Table 1 presented the components included in English class of TVET: 21st Century skills (creative, critical thinking, problem-solving), meaningful Themes, student initiatives, authenticity, collaboration, group work, use of digitization and presentation skills. Among them, "21st century skills" and "student initiatives" demonstrated the highest frequency, following which authenticity that is with regard to real-life application received a hot focus.

Processes of PjBL in English Class of TVET

During the implementation process, students serve as the main body of activities, and teachers become supervisors, guides and facilitators. The implementation steps of project-based teaching in the English subject of TVET are basically the same as those in other subjects:

(1) At the preparation stage: "determine the project", "make a plan"

(2) At the implementation stage: "collect data", "follow up the project", "complete the tasks and projects"

(3) At the reporting stage: "display and present"

(4) In the process: "monitor and supervise", "evaluate" and "reflect".

According to these 10 article, the processes of PjBL in English followed a sequence of project "plan", "development", "report" and "evaluation" as shown in Table 1. In addition, "in-progress monitoring" was taken to stop students from speak their mother tongue(Marwan 2015).

Table 1: Forms of Project, Components and Processes of Project-based Learning in English of TVET

		Forms of Project				Components								Processes				
		P_1	D_1	V	A_1	21st C	MT	SI	A_2	C	G	D	P	P_2	D_2	R	E	M
1	Apriyanti, Syarif et al. (2021)	√		√		x	x	x	x			x	x	√	√	√	√	
2	Marwan (2015)		√	√	√	x	x	x	x	x	x	x			√	√	√	√	√
3	Hersulastuti, Mulyadi et al. (2019)		√	√	√	x	x	x	x	x		x		√	√	√	√	
4	Suhroh, Cahyono et al. (2020)	√				x		x		x		x	x	√	√	√	√	√
5	Sukerti, Yuliantini et al. (2018)	√	√			x		x	x			x	x	√	√	√	√	√
6	Macías (2023)				√	x	x	x	x		x	x		√	√	√	√	√
7	Villalba (2022)		√		√	x	x	x	x	x	x	x			√	√	√	
8	Bakar, Noordin et al. (2019)		√		√	x		x	x	x	x	x		√	√	√	√	
9	Sukerti and Susana (2018)		√			x	x	x	x	x	x	x	x	√	√	√	√	√
10	Mahbub (2018)				√	x	x	x	x	x	x	x	x	√	√	√	√	√
	Totals	3	6	3	6	10	7	10	9	7	6	10	5	9	10	10	10	6

Note:
Forms of projects:
P1 = Physical objects; D1 = Documents; V = Videos; A1= Activities;
Components of PjBL:
21st C = 21st Century skills; MT = Meaningful themes; ST = Student Initiatives;
A2 = Authenticity; C = Collaboration; G = Grouping; D = Digitization;
P = Presentation;
Processes of PjBL:
P2 = Plan; D2 = Development; R = Report; E = Evaluation;
M = (In-progress) Monitoring.

Learning Outcomes of PjBL in English Class of TVET
Out of 10 articles, six studies were over General English (GE) and another four were regarding English for Special Purposes (ESP). Learning Outcomes in this review were explained following cognitive outcomes, affective outcomes and behavioral outcomes as shown in Table 2.

Cognitive Outcomes

Knowledge and Cognitive Strategies

These 10 articles reported students' content knowledge, course understanding are achieved in PjBL. For example, in ESP class of business English, "the students see the project as applicable to real life and state that they have learned and have clearer concepts" over the content(Macías 2023)

All these studies mentioned that by adopting PjBL in English subject, students had to use the cognitive strategies as to remember, understand, apply, evaluate, and create, which is aligned with the taxonomy.

Affective Outcomes

Perceptions of Benefit

Perceptions of benefit refers to whether PjBL was effective. All these 10 articles stated its positiveness and effectiveness.

Students' Perceptions over Experience

9 articles reported positive students' perceptions over experience in PjBL. The reason why Villalba (2022) did not report so is due to author's research target group was over teachers who did not include students' perception over PjBL experience. In Marwan's study, the students were assigned a project to write a consultation letter to an oversea university. Students expressed their excitement with this way of learning English, and would write and send more emails in English to people oversea(Marwan 2015).

Behavioral Outcomes

Skills and Engagement

9 articles reported in PjBL students employed both their hard skills and soft skills. Hard skills refers to basic English language skills as listening, speaking, reading and writing, as well as hard skills related for special purposes, for instance, public presentation and video making. Soft skills reported to realized improvement in these studies included data collection, problem solving and communication, etc(Susila, Anwar et al. 2022).

In detailed example, in the project of video feature making, students collected information after reading, searching online, making interview schedule, conducting interview before they actually made storyboards by filter information and translating them into English and finally after their presented and shot the video, they used their skills to edit and mix all video to make the final product during which higher-order thinking was applied (Apriyanti, Syarif et al. 2021). During which, students needed to be fully engaged in this project so that they could accomplish it successfully.

Table 2: Learning Outcomes of Project-based Learning in English of TVET

		Cognitive Outcomes		Affective Outcomes		Behavioral Outcomes		Subject Type	
		K	CS	Pe(b)	Pe(e)	S	E	ESP	GE
1	Apriyanti, Syarif et al. (2021)	x	x	x	x	x	x	x	
2	Marwan (2015)	x	x	x	x	x	x		x
3	Hersulastuti, Mulyadi et al. (2019)	x	x	x	x	x	x		x
4	Suhroh, Cahyono et al. (2020)	x	x	x	x	x	x		x
5	Sukerti, Yuliantini et al. (2018)	x	x	x	x	x	x		x
6	Macías (2023)	x	x	x	x	x	x	x	
7	Villalba (2022)	x	x	x				x	
8	Bakar, Noordin et al. (2019)	x	x	x		x	x		x
9	Sukerti and Susana (2018)	x	x	x	x	x	x		x
10	Mahbub (2018)	x	x	x	x	x	x	x	
	Totals	10	10	10	8	9	9	4	6

Note:

K = Knowledge; CS = Cognitive Strategy;

Pe(b) = Perception of benefits; Pe(e) = Perception of experience;

S = Skills; E = Engagement;

ESP = English for Special Purposes; GE = General English.

Discussion and Conclusion

What Features of Project Design Makes English Subject in TVET Distinctive from Some Educational Level?

The advantages of project-based teaching have been recognized by many disciplines and applied to different educational levels. According to the functions, the English subject is divided into English for Specific Purposes and General English. English for Specific Purposes has the characteristics of typical vocational education contents, such as: Mechanical English, English for Tour Guides, and E-commerce English. It is relatively easily for the final outputs of their project design to combine workplace tasks; while General English, as a subject of general education, is also popular in various countries. How to design it in line with the workplace characteristics but being different from ESP requires teachers to think it over based on students' vocational education and their needs for employment. The articles reviewed in

this research provided some references, such as: a consultation letter writing, corporate interviews and video introductions, etc.

How to Provide Authenticity Regarding English in The Circumstances of EFL?

In addition, it is common to apply English in the real life in ESL countries; while EFL countries lack the environment to use English. There is not many opportunities to apply English, for what people use to communicate is their mother tongue. In terms of this, the intervention of ICT skills, for example, use of the internet and social media can effectively function as the supplements or supports.

Project-based Learning (PjBL) as a promising learning approach benefits students to achieve multiple skills which are required for 21st century. In PjBL, students can actively learn by engaging in real-world practices and meaningful projects. English as an important subject contributes to globalization and modern economic development, needs such an innovate approach to facilitate more effective learning performance and help with students' employment. By reviewing 10 articles selected with criteria, the findings concluded that the implementation of PjBL in English subject was similar to other disciplines, with an additional monitoring over their use of mother tongue in the learning process. On the other hand, students' English learning outcomes were presented referring to cognition, affection and behaviors and meanwhile their motivation towards English were highly improved, due to the experience of applying the language, instead of learning the language. In addition, a consideration of students' vocational education in the project design are suggested to make the English subject distinctive for TVET. Finally, ICT based activities are important for English subject not only because it is one of the key skill in 21st Century, but also it supplements the authenticity in the EFL context.

Acknowledgement

References

Ali, A., et al. (2017). "Investigating the relevance of ESP (English for Specific Purpose) for TVET (Technical and Vocational Education and Training) Colleges in Ethiopia." International Journal of Multidisciplinary and Current Research 5: 79-87.

Apriyanti, D., et al. (2021). "Video Feature Making in ESP-Based Public Speaking Class: A Student-Centred Learning in Vocational Higher Education Context." International Journal of Language Education 5(1): 469-476.

Bennett, R., et al. (2000). "Cross-cultural training: A critical step in ensuring the success of international assignments." Human Resource Management 39(2-3): 239-250.

Bigelow, J. D. (2004). "Using problem-based learning to develop skills in solving unstructured problems." Journal of Management Education 28(5): 591-609.

Capon, N. and D. Kuhn (2004). "What's so good about problem-based learning?" Cognition and instruction 22(1): 61-79.

Davitishvili, N. (2017). "Cross-cultural awareness and teaching English as a second language in the context of globalization." Sino-US English Teaching 14(9): 549-558.

de Los Rios, I., et al. (2010). "Project–based learning in engineering higher education: two decades of teaching competences in real environments." Procedia-social and behavioral sciences 2(2): 1368-1378.

Dede, C., et al. (2005). "Transforming learning for the 21st century: An economic imperative." Common Knowledge 399: 1-66.

Filippatou, D. and S. Kaldi (2010). "The Effectiveness of Project-Based Learning on Pupils with Learning Difficulties Regarding Academic Performance, Group Work and Motivation." International journal of special education 25(1): 17-26.

KAREKEZI, D. (2022). Teaching English as a Foreign Language (TEFL) in Rwanda Technical and Vocational Education Training (TVET) schools: a case study of Rwanda Polytechnic, Brac University.

Macías, M. (2023). "English for specific purposes in Spain: Project based learning classroom proposal in vocational education." International Journal of Professional Development, Learners and Learning 5(1): ep2305.

Marwan, A. (2015). "Empowering English through Project-Based Learning with ICT." Turkish Online Journal of Educational Technology-TOJET 14(4): 28-37.

Mills, J. E. and D. F. Treagust (2003). "Engineering education—Is problem-based or project-based learning the answer." Australasian journal of engineering education 3(2): 2-16.

Mingdan, L., et al. (2020). "The Development of Technical Communication Module for TVET Students in China." Journal of Issue In Education 43: 1-11.

Piekkari, R. and L. Zander (2005). "Preface: Language and communication in international management." International Studies of Management & Organization 35(1): 3-9.

Richards, J. C. and T. S. Rodgers (2014). Approaches and methods in language teaching, Cambridge university press.

Shin, M.-H. (2018). "Effects of Project-Based Learning on Students' Motivation and Self-Efficacy." English Teaching 73(1): 95-114.

Susila, L. R., et al. (2022). "Project Based Learning for English Teaching in Vocational High School Students: A Need Analysis." Budapest International Research and Critics Institute-Journal (BIRCI-Journal) 5(3).

Tseng, K.-H., et al. (2013). "Attitudes towards science, technology, engineering and mathematics (STEM) in a project-based learning (PjBL) environment." International Journal of Technology and Design Education 23: 87-102.

Warschauer, M. (2000). "The changing global economy and the future of English teaching." TESOL quarterly 34(3): 511-535.

Wing-yi Cheng, R., et al. (2008). "When high achievers and low achievers work in the same group: The roles of group heterogeneity and processes in project-based learning." British Journal of Educational Psychology 78(2): 205-221.