

# The Effectiveness of Project Oriented Problem based Learning (POPBL) in Improving Student Learning Levels in History

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## Abstract

Project Oriented Problem Based Learning (POPBL) is a 21st century learning method that can stimulate students in terms of critical and creative thinking and helps in various aspects of student learning. Most students usually show a very less interest on History subject due to long descriptive facts that need to be memorised for examination purposes. Therefore, a Systematic Literature Review (SLR) was carried out to analyse the effectiveness of Project Oriented Problem Based Learning (POPBL) in History subject. The importance of this SLR is to analyse the improvement of different learning aspects of students by using POPBL method in History subject in both school and higher education level. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart was used as one of the main methods to select the study articles based on the criterias. Three databases such as SCOPUS, WEB OF SCIENCE (WOS), and ERIC were used for the screening of past research articles. A total of 5641 articles were screened and 15 articles were selected according to established criteria such as the year of publication, language, type of reference material and field of study of journal articles. The findings of the study shows that the aspect of learning measured by most researchers is the improvement of behavior where they are a total of 7 articles (47%) out of 15 articles. Whereas, the least learning aspect studied by the researchers from this SLR is student achievement level where there is only 1 article (7%) out of 15 articles. Therefore, it is necessary for the upcoming researches to focus on different types of student learning aspects by using POPBL in History other than behavior.

**Keywords:** *Project-based Learning, Problem-Based Learning, Learning, History, 21st Century Learning*

**Introduction**

In this era of globalization, 21st century learning methods become a basic need for students in the digital era. This method refers to educational approaches and strategies that have emerged in response to changing student needs. This method focuses on equipping students with the skills, knowledge and competencies needed to thrive in a rapidly evolving global society. There are several key aspects of 21st century learning methods. Among them are student-centered learning, technology integration, collaboration and communication, critical thinking and problem solving, inquiry-based learning, global and cultural awareness, and lifelong learning and adaptability (A.Mangione et al., 2022). All 21st century learning methods help pupils to equip themselves with the skills, competencies and attitudes needed to succeed in a fast-paced, interconnected and knowledge-driven world. It focuses on preparing students to face the challenges and opportunities of the 21st century by emphasizing critical thinking, collaboration, adaptability and lifelong learning.

Among several teaching methods of the 21st century, the methods focused on in this systematic literature review (SLR) are project-based teaching methods (PBP) and problem-based teaching methods (PBM). Project-based learning (PBL) is a teaching approach centered around students engaging in further projects or research to gain deeper knowledge and understanding of a specific topic or concept. In PBP, students work on projects that require them to use their knowledge and skills to solve real-world problems or create a product. Among the main characteristics that are contained in project-based learning are product authenticity, inquiry and exploration, cooperative attitude, student autonomy, integration of knowledge and skills, presentation and reflection skills, and evaluation (Almulla, 2020). PBP provides opportunities for students to engage in active and practical learning experiences. It promotes deeper understanding, critical thinking, problem solving, collaboration, and the development of essential 21st century skills. With project assignments, students can make connections between classroom learning and real-world applications, increasing motivation, engagement and long-term knowledge retention.

A problem-based learning approach (PBM), is a teaching approach that focuses on solving complex real-world problems as a learning method. In PBM, students are presented with open-ended and authentic problems or scenarios that require them to use their knowledge, skills and critical thinking abilities to find solutions. There are several key features in PBM. Among them are real-world problems, active learning, inquiry and self-directed learning, cooperative attitudes, the teacher's role as a facilitator, integration of knowledge and skills, and reflection and evaluation (Bayram & Deveci, 2022). Problem-based learning (PBM) fosters critical thinking, problem solving, collaboration, self-directed learning, and the ability to apply knowledge in real-world contexts. It encourages students to become active participants in their learning, develop a deeper understanding of the content and acquire transferable skills to future challenges.

In this systematic literature highlight analysis (SLR), a survey was conducted and analyzed about the effectiveness of the project-oriented problem-based learning approach or better known as 'Problem Oriented Project Based Learning' (POPBL) in improving students' level of understanding in History subjects. In this SLR, a total of 15 previous research articles were analyzed in this systematic literature review to find out the level of student improvement from various aspects through this POPBL learning approach. Therefore, the

results of the analysis and research carried out can be a reference and guide for teachers and researchers regarding the impact of POPBL in improving the level of students in History subject.

### **Problem Statement**

History Education is a subject that must be passed in the examination, and at the same time the story of History needs to be applied to the students from the beginning of school in order to cultivate the value of patriotism in the students. However, there are some problems that students may face in learning History education at school. Among them is the lack of involvement. History education is seen as a dry subject by some students which can cause a lack of student involvement and interest in the subject (Chen et al., 2019). Here, the factor that drives this problem is that traditional or conventional teaching methods such as memorization and lectures, can cause the subject to be boring and disconnected until now.

In addition, excessive information can also cause a student to lose interest in the subject of History. History involves learning a large amount of information, including information such as dates, events and names of individuals. Pupils may struggle with the amount of information and find it difficult to retain and understand all the details. Next, the problem of complexity and interpretation of history also affects the level of students' understanding of History education at school. History is often complicated and subject to interpretation. Different historians may present different perspectives on the same event or period, which can confuse students. Challenges are faced when having differences in understanding points of view and analyzing historical sources critically occurs.

In addition, students also lose interest and lack understanding when the focus of learning is memorization (E.Hmelo-Silver, 2004). Some History curriculum emphasize memorization of facts and dates rather than encouraging critical thinking and analysis. This approach can prevent students from developing a deeper understanding of historical concepts and their connections. Many students also feel that the historical events they learn are less relevant. Students may struggle to see the relevance of History to their lives. They may question why they need to learn about past events and view history as disconnected from their present-day experiences.

Furthermore, traditional History education often focuses on the narratives of dominant groups and ignores the perspectives and contributions of marginalized communities. This lack of representation can lead to a limited and biased understanding of history among students. The resources to study History education are not enough. Schools may have limited access to diverse and up-to-date History resources. For example, key documents, artifacts or multimedia materials. The lack of these resources can hinder students' ability to engage during History learning in a more interactive and engaging way. Time constraints are also factors that lead to the problem of understanding the facts of History (Pius et al., 2021). The limited time allocated for History education in the curriculum can be a constraint. It may prevent teachers from covering topics in sufficient depth or exploring additional areas of interest and leave students with a fragmented understanding of history.

Therefore, to deal with this problem, we need innovative teaching methods, including interactive activities, use of multimedia resources, encouragement of critical thinking, and

connecting historical events with students' lives and contemporary issues. Incorporating multiple perspectives and narratives can make history more inclusive and relevant for all students.

### **Research Question**

1. Does the student's level of understanding in the subject of History increase through a project-oriented problem-based learning approach?

### **Methodology**

Systematic Literature Highlights or better known as Systematic Literature Review (SLR), is a study analysis that should have a clear research question. According to Moher et al (2009), it also uses systematic and explicit methods in identifying, selecting, evaluating, gathering and analyzing data from relevant past studies. In addition, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart was also used to select the study articles. It includes four stages, namely identification, screening, qualification stage and the stage of including articles in the SLR study conducted (Liberati et al., 2009). Therefore, processes that include search strategy, selection criteria, selection process, data collection and data analysis were carried out for the articles obtained.

### **Article Search Strategy**

There are 3 databases used to find articles to analyze in this SLR, such as SCOPUS, WEB OF SCIENCE (WOS) and ERIC. Keywords such as "Project based Learning in Social Studies", "Problem based Learning in Social Studies", "Project based Learning in History Education", "Problem based Learning in History Education" were used to find various past research articles using English. Meanwhile, keywords such as "Pembelajaran Berasaskan Projek dalam Sains Sosial" and "Pembelajaran Berasaskan Masalah dalam Sains Sosial" were used to find previous research articles using Malay. The keywords were used to obtain articles related to the level of understanding of school students about the field of social science through the Project Oriented Problem-Based Learning approach. Based on the keywords, the articles displayed on the database are related to students' understanding of the subject of History through the POPBL approach.

### **Article Selection Criteria**

Several criteria have been set to meet the suitability of this SLR. Among the article selection criteria set are in terms of year of publication, type of reference material, language used, the field of study of journal articles as shown in Table 1 which are the criteria for acceptance and rejection of articles. For the acceptance criteria, the year of publication is within the latest ten years, from 2014 to 2023. The selected articles are limited within ten years because the issues discussed are still hot. Apart from that, all the articles selected in this study are in Malay and English. On the other hand, the research conducted only uses journal articles that exclude proceedings, conferences, books, research highlights in the selection of reference materials. This is because, journal articles are reference materials that have been completed and has detailed reporting.

Table 1

*Article Acceptance and Rejection Criteria*

<b>CRITERIA</b>	<b>ACCEPTANCE</b>	<b>REJECTION</b>
<b>Year of Publication</b>	Publications from 2014 to 2023.	Publications before 2014.
<b>Language</b>	Malay and English language.	Languages other than Malay and English.
<b>Types of Reference Materials</b>	Journal articles	Theses Journal Articles, proceedings, conferences, and books.
<b>Field of Study</b>	Field of Study Journal Articles in the Field of Social Sciences, History and General Studies.	Apart from the fields of Social Science, History and General Studies.

**Process of Article Selection**

The article selection process for literature highlights was conducted in April 2023. Figure 1 shows the flow diagram of the article selection process adapted from the PRISMA flow diagram (Tawfik et al., 2019). A total of three databases were used in this study. The total number of articles identified from those databases is 5641 articles. Then, the articles were screened according to the established criteria before being included in the eligibility stage for more detailed screening. Based on the flow diagram of the article selection process, there are additional criterias for the exclusion of articles to be included in this SLR. Among them, articles that have full text, article titles that do not match the context of the study, articles that are the similar from all three databases and articles that meet the study's acceptance criteria such as articles that do not have empirical data and are in the form of reviews are also excluded.

In addition, for additional acceptance criteria, articles that have full text, article titles that match the context of the study, articles that are researched according to the appropriateness of the study context and no duplication and articles that meet the study acceptance criteria such as articles that have empirical data and not in the form of a review were also included. Therefore, after the exclusion screening and the acceptance of articles according to the specified criteria, a total of 15 articles were selected and downloaded. These 15 articles are articles that meet all the criteria set and will be included in the SLR study conducted.

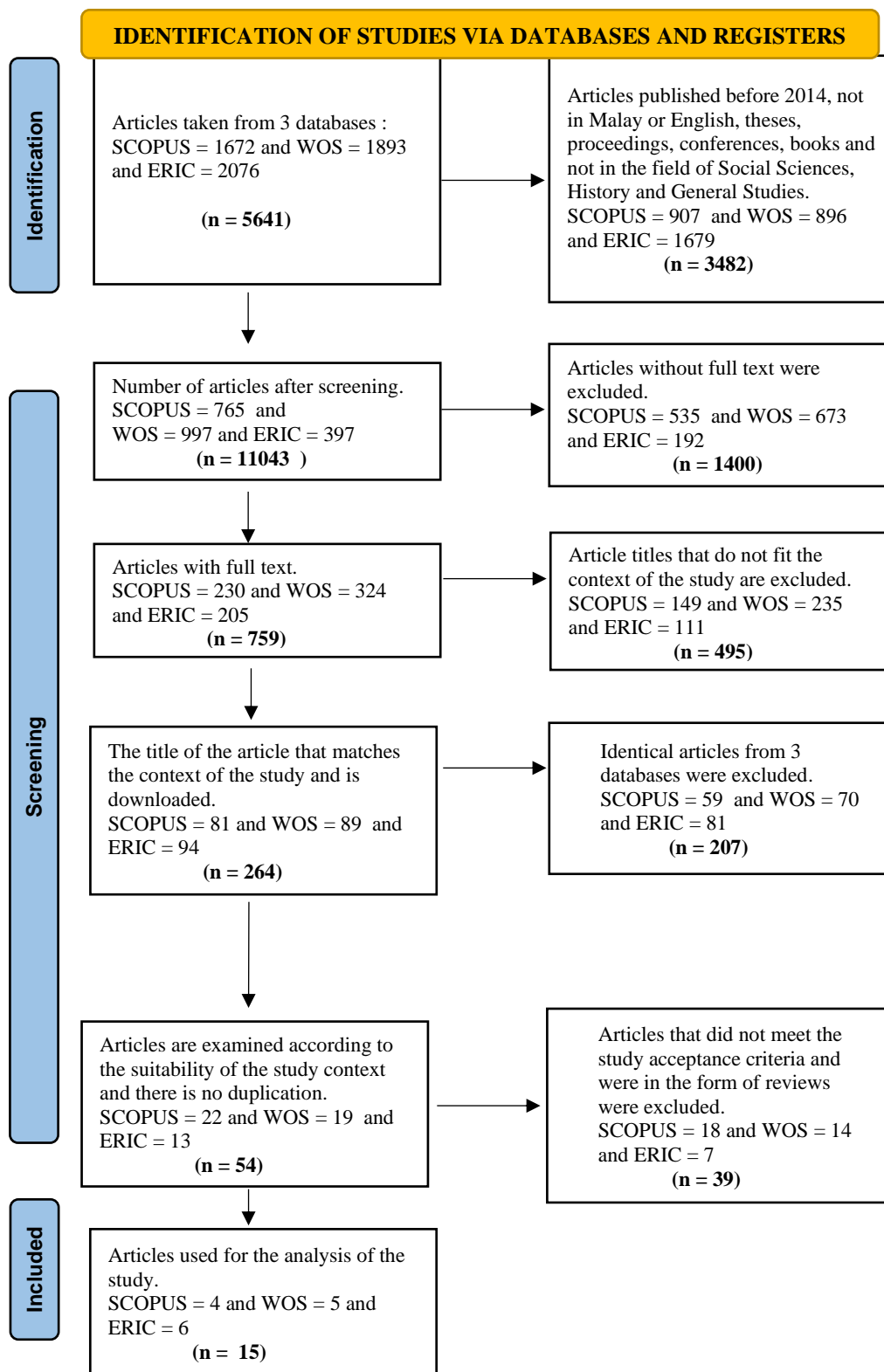


Figure 1: Flow chart of article selection process

### Data Collection and Analysis

A total of 15 articles have been collected from three leading databases such as 'SCOPUS', 'WEB OF SCIENCE (WOS)' and 'ERIC'. The aspects that are given scrutiny when extracting suitable articles include aspects such as the title, author's name, year, purpose of the study, and the type of effectiveness of POPBL for students. Microsoft Excel software was used to classify past research articles into a table. Data analysis is carried out by using a table that has been built and categorising the type of student improvement level used by each article. The findings or analysis results of this SLR study will be presented in the form of tables and bar graphs. Table 2 shows a list of previous research articles along with the names of the authors of the articles used in the analysis of the research conducted. The articles below have been selected according to the acceptance and rejection criteria as set. Apart from that, according to Kumar (2012), the SLR study conducted was also used to develop a conceptual framework based on previous studies. Based on the data analysis of the SLR study conducted, the effectiveness of POPBL in increasing the level of students in History subject will be used to build a conceptual framework. With this, the conceptual framework that was built can be used as a reference and can contribute as part of the research literature in the future.

Table 2

*List of author names and titles of previous research articles selected.*

	<b>AUTHORS</b>	<b>RESEARCH TITLES</b>
1.	Muhammad Zaim et al. (2020)	<i>Pembelajaran Berasaskan Projek terhadap Penguasaan Kemahiran Pemikiran Sejarah.</i>
2.	Sin Wei Lim et al. (2023)	<i>Learning History Through Project-Based Learning</i>
3.	Pedro et al. (2014)	<i>Learning History in Middle School by Designing Multimedia in a Project-Based Learning Experience.</i>
4.	Masriyah et al. (2022)	<i>Kaedah Pengajaran dan Pembelajaran Mata Pelajaran Sejarah Berdasarkan Pengalaman Dalam Kalangan Guru Sekolah Rendah: Suatu Eksplorasi</i>
5.	Rachel Lyne et al. (2021)	<i>Aplikasi Google Classroom dalam Mata Pelajaran Sejarah.</i>
6.	Kaviza (2019)	<i>Analisis Keperluan Terhadap Pembangunan Modul Aktiviti Pengajaran dan Pembelajaran Sejarah Berasaskan Penggunaan Sumber-sumber Sejarah.</i>
7.	Lejah et al. (2018)	<i>Kaedah Pengajaran Sejarah yang Diminati Pelajar dan Justifikasinya</i>
8.	Dominic G. Morais (2018)	<i>Doing History in the Undergraduate Classroom: Project-Based Learning and Student Benefits.</i>
9.	Sharipah et al. (2016)	<i>Pelaksanaan Pengajaran dan Pembelajaran Sejarah di Sekolah-Sekolah di Malaysia</i>
10.	Bruce R. Maxwell (2020)	<i>Problem-Based Learning (PBL) in a Grade 11 World History Class: Trials, Tribulations, and Triumphs.</i>
11.	Kalia & Kalypso (2019)	<i>Elementary School Students' Epistemic Perspective and Learning Strategies in History.</i>
12.	Huseyin & Handan (2022)	<i>The Effect of Problem-Based Learning on Students Entrepreneurship Level in Social Course.</i>



13.	Shannon (2022)	<i>Exploring Student Engagement in History and Social Studies in Problem-Based Learning.</i>
14.	Chih-Ming Chen et al. (2019)	<i>An Effective Method for Incentivizing Groups Implemented in a Collaborative Problem-Based Learning System to Enhance Positive Peer Interaction and Learning Performance.</i>
15.	Katherine & Shannon (2022)	<i>Using Children's Literature as a Model for Problem-Based Learning.</i>

### Research Findings

The Systematic Literature Review (SLR) conducted is to measure and identify the level of student learning that is often measured against Project Oriented Problem Based Learning (POPBL) in History subject. Next, the research conducted also developed a conceptual framework based on the level of student learning which is often measured based on the POPBL approach by past researchers. From analysis and research from past studies, there are 15 articles that meet all the criteria set for this study.

The teaching and learning of History education in primary and secondary schools focuses on lifelong learning that can be linked to today's life as well as to produce comprehensive students who are grateful for the peace found in our country (Gardner, 2022). The POPBL approach is implemented to make the learning of History more enjoyable and to improve the understanding of the facts learned more firmly. The POPBL method in History can improve the level of student learning in terms of understanding the facts, the nature of the desire to learn or behaviour, achieving better performance and improving certain skills through projects given as assignments.

As a result of the research conducted, it can be seen that all previous research articles have been divided into four levels of learning which are measured as the effectiveness of the use of POPBL in the teaching and learning activities of History subjects for students. Table 3 below, shows a list of previous research articles according to the level of learning measured according to the use of the POPBL method in History subjects in schools. Four categories of learning levels were measured from previous studies, such in terms of understanding, performance achievement, behaviour and skills when handling the given project.

Table 3

*The frequency of the type of learning level measured as a result of the POPBL method approach in the History subject for the students.*

	AUTHOR	ASPECTS MEASURED			
		Understanding	Achievement	Behaviour	Skills
1.	Muhammad Zaim et al. (2020)	✓			
2.	Sin Wei Lim et al. (2023)	✓			
3.	Pedro et al. (2014)			✓	
4.	Masriyah et al. (2022)		✓		
5.	Rachel Lyne et al. (2021)			✓	



6.	Kaviza (2019)	✓			
7.	Lejah et al. (2018)			✓	
8.	Dominic G. Morais (2018)			✓	
9.	Sharipah et al. (2016)	✓			
10.	Bruce R. Maxwell (2020)				✓
11.	Kalia & Kalypso (2019)			✓	
12.	Huseyin & Handan (2022)				✓
13.	Shannon (2022)			✓	
14.	Chih-Ming Chen et al. (2019)	✓			
15.	Katherine & Shannon (2022)			✓	
		<b>5</b>	<b>1</b>	<b>7</b>	<b>2</b>

### Level of Understanding

Project-oriented problem-based learning (POPBL) in History education can significantly improve student understanding through a number of ways. Among them are, with active involvement, critical thinking skills, application of knowledge, cooperation and communication, personalization and creativity, long-term retention, real world skills and so on. By incorporating the POPBL approach in History education, students are more likely to develop a genuine appreciation of History, engage in critical thinking, and gain a deeper understanding of the subject (Guo et al., 2020). They become active participants in their learning journey and are more prepared to apply the knowledge of History in their lives. Based on the analysis of past studies, there are five studies that measure the level of learning in terms of effectiveness in understanding using the POPBL method in History for students. (Zaim et al., 2020; Lim et al., 2023; Kaviza, 2019; Sharipah et al., 2016; Chih-Ming Chen et al., 2019).

### Level of Achievement

POPBL, in History education can have a positive impact on students' achievements and performance through deeper understanding, active learning, critical thinking and analytical skills, application of knowledge, cooperation and communication, involvement and motivation, genuine assessment and so on. POPBL in History education provides a dynamic and interesting approach that improves student achievement (Yew & Goh, 2016). By actively building their knowledge, using critical thinking skills, collaborating with peers, and demonstrating a deep understanding of historical concepts, students are better prepared to excel academically in History education and beyond. Based on research from past studies in this SLR, there is only one study that measures the level of learning in terms of effectiveness in improving student performance using the POPBL method in the History subject for students, which is a study by (Masriyah, 2022).

### **Levels of Behaviour**

The POPBL method in History subjects can provide advantages that show a positive impact in terms of students' behaviour during History teaching and learning activities in the classroom. Through several appropriate methods, teachers can foster a positive effect on the students' attitudes during the activities. Among them is, with increased student involvement, personalization and choice, connection with the real world, collaboration and social interaction, creativity and expression, having an attitude of wanting to achieve, active and autonomous learning and so on (Jaafar & Noor, 2017). By incorporating POPBL in History education, teachers can create a classroom environment that can foster a positive attitude towards learning. Pupils become more engaged, motivated and enthusiastic in their learning when they experience the relevance, personalization and creative expression offered through POPBL. Based on this SLR, seven studies that have measured the level of learning in terms of positive effectiveness in student behaviour during teaching and learning activities when using the POPBL method in History subjects for students (Pedro et al., 2014; Lyne et al., 2021; Lejah et al., 2018; Morais, 2018; Kalia & Kalypso, 2019; Shannon, 2022; Katherine & Shannon, 2022).

### **Level of Skill**

POPBL has a dominant effect on improving students' skills and creativity during History learning activities in the classroom. For example, it helps in terms of research skills, critical thinking, analytical skills, communication and presentation skills, cooperation and teamwork, creative expression, time management and organization, adaptability and endurance and so on. By engaging in the POPBL method in History subjects, students develop various skills, including research, critical thinking, communication, collaboration and creativity (Kaviza, 2022). These skills are not only beneficial for History education but can also be transferred to other subjects and real life situations. In addition, POPBL nurtures students' creativity by providing opportunities for innovative expression, encouraging them to think outside the box, and fostering their imaginative abilities. Based on past studies in this SLR, there are only two studies that measure the effectiveness in terms of skills through the POPBL method in the subject of History for students (Maxwell, 2020; Huseyin & Handan, 2022).

### **Conceptual Framework**

The effectiveness of the learning level measured by using the POPBL method in the History subject found from previous research articles is in terms of increased understanding, achievement, behaviour and skills. Figure 2 shows the number and percentage of articles according to the measured learning level used in the selected past articles. The results of the study found that there are four types of learning levels measured through the use of the POPBL method in History subjects.

The level of learning most often measured by the researcher is student behaviour, that has 7 articles equal to 47%. Next, the measurement of the level of student understanding has five articles equal to 33%, followed by the measurement of the level of learning in terms of skill improvement which has two articles equal to 13%, and finally the measurement of the level of learning in terms of achievement has the lowest number of articles which is only one study alone equals 7%. The results of his findings are very interesting because even though History education has been started since past decades, there is a significant difference in the level of student learning from various aspects when the POPBL method is used on the students. Therefore, the discussion carried out in the education system can provide a small

contribution to the literature on studies that focuses on the effectiveness of student learning through the use of the POPBL method in History subjects today.

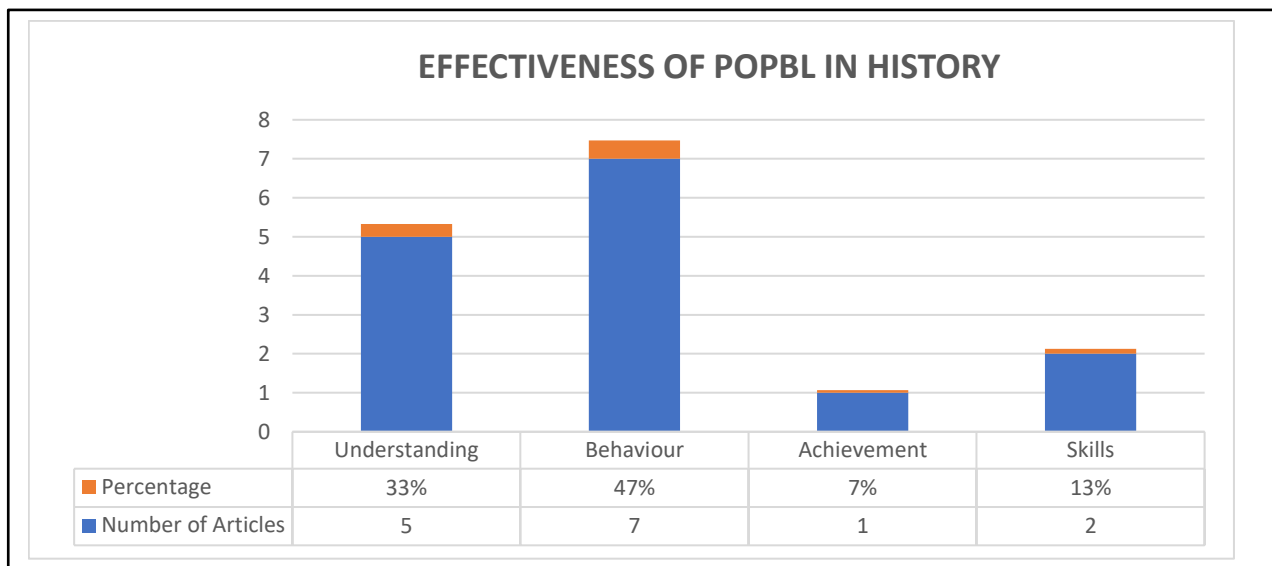
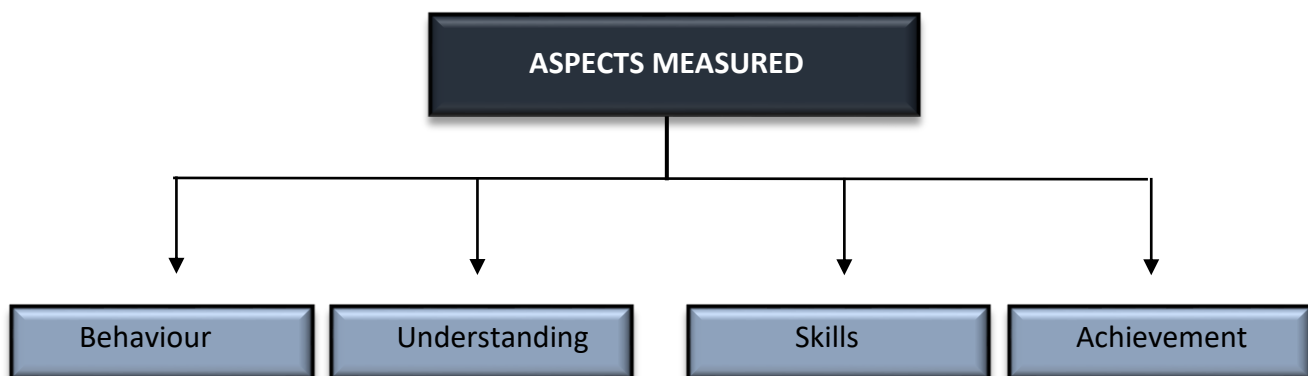


Figure 2: Number of articles and percentage of POPBL effectiveness in History subject.

## DISCUSSION



The findings of the SLR study conducted show that the majority of researchers have carried out their research to measure the effectiveness of using the POPBL method in History subject in terms of behaviour, that has seven articles (47%) (Pedro et al., 2014; Rachel Lyne et al., 2021 ; Lejah et al., 2018; Morais, 2018 ; Kalia & Kalypso, 2019 ; Shannon, 2022; Katherine & Shannon, 2022). The study by Pedro et al (2014) carried out a study by paying attention to the change and improvement in the students' desire attitude when the POPBL method was implemented to handle the teaching and learning of History. This study was carried out in America on high school students by giving multimedia related projects for six weeks. Meanwhile, a study by Lyne et al (2021) shows that the POPBL method is implemented through the use of 'Google Classroom' in the subject of History to measure the increase in students' desire to learn the subject.

In addition, from all the selected articles, the researcher also frequently measured the change in students' level of understanding when the POPBL method was used to teach the

subject of History. A total of five articles (33%) out of fifteen were found to measure the level of student understanding (Zaim et al., 2020; Lim et al., 2023; Kaviza, 2019; Sharipah et al., 2016 ; Chen et al., 2019). Based on a study by Zaim et al (2020), the POPBL method was implemented to 60, Year Six students in a school to assess the level of understanding in the aspect of Historical Thinking Skills (KPS). The study design is quasi-experimental that uses pre and post-tests to evaluate the study. Meanwhile, in the study of Sin Wei Lim et al., (2023) it is said that the POPBL method can produce students who have an open mind while studying. In his study, the researcher has carried out a study using the Project Based Learning (PBL) method and its impact on Senior High School students in Brunei.

In addition, based on this SLR, the level of learning in terms of skills, two articles were assessed (13%), and achievement was measured in only one article (7%). Based on a study by Amy E. Sluis (2020), she said that change is the need of students in higher education classrooms and it requires the incorporation of new techniques and methodologies to attract students. Apart from that, it can foster both cognitive and social development in the classroom. The study also measures aspects of skills that can improve the performance of art history when dealing with POPBL. Meanwhile, the study by Masriyah et al (2022) can be seen measuring in terms of achievement when POPBL is used in the classroom during the teaching of History. The research data was obtained through questionnaires and pre and post-tests to see the difference in student achievement. The findings help teachers choose appropriate teaching strategies in teaching and learning History subjects to students.

### **Conclusion**

This Systematic Literature Review (SLR) was conducted by involving three databases such as Scopus, Web of Science (WOS), and ERIC. Based on the database used, a total of 15 articles have been identified and meet the specified selection criteria. The selected articles are categorized according to aspects of the level of History learning that is measured when the POPBL method is applied to the students. There are four aspects of learning measured in this SLR study, such as understanding, achievement, behaviour and skills. The results of the analysis carried out show that the aspect of learning level that is most used is in terms of behaviour which is seven articles. In addition, it was followed by the evaluation of aspects of students' understanding through the POPBL method in the subject of History, in which a total of five articles were used. Following the level of learning in terms of skills and achievements.

Next, the conceptual framework developed in this SLR includes aspects of understanding, behaviour, skills and achievement. In conclusion, we cannot deny that, from all the selected articles it can be seen that the POPBL method helps in the learning of the students in the subject of History in various aspects regardless of the understanding of facts, achievement of performance, willingness to learn and increasing the level of skills in the implementation of the project assigned. Therefore, teachers or educators, regardless of primary or higher education, the use of the POPBL method is welcomed so that the History subject can be made one of the subjects that students are interested in and not the other way around.

## References

- Almulla, M. (2020). The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning. *Sage Journals*. doi:<https://doi.org/10.1177/2158244020938702>
- Bayram, H., & Deveci, H. (2022). The Effect of Problem-Based Learning on Students' Entrepreneurship Level in Social Studies Course. *International Journal of Contemporary Educational Research (IJCER)*, 9(2), 359-377. doi:<https://doi.org/10.33200/ijcer.1056504>
- Chen, C.-M., Wang, J.-Y., & Zhao, R.-H. (2019). An Effective Method for Incentivizing Groups Implemented in a Collaborative Problem-Based Learning System to Enhance Positive Peer Interaction and Learning Performance. *Interactive Learning Environments*, 30(3), 435-454. doi:<https://doi.org/10.1080/10494820.2019.1663435>
- Hmelo-Silver, E. C. (2004). Problem-Based Learning: What and How Do Students Learn? *Nursing, Pain Medicine & Rehabilitation*, 235-266. Retrieved from <https://link.springer.com/article/10.1023/b:edpr.0000034022.16470.f3>
- Pius, G. R., Ahmad, A., & Othman, N. (2021,). Aplikasi Google Classroom Dalam Mata Pelajaran Sejarah. *Jurnal Dunia Pendidikan*, 3(1), 12-25. Retrieved February 15, 2021, from <http://myjms.mohe.gov.my/index.php/jdpd>
- Gardner, S. (2022). Exploring Student Engagement in History and Social Studies in Problem-Based Learning. Retrieved from <https://www.proquest.com/openview/3b59aeaaea75b4ed3dc6d6226092e412/1?pq-origsite=gscholar&cbl=18750&diss=y>
- Guo, P., Saab, N. S., Post, L., & Admiraal, W. (2020). A Review of Project-Based Learning in Higher Education: Student Outcomes and Measures. *International Journal of Educational Research*, 102. doi:<https://doi.org/10.1016/j.ijer.2020.101586>
- Yew, H. J. E., & Goh, K. (2016). Problem-Based Learning: An Overview of its Process and Impact on Learning. *Health Professions Education*, 2(2), 75-79. doi:<https://doi.org/10.1016/j.hpe.2016.01.004>
- Jaafar, S., & Noor, M. A. (2017). Pelaksanaan Pengajaran dan Pembelajaran Sejarah di Sekolah-Sekolah Di Malaysia, 1957-1989. *Journal of the Department of History*, 25(2), 40-57. doi:<https://doi.org/10.22452/sejarah.vol25no2.3>
- Kaviza, M. (2022). Analisis Keperluan Terhadap Pembangunan Modul Aktiviti Pengajaran dan Pembelajaran Sejarah Berasaskan Penggunaan Sumber-Sumber Sejarah. (Aida, Ed.) *Journal of Social Sciences and Humanities*, 16(6), 1-11. Retrieved from <https://ejournal.ukm.my/ebangi/issue/view/1205>
- Kiamsin, L., & Talin, R. (2018). Kaedah Pengajaran Sejarah yang Diminati Pelajar dan Justifikasinya. *Malaysian Journal of Social Sciences and Humanities (MJSSH)*, 3(2), 137-145. doi:<https://doi.org/10.47405/mjssh.v3i2.92>
- Lim, S. W., Jawawi, R., Jaidin, J. H., & Roslan, R. (2023). Learning History through Project-based Learning. *Journal of Education and Learning (EduLearn)*, 17(1)(2089-9823), 67-75. doi:[10.11591/edulearn.v17i1.20398](https://doi.org/10.11591/edulearn.v17i1.20398)
- Loannou, K., & Lordanou, K. (2019). Elementary School Students' Epistemic Perspective and Learning Strategies in History. *Learning: Research and Practice*, 6(2), 150-166. doi:<https://doi.org/10.1080/23735082.2019.1591492>
- Markula, A., & Aksela, M. (2022). The Key Characteristics of Project-Based Learning: How Teachers Implement Projects in K-12 Science Education. *Disciplinary and*

- Interdisciplinary Science Education Research* (2). Retrieved from <https://diser.springeropen.com/articles/10.1186/s43031-021-00042-x>
- Misni, M. B., Ahamed, A. B., Jangir Singh, G., Ja'afar, Z., & Abdul Shukor, S. (2022). Kaedah Pengajaran dan Pembelajaran Mata Pelajaran Berdasarkan Pengalaman Dalam Kalangan Guru Sekolah Rendah: Suatu Eksplorasi. *Jurnal Penyelidikan Teknorat II*, 23(1). Retrieved from <https://myjms.mohe.gov.my/index.php/jpt/article/view/19852>
- Rahim, M., Ahmad, A., & Othman, N. (2022). Pembelajaran Berasaskan Projek terhadap Penguasaan Kemahiran Pemikiran Sejarah. *Jurnal Personalita Pelajar*, 24(1), 1-10.
- Maxwell, R. B. (2020). Problem-Based Learning (PBL) in a Grade 11 World History Class: Trials, Tribulations, and Triumphs. *Journal of Problem-Based Learning*, 7(1), 11-20. doi:<https://doi.org/10.24313/jpbl.2020.00248>
- Ramos, P. H., & La Paz, S. D. (2015). Learning History in Middle. *Journal of Research on Technology in Education*, 42(2), 151-173. doi:<http://dx.doi.org/10.1080/15391523.2009.10782545>
- Sluis, A. E. (2020). Project-Based Learning in Art History: A Study of the Effects of PBL on Cognitive Developmental in a Higher-Education Humanities Classroom. 1-22. Retrieved from [https://www.academia.edu/44712659/Project\\_Based\\_Learning\\_in\\_Art\\_History\\_A\\_Study\\_of\\_the\\_Effects\\_of\\_PBL\\_on\\_Cognitive\\_Developmental\\_in\\_a\\_Higher\\_Education\\_Humanities\\_Classroom](https://www.academia.edu/44712659/Project_Based_Learning_in_Art_History_A_Study_of_the_Effects_of_PBL_on_Cognitive_Developmental_in_a_Higher_Education_Humanities_Classroom)