

# Developing Instruments to Measure Project-Based Learning in the Course of Teaching English to Young Learners Program Development

<sup>1</sup>Nur Fatimah\*, <sup>2</sup>Soviyah

Email : <sup>1</sup>[nur.fatimah@pbi.uad.ac.id](mailto:nur.fatimah@pbi.uad.ac.id), <sup>2</sup>[soviyah@pbi.uad.ac.id](mailto:soviyah@pbi.uad.ac.id)

<sup>1,2</sup> Universitas Ahmad Dahlan

\* corresponding author

## ARTICLE INFO

### Article history

Received 24 February 2023

Revised 28 July 2023

Accepted 20 August 2023

### Keywords

Assessment

Instrument

Program development

Project-based learning

TEYL

## ABSTRACT

Courses in TEYL (Teaching English to Young Learners) at the tertiary education level have been conducted in different universities including at the English Department of Universitas Ahmad Dahlan. One of the courses is TEYL Program Development (TEYL PD). It is to develop materials and/or program in TEYL. Since there's not yet specific and detailed information regarding its assessment in the class of TEYL PD implementing project-based learning, this research aims to design instruments to measure the learning achievement in TEYL PD course. This research utilizes Research and Development (R&D) with ADDIE model. The development process encompasses five steps i.e. analyze, design, develop, implement, and evaluate. There are two rubrics resulted for the course to assess the students in doing the project on TEYL PD. The first is the rubric to assess group's performance and the second is the one to measure individual performance related to the group project. The instrument for the group performance contains 7 aspects (stages of the project, data collection, target accomplishment, reporting, knowledge, attitudes, and skills). Individual performance was based on peer ranking on the aspects on the students' contribution, collaboration, discipline and communication. At this preliminary study, implementing the instruments was conducted by the test of readability and content validity by an expert in English language teaching. Further, the evaluation was realized based on their feedback. Further research is in demand to investigate the use of the instruments in the classroom setting on TEYL PD course.

This is an open access article under the [CC-BY-SA](https://creativecommons.org/licenses/by-sa/4.0/) license.



## Introduction

The implementation of project-based learning has been increasing in teaching and learning English. Project-based learning involves interconnected, extended tasks spanning beyond a mere week, reaching into periods like a semester or more. This longer duration brings about a heightened sense of purpose, encompassing a series of activities across classes. It also allows

instructors to weave together a broader spectrum of language skills and intricate tasks in an interconnected manner (Fragoulis & Tsiplakides, 2009; Ellis & Hafner, 2007)

PBL is highly recommended since it provides multi benefits. It facilitates students to improve their knowledge and motivation in learning, have effective problem-solving skills, learn self-directed, and be effective on collaboration skills (Dewi, 2016). In project-based learning, students are encouraged to work together with peers, and the process of teaching and learning leads them to result in a certain tangible learning product. PBL in English teaching not only demands the students to focus on the knowledge and language skill, but also requires them to integrate values in accomplishing the target of the project.

Several studies have been conducted in relation to project-based learning in English language teaching, some of which were those in secondary and tertiary educational levels (Fragoulis & Tsiplakides, 2009; Dewi, 2016; Soviyah & Fatimah, 2021; Widiyati & Pangesti, 2022). In addition, as the practice of online learning becomes more common as the result of the Covid-19 pandemic situation, there has been research conducted around the area of assessment for project-based learning in an online learning setting (Lin, 2018). This study was focused on the development of an instrument to measure the project competences of college students in online project-based learning. Another researcher worked on constructing analytical rubric for academic blog posts (Rock, 2022). It applied a mixed-methods analysis exposing five categories of interest in academic blog posts. The rubric designed distinguishes between fulfillment of writing task and content.

This recent study shares a similarity on developing an analytical rubric, but it focuses on project-based learning in TEYL Program Development (TEYL PD) course. This course is obligatory for students after they take Methods in TEYL course. TEYL in relation to project-based learning (PBL) is also conducted in another English department (Sahroni & Nurhajati, 2017). The learning products vary. Earlier in the Department, TEYL materials developed by the students were produced. The materials were for young learners (in grade 4, 5, or 6) or for younger learners (in grade 1, 2, or 3). But then, since 2022, the TEYL in the English Education Department under the recent study, learning is directed to developing a language program for young learners.

This research is the following investigation in the series of studies and publication in TEYL conducted by the researchers and team. In relation to TEYL, the researchers have studied teacher's strategies in TEYL (Pratiwi et al., 2021) and learning strategies of the students in Muhammadiyah elementary school (Fadilla et al., 2021), and the material development for English for Holiday Program (Soviyah & Fatimah, 2021). This study which is on developing an instrument to measure project-based learning in TEYL course is still in connection and relevant with the previous ones.

In relation to PBL in English teaching, there have been studies by researchers. Some of the foci were on the implementation of PBL (Yuliansyah & Ayu, 2021; Poonpon, 2017); effects of PBL

(Shin, 2018; Rozal et al., 2021; Park & Eisenhower, 2019), PBL and global issues (Nanni & Allan, 2020; Choon-Eng Gwee, 2008). There were previous studies on the instrument to measure the learning achievement based on the project in TEYL (Fragoulis & Tsiplakides, 2009; Nitiasih et al., 2022; Hanardi, 2015). It was indicated that through observation and interview, the educators have not been fully able to carry out assessments with the right media and instruments in accordance with the applied learning methods (Nitiasih et al. 2022). This is one of the reasons why the researchers of the recent study put their concern on developing an instrument to measure assess the learning achievement in the project-based learning in TEYL. This is to set a clear, objective and applicable instrument for the learning process so that the outcome will be standardized. It is in response to the English Education Department's policy in encouraging the lecturers to implement project-based learning supporting the performance of the Department in enhancing the students', lecturers' as well as Department's academic achievement.

In the other side, the implementation of project-based learning is challenging. A study reveals the challenges in relation to the content of the project, time management, monitoring and assessment, and lack of facilities in implementing project-based learning (Aldabbus, 2018). Another study finds out time, meeting state accountability requirements, addressing the standards, implementing the project within the school schedule and designing the project-based experience as the factors in PBL to concern (Harris, 2014). In addition, it is also confirmed that the obstacles in PBL are on the students' capability, issue on discipline, time constraint, equipment, students' inequality and cost issues (Cintang et al., 2018).

Project-based learning involved group as well as individual performance to accomplish the targets of the project. Therefore, the assessment should be authentic measuring related elements contributed by the students. It is emphasized to cover both outcome based and authentic assessment of PBL (Hanardi, 2015). It is stated that authentic assessment consisting of self-assessment, peer assessment, portfolio and other assessment instrument. It is reasonable since PBL demands the students to work collaboratively.

The research question is "What is the instrument to measure project-based learning in TEYL?" Thus, the objective is to develop an instrument to measure project-based learning in TEYL. It is reasonable that project-based learning must be assessed objectively (cf. Clary et al., 2011). To consistently measure the project-based learning achievement, a valid and reliable instrument is needed. This research is also a fundamental study to respond to the need for long-term research to understand scaling of innovations in project-based learning (Potvin et al., 2021).

The researchers put their concern on developing an instrument to measure or assess the learning achievement in the project-based learning in TEYL. This is to set a clear, objective and applicable instrument for the learning process so that the outcome will be standardized. It is in

response to the English Education Department's policy in encouraging the lecturers to implement project-based learning supporting the performance of the Department in enhancing the students', lecturers' as well as Department's academic achievement.

## Method

This study dealt with the development of the instruments to measure project-based learning in TEYL Program Development course. The population of the study was twenty-six lecturers of English Education Department. There were only two lecturers teaching TEYL PD course. Thus, the sample was taken from the two lecturers who have conducted TEYL PD course implementing project-based learning in the English Education Department.

There were 125 students taking the course of TEYL Program Development, they were divided in four parallel classes and work in groups. Each group consisting 13-15 students designed an online program of teaching English to young learners. They also planned the program, designed the materials and publication to get the course participants, and they did TEYL online. They managed the group by sharing tasks such as designing the syllabus and developing materials, providing media, doing technical assistance for online teaching, dealing with publication, taking the role as the teachers, etc. One of the groups did not succeed in doing the project online because there were no participants registering for the online course they offered. In accomplishing the project, the groups had sharing and consultation sessions with all the class members and the lecturers.

This study is Research and Development with ADDIE (Analyze, Design, Develop, Implement, Evaluate) model (McGriff, 2000). The analyze stage was conducted by exploring the syllabus on the course of TEYL Program Development and focus group discussion involving four lecturers of English Education Department. In the following stage, the lecturers of TEYL PD designed the candidate criteria for the rubric to examine the project-based learning in TEYL PD course. Further, in the develop stage, descriptors ranging from 1-4 Likert scales for each of the criteria was defined. For the implement stage, a pilot survey to examine the content validity and readability of the rubric was conducted to two ELT lecturers. The last stage, i.e. the evaluation stage was in the form of discussion on the feedback and revision. The data were analyzed qualitatively (Miles & Huberman, 2020; Creswell, 2012; Creswell & Creswell, 2017).

## Discussion

Several studies have been conducted in relation to project-based learning in English language teaching, some of which were those in secondary and tertiary educational levels (Sahroni & Nurhajati, 2017; Fadilla et al., 2021; Soviyah & Fatimah, 2021). In addition, as the practice of online learning becomes more common as the result of the Covid 19 pandemic situation, there has been research conducted around the area of assessment for project- based learning in an online

learning setting (Fragoulis & Tsiplakides, 2009). Many of the studies on project-based learning and teaching English were related to the implementation, effect, effectiveness or perceptions (Kimsesiz et al., 2017; Widiyati & Pangesti, 2022; Puangpunsi, 2021; Poonpon, 2017). Some studies were also conducted on the assessment on project-based learning and TEYL (Aziz & Yusoff, 2018; Nitiasih et al., 2022).

It is reasonable that project-based learning must be assessed objectively (cf. Sahroni & Nurhajati, 2017). To consistently measure the project-based learning achievement, a valid and reliable instrument is needed. This research is also be a fundamental study to respond to the need for long-term research to understand scaling of innovations in project-based learning (Pratiwi et al., 2021). This study was focused on the development of an instrument to measure the project competences of college students in online project-based learning. Another researcher worked on constructing analytical rubric for academic blog posts (Clary et al., 2011). It applied a mixed-methods analysis exposing five categories of interest in academic blog posts. The rubric designed distinguishes between fulfillment of writing task and content. This recent study shares a similarity on developing an analytical rubric, but it focuses on project-based learning in TEYL course.

Some rubrics have already been provided by previous researchers or practitioners. The researchers explore some existing rubric from different disciplines or research settings (Clary et al., 2011; Potvin et al., 2021; Dewi, 2016, Widiyati & Pangesti, 2022; Lin, 2018; Rock, 2022). The researchers of this recent study developed two sets of instruments to measure the students' performance in TEYL PD which is project-based. The first is the one to assess group performance and the second is to rate the individual performance. The second is mainly based on peer assessment.

The first instrument is an analytical rubric containing 7 aspects for group assessment in project-based learning in TEYL PD (Table 1). This designed rubric was completed with the descriptors for each aspect. They were adapted from different references (Vaughan et al., 2019; Kafi et al., 2019; Guo et al., 2020). The seven aspects include: stages required for PBL in TEYL PD, data collection, target accomplishment, reporting, knowledge, attitudes, skills. Such aspects accommodate the process that the students did as their efforts in accomplishing the targets of the project (Clark, 2017; Lin, 2018).

This rubric was validated by an ELT expert with more than 25-year work experience. Some of her feedback were on the consistency in using different words/terms for the same task in the descriptors of the aspects of measurement, and on the content of gradual descriptions in each of the scales. For the aspect of target accomplishment, in its descriptor, she suggested a word/term (like achieved) in common instead of using different ones (completed, achieved, accomplished, realized).

Table 1. Rubric for project-based learning in TEYL PD (group assessment)

<i>Aspects</i>	<i>4 (Excellent)</i>	<i>3 (Good)</i>	<i>2 (Fair)</i>	<i>1 (Poor)</i>
Stages required in the course of TEYL PD project-based learning	The group did more than 80 % of the stages of project-based learning in TEYL PD	The group did 60 % – 80 % of the stages of project-based learning in TEYL PD	The group did 40 % to less than 60% of the stages of project-based learning at most in TEYL PD	The group did less than 40 % of the stages at most in doing the project in TEYL PD
Data collection	Students collect and analyze data completely, systematically and fit the project targets of TEYL PD	Students collect and analyze data entirely, systematically but it does not fit the project targets of TEYL PD	Students collect and analyze data completely, but it is less systematic and not suitable for the project targets of TEYL PD	Students collect and analyze data incompletely, unsystematically and it does not fit the project targets of TEYL PD
Target accomplishment	The project on TEYL PD ran well, all the targets have been achieved	The project on TEYL PD was conducted with 75% targets achieved (at most)	Only half of the target in TEYL PD has been achieved	Project on TEYL PD failed, no targets were achieved
Reporting	Students are able to present the appropriate project result on TEYL PD with proper language	Students are able to present the correct project result on TEYL PD but with inappropriate language	Students are less able to present the correct project result on TEYL PD but with proper language	Students are not able to present the correct project results on TEYL PD and present them with inappropriate language
Knowledge	Students show excellent understanding of the material in the planning and conducting the project on TEYL PD	Students show a good understanding of the material in the planning and conducting the project on TEYL PD	Students show a relatively good understanding of the material in the planning and conducting the project on TEYL PD	Students do not show a good understanding of the material in the planning and conducting the project on TEYL PD
Attitudes	Students can work together, are very independent and complete the project in TEYL PD before the deadline	Students can work together, independently and they can complete the project in TEYL PD on time	Students can work in a team, but they still need guidance in completing projects in TEYL PD on time.	Students are not able to work together and they still need guidance completing projects in TEYL PD on time.
Skills	The project result is accurate, very creative and they present it with the proper language for young learners	The project result is accurate, creative. However, they present it with the proper language for young learners	The project result is not accurate, creative. However, students present it with the proper language for young learners	The project result is inaccurate, not creative and is presented with the inappropriate language for young learners

In the beginning, there was only an instrument of the group work assessment. The score for each group is calculated using this formula = (the sum of the aspects/maximum score) x 100. The maximum score = 4 x 7 = 28. Considering the fairness and objectivity of the assessment, the



researchers developed another instrument which is peer assessment in nature regardless the finding that the impact of peer assessment on students' lesson plan project seemed to vary according to students' learning levels. A study shows that low- and average-achieving students showed significantly improved performance right after the integration of a peer assessment model (Li & Gao, 2016).

The second instrument focuses on four indicators consisting of contribution, collaboration, discipline, communication. Each student assesses the other group members by ranking them considering those 4 indicators. This assessment excludes self-assessment; therefore, the presentation of the assessment is like what is illustrated in Table 2.

In the second instrument, for each group member, it is calculated that the total score of each indicator is divided by the maximum score and then it is compared to other group members' achieved score. By doing this, the group members can be put in a rank. Both scores (on group and individual performance) are taken as the basis to assess individuals in the group working on the project in TEYL Program Development.

Table 2. Peer assessment in TEYL PD project

No	Name of group member	Contribution	Collaboration	Discipline	Communication
1	Andy				
2	Betty	1	1	1	1
3	Candra	2	2	4	2
4	Diah	3	4	2	3
5	Erwin	4	3	3	4
6	Sita	5	6	6	6
7	Erika	6	5	5	5

\* Note: Andy assessed the other group members

The students learning achievement is measured not only from the learning outcome but also from their technical competencies required for the project (Fernandes et al., 2012). The students are challenged to accomplish the project cognitively, mentally, technically while working collaboratively with peers.

Assessing project work in a Teaching English to Young Learners course involves a multifaceted approach that gauges various aspects of language mastery and organizing skills or group work, creativity, collaboration, attitude. By referencing Bloom's Taxonomy, which emphasizes cognitive processes, rubrics that evaluate students' ability to apply language knowledge creatively, analyze information, and communicate effectively can be designed. Institutional standards, course syllabus are other references to consider in developing the assessment instruments. Integrating these frameworks provides a comprehensive view of students' language development and project-based learning outcomes considering the group dynamics and roles taken by the students (Nunan, 2022).

Furthermore, using a mix of formative and summative assessment strategies is crucial in evaluating project work in a TEYL setting. Formative assessments, such as peer evaluations, self-assessments, and ongoing feedback during project development, allow students to reflect on their progress and make improvements. On the other hand, summative assessments, like final presentations or portfolios, provide a comprehensive overview of students' language proficiency and project accomplishments. Incorporating both types of assessments not only supports continuous learning but also offers a well-rounded evaluation of students' language skills and project-based achievements.

## Conclusion

The instruments to measure project-based learning in TEYL Program Development course have been resulted from this research. They cover both group and individual performance on the project. They consist of the instrument to assess the group performance in doing the project and the individual performance based on the peer assessment. However, since the pilot study was conducted on the test of content validity and the readability of the instruments, the idea of implementing the instruments on project-based learning in TEYL at the classroom setting can be the following to be investigated. Empirical try out of the instruments in the TEYL PD course will be valuable to confirm the validity and reliability of the instruments.

This study has potential limitations. The focused group discussion only involved lecturers. We did not include students attending the TEYL PD course. Extending the segments of participants in the focused group discussion may meet the needs of the students and get their feedback in developing the rubric of assessment so that it will measure the students' performance along the project-based learning more fairly and accurately.

## References

- Aldabbus, S. (2018). Project-based learning: Implementation & challenges. *International Journal of Education, Learning and Development*, 6(3), 71–79.
- Aziz, M. N. A., & Yusoff, N. M. (2018). Experiences of using authentic assessment with English language young learners. *International Journal of Academic Research in Business and Social Sciences*, 8(9), 375–738.
- Choon-Eng Gwee, M. (2008). Globalization of problem-based learning (PBL): Cross-cultural implications. *The Kaohsiung Journal of Medical Sciences*, 24, S14–S22.
- Cintang, N., Setyowati, D. L., & Handayani, S. S. D. (2018). The obstacles and strategy of project based learning implementation in elementary school. *Journal of Education and Learning (EduLearn)*, 12(1), 7–15.
- Clark, B. A. (2017). *Project based learning: assessing and measuring student participation*.
- Clary, R. M., Brzuszek, R. F., & Fulford, C. T. (2011). Measuring creativity: A case study probing rubric effectiveness for evaluation of project-based learning solutions. *Creative Education*, 2(04), 333.



- Creswell, J. W. (2012). *Educational research: planning, conducting, and evaluating quantitative and qualitative research*. Pearson.
- Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage publications.
- Dewi, H. (2016). Project based learning techniques to improve speaking skills. *English Education Journal*, 7(3), 341–359.
- Ellis, T. J., & Hafner, W. (2007). Assessing collaborative, project-based learning experiences: Drawing from three data sources. *2007 37th Annual Frontiers In Education Conference- Global Engineering: Knowledge Without Borders, Opportunities Without Passports*, T2G-13.
- Fadilla, H., Fatimah, N., & Akhsan, N. R. (2021). Students' Strategies in Learning English Online: A Case Study in a Private Elementary School in Yogyakarta. *Journal of English Language Teaching and English Linguistics*, 6(2).
- Fernandes, S., Flores, M. A., & Lima, R. M. (2012). Student assessment in project based learning. In *Project Approaches to Learning in Engineering Education* (pp. 147–160). Brill.
- Fragoulis, I., & Tsiplakides, I. (2009). Project-Based Learning in the Teaching of English as A Foreign Language in Greek Primary Schools: From Theory to Practice. *English Language Teaching*, 2(3), 113–119.
- Guo, P., Saab, N., Post, L. S., & Admiraal, W. (2020). A review of project-based learning in higher education: Student outcomes and measures. *International Journal of Educational Research*, 102, 101586.
- Hanardi, L. G. (2015). A project-based assessment model of English for senior high school grade X. *Indonesian Journal of English Language Studies (IJELS)*, 1(1), 70–92.
- Harris, M. J. (2014). *The challenges of implementing project-based learning in middle schools*. University of Pittsburgh.
- Kafi, Z., Motalebzadeh, K., Khodabakhshzadeh, H., & Zeraatpisheh, M. (2019). Developing, glocalizing & validating a quality indices rubric in English language teaching: A case of CIPP model. *Cogent Education*, 6(1), 1666643.
- Kimsesiz, F., Dolgunsöz, E., & Konca, M. Y. (2017). The Effect of Project Based Learning in Teaching EFL Vocabulary to Young Learners of English: The Case of Pre-School Children. *Online Submission*, 5(4), 426–439.
- Li, L., & Gao, F. (2016). The effect of peer assessment on project performance of students at different learning levels. *Assessment & Evaluation in Higher Education*, 41(6), 885–900.
- Lin, C.-L. (2018). The development of an instrument to measure the project competences of college students in online project-based learning. *Journal of Science Education and Technology*, 27(1), 57–69.
- McGriff, S. J. (2000). Instructional system design (ISD): Using the ADDIE model. *Retrieved June*, 10(2003), 513–553.
- Miles, H., & Huberman, A. M. (2020). Saldana.(2014). *Qualitative data analysis: A methods sourcebook*. New York: Sage Publications, Inc.
- Nanni, A., & Allan, L. (2020). PBL and the new ecological paradigm: fostering environmental awareness through project-based learning. *Journal of Asia TEFL*, 17(3), 1085.
- Nitiasih, P. K., Budiarta, L. G. R., & Sudeni, L. M. S. (2022). The Implementation of Project-Based Assessment Rubric in Elementary School Students English Teaching at Buleleng Regency. *2nd International Conference on Languages and Arts across Cultures (ICLAAC 2022)*, 180–189.
- Nunan, D. (2022). The changing landscape of English language teaching and learning. In *Handbook of practical second language teaching and learning* (pp. 3–23). Routledge.
- Park, P., & Eisenhower, L. (2019). The impact of an arts project-based language program to enhance EFL learning. *Journal of Asia TEFL*, 16(4), 1232.
- Poonpon, K. (2017). Enhancing English skills through project-based learning. *The English Teacher*, 10.

- Potvin, A. S., Boardman, A. G., & Stamatis, K. (2021). Consequential change: Teachers scale project-based learning in English language arts. *Teaching and Teacher Education, 107*, 103469.
- Pratiwi, S. G., Fatimah, N., & ... (2021). Teachers' Strategies in Teaching English to Young Learners in Private Primary Schools in Yogyakarta. ... (*Ahmad Dahlan Journal* ....  
<https://garuda.kemdikbud.go.id/documents/detail/2283580>
- Puangpunsi, N. (2021). Learners' perception towards project-based learning in encouraging English skills performance and 21st century skills. *ThaiTESOL Journal, 34*(1), 1–24.
- Rock, K. (2022). Constructing a data-based analytic rubric for an academic blog post. *Assessing Writing, 51*, 100602.
- Rozal, E., Ananda, R., Zb, A., Fauziddin, M., & Sulman, F. (2021). The effect of project-based learning through YouTube presentations on English learning outcomes in physics. *AL-Ishlah: Jurnal Pendidikan, 13*(3), 1924–1933.
- Sahroni, W., & Nurhajati, D. (2017). TEACHING TEYL USING PROJECT-BASED LEARNING. *Prosiding Seminar Pendidikan Dan Pengajaran (SEMDIKJAR) 3, 1*, 622–631.
- Shin, M.-H. (2018). Effects of Project-Based Learning on Students' Motivation and Self-Efficacy. *English Teaching, 73*(1), 95–114.
- Soviyah, S., & Fatimah, N. (2021). Developing material for English for Holiday program. *English Language Teaching Educational Journal, 4*(3), 235–250.  
<https://doi.org/10.12928/eltej.v4i3.5000>
- Vaughan, B., Yoxall, J., & Grace, S. (2019). Peer assessment of teamwork in group projects: Evaluation of a rubric. *Issues in Educational Research, 29*(3), 961–978.
- Widiyati, E., & Pangesti, W. (2022). Project-based learning in teaching speaking to young learners: Is it effective? *EduLite: Journal of English Education, Literature and Culture, 7*(1), 71–81.
- Yuliansyah, A., & Ayu, M. (2021). The implementation of project-based assignment in online learning during covid-19. *Journal of English Language Teaching and Learning, 2*(1), 32–38.