



Evaluation of Teachers' Literacy and Numeracy Skills: A Case Study on Certain Teachers' PPG Participants

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Abstract. The Teacher Professional Education Program (PPG) aims to improve teachers' competence in carrying out the learning process, which in turn has an impact on improving the quality of education. The purpose of the research is to find out how to evaluate the literacy and numeracy skills of teachers participating in the PPG Certain Teachers. This study uses a qualitative approach, namely evaluation research with a case study method that focuses on one phenomenon. The design models used in CIPPO evaluation are context, input, process, product, and outcome. The population is all informants, namely PPG managers, PPG Coordinators, Lecturers, Pamong Teachers and PPG participants of Certain Teachers totaling 569 people. Data collection by document study, interview guidelines and observation guidelines. Qualitative data analysis uses the Miles and Huberman model, namely data reduction, data presentation and conclusion drawn. In general, based on the graduation percentage of 99.3% declared to have passed UKPPPG and 0.7% did not pass UKPPPG, it can be concluded that the literacy and numeracy skills of teachers participating in certain PPG Teachers are very good and the PPG program at LPTK Malikussaleh University can continue.

Keywords: Literacy Skills, Numeracy Skills and PPG

1. INTRODUCTION

The Teacher Professional Education Policy (PPG) is a form of the government's commitment to improve the quality of education in Indonesia. Good quality of education is very important in facing the challenges of science and technology development. One of the elements that determines the quality of education is the role of teachers, who have a great responsibility in bringing change in the world of education (Bahar et al., 2024). The steps taken by the government to improve the quality of education include the establishment of national education standards. This standard includes minimum criteria related to various components of education, which allows each level and path of education to develop its quality optimally according to its needs (Fauziah et al., 2021).

One of the efforts made by the government is to conduct an evaluation. According to Sudjana, program evaluation is a systematic process that aims to collect, process, analyze, and present data as consideration in decision-making. Educational evaluation is an important component that cannot be separated from other components of education. However, not all forms of evaluation are effective in measuring the achievement of educational goals that have been set. The success of education can be seen if the evaluation tools used are appropriate and able to measure each goal to be achieved.

Evaluations can be carried out on students, institutions, and educational programs in formal and non-formal pathways for various levels, units, and types of education.

The form of the evaluation program carried out by the Ministry of Education and Culture is to abolish the National Examination (UN). In 2020 the Ministry of Education and Culture decided that the implementation of the UN ended, and was replaced by the Minimum Competency Assessment (AKM), Character Survey (SK), and Learning Environment Survey (SLB) in 2021. The AKM policy was developed based on a combination of *the Programme for International Student Assessment (PISA)* and *Trends in International Mathematics and Science Study (TIMSS)*. The National Assessment (AN) is one of the evaluation instruments in Indonesia. AN is a program designed to survey the quality of education in each learning unit, both in schools and madrasahs. This program targets grade 5 students at the elementary/middle school level, grade 8 at the junior high school/MTs level, and grade 11 at the high school/MA/SMK level. The Minimum Competency Assessment (AKM) to measure cognitive learning outcomes consists of reading literacy and numeracy.

Literacy skills in numeracy and science are very important for students, but they cannot be achieved instantly but require intensive guidance and practice. Unfortunately, learning resources such as books and questions that support numeracy and science literacy are still limited, as well as teachers' understanding of this literacy is still low (Wulandari et al., 2020).

According to (Erniati, 2022) The main issue of concern is literacy and numeracy skills. These two aspects are the main objectives in improving students' insight and skills, as they play an important role not only in Language and Mathematics lessons, but also in various other fields, such as Natural Sciences, religion, and others. However, efforts are still needed to improve the literacy and numeracy competencies of teachers, so that in the end it can have a significant positive impact on students. Furthermore, the results of the school report card of SD Negeri 04 Banda Sakti are related to pedagogical competence, the percentage figure is 46.91% with the category of adequate. Although it is considered adequate, it has not resulted in optimal performance. If teachers do not show high credibility and professionalism, the public may feel disappointed with less qualified graduates, especially for those who have children or relatives who attend school here. Therefore, evaluation needs to be taken seriously and followed up so that the quality does not continue to decline.

Further seen as a whole, according to (Robiah et al., 2023) data from the 2022 Indonesian Education Report Card collected from 163,492 educational units throughout the province, with a total of 3,335,655 students, shows that the literacy level at the elementary school (SD) level in Indonesia is still below the minimum competency standard. This means that less than 50% of students have reached the minimum competency limit for reading literacy (source: Ministry of Education and Culture Education Report, 2022).

The various problems faced require the government to find solutions to the problems faced. The form of the government's commitment as stated above is by issuing various policies, one of which is improving the professionalism of teachers with Teacher Professional Education (PPG). The Professional Teacher Education Program, or better known as Teacher Professional Education (PPG), is intended for all teachers who have completed their education at the undergraduate or S1 level.

Teacher Professional Education (PPG) is divided into two categories, namely Pre-service PPG and In-Service PPG. In 2023, Malikussaleh University is one of the LPTKs that organizes Teacher Professional Education, especially PPG In-Service (Certain Teachers). The purpose of this study is to find out how to evaluate the literacy and numeracy skills of teachers participating in PPG Certain Teachers (In-Service). The evaluation is carried out to measure the success of the set goals. The CIPPO evaluation model was chosen as the evaluation model in this study.

2. LITERATURE REVIEW

The Teacher Professional Education Program (PPG) aims to improve teachers' competence in carrying out the learning process, which in turn has an impact on improving the quality of education at the national level (Santoso et al., 2023). One of the government's efforts through the Ministry of Education and Culture is Teacher Professional Education (PPG). The programs carried out include PPG In-Position (Certain Teachers). PPG In-Service is a professional education for teachers throughout Indonesia who have been and or are teaching in schools. PPG In-Service is expected to be able to overcome various challenges in the world of education, such as teacher qualifications that do not meet *standards (under qualification)* and low level of teacher competence (Maryani, 2022). In the education system, teachers have an important role in ensuring that the learning process runs optimally, so teachers must have good

competence and qualifications (Puspitaningtyas & Jasmina, 2023). Teachers who have high competence are believed to be able to produce graduates who are qualified, competitive, have strong character, and have a sense of love for the homeland.

Improving the quality of teachers has been regulated in Law Number 14 of 2005. According to Mulyasa (2011:61), the role of teachers in learning includes teachers as evaluators. Evaluation or assessment is the most complex aspect of learning, because an assessment determines the quality of learning outcomes, and also the process of achieving learning goals.

In fact, the results of the national evaluation in the form of the Minimum Competency Assessment in Indonesia are still low. AKM aims to measure cognitive learning outcomes consisting of reading literacy and numeracy. Literacy skills in numeracy and science are very important for students, but they cannot be achieved instantly but require intensive guidance and practice. Unfortunately, learning resources such as books and questions that support numeracy and science literacy are still limited, as well as teachers' understanding of this literacy is still low (Wulandari et al., 2020).

The importance of understanding literacy and numeracy is not only for students, but teachers are also required to be able to understand and provide forms of literacy and numeracy questions during classroom learning. Lack of understanding of students in completing literacy and numeracy skills is an important issue and must be considered, students are not used to solving literacy and numeracy problems and teachers generally provide students with a form of routine questions (Ardellea & Hamdu, 2022).

Literacy can also be interpreted as an individual's language ability to listen, speak, read, and write in order to communicate in various ways according to the goal. In simple terms, literacy refers to a person's ability to understand what they read and write (Fonna et al., 2024). Numeracy ability includes individual skills in composing, applying, and interpreting mathematics in a variety of contexts. Numeracy skills are a person's ability to use numbers to solve everyday problems (Ristanto et al., 2024). The importance of literacy and numeracy skills is in line with the development of 21st century skills. The four skills that support these learning and innovation skills include *critical thinking and problem-solving, creativity and innovation, communication, and collaboration* (Sukirwan et al., 2024).

The importance of these two abilities is inseparable from the role of the teacher, so that students are able to understand and work on AKM questions which are assessment indicators in the independent curriculum. In addition, schools need to prepare teachers to

assist students in working on AKM questions and familiarize students with non-routine questions in the form of literacy and numeracy questions.

The government's efforts to improve teacher competence and welfare are by providing educator certificates through the PPG program, especially the In-Service PPG for teachers who have taught before and the Pre-service PPG for prospective teachers (Maulana et al., 2023). Based on the above problems, the lack of understanding of teachers' literacy and numeracy skills will have an impact on low AKM results. With the PPG In-Position (Certain Teachers) program, we can see teachers' literacy and numeracy abilities with the aim of having a good understanding of literacy and numeracy as evaluators. If teachers do not show high credibility and professionalism, the public may feel disappointed with graduates who are not qualified. Therefore, so that the quality does not continue to decline, it is necessary to carry out an evaluation.

This study aims to evaluate the literacy and numeracy skills of teachers participating in the PPG Certain Teachers. The CIPPO model is the model chosen in this study. The CIPPO model is a modification of the CIPP model, namely *Context, Input, Process and Product*. The difference is the existence of the *Outcome stage* (Wiryatmo et al., 2023). The CIPP model evaluation approach was developed by Stufflebeam & Shinkfield (Wiryatmo et al., 2023) which aims to support decision-makers by providing assistance to teachers, administrators, and leaders in the decision-making process. In addition, to obtain more detailed research results, a research process was carried out using the CIPPO model which is the development of the CIPP evaluation model from Stufflebeam which was perfected by Gilbert Sax by adding *an outcome* (O) component (Fattah et al., 2014).

3. METHODS

This research uses a qualitative approach. This research is an evaluation research with a case study method that focuses on only one selected phenomenon and will be understood in more detail, ignoring other phenomena.

The research design model used is the evaluation of the Stufflebeam model by adding an outcome (O) component so that it becomes CIPPO. This model consists of context, input, process, product, and outcome.

This research was conducted at PPG FKIP Malikussaleh University. The population is all informants, namely PPG Managers, PPG Coordinators, Pamong

Teachers and 569 PPG students for certain Teachers Piloting 2 of 2024. Qualitative data collection uses 3 types of instruments, namely document studies, interview guidelines and observation guidelines. Data collection is considered complete if the data collected is sufficient (saturated). The data analysis technique used is qualitatively using the Miles and Huberman model, namely data reduction, data presentation, and conclusion drawn.

4. RESULTS

In general, this study aims to explain how to evaluate the literacy and numeracy skills of teachers participating in the PPG Certain Teachers at LPTK Malikussaleh University. Based on the CIPPO model, the following evaluation steps are carried out.

1. Context Evaluation

The results of the study show that the evaluation of the PPG LPTK program of Malikussaleh University already has a permit as a PPG organizer by accepting 5 to open five fields of study, namely: Indonesian, Physics, Mathematics, Chemistry and Mechanical Engineering. In 2024, LPTK Malikussaleh University as the organizer will accept the first Pre-service PPG participant in the field of chemistry study and receive back the In-Service PPG (Certain Teachers). The results of observations and interviews show that the 2023 In-Service PPG program consists of three course sections, namely: (1) Material Deepening, (2) Device Development and (3) Field Experience Practice. In the discussion of deepening the material, the purpose of the activity was that participants could analyze problem-based material, literacy, numeracy and HOTS and could develop appropriate learning tools.

In contrast to 2023, in 2024 PPG Daljab (Certain Teachers) lectures will be taken for 1 month independently through the Independent Teaching Platform (PMM). Certain Teacher PPG participants are required to work on modules independently. One of the modules that must be taken is the Principles of Teaching and Assessment. This module discusses the development of learning objectives and assessments. This shows that PPG In-Service (Certain Teachers) has the same goal, namely to understand and analyze literacy and numeracy which are important parts of it.

2. Input Evaluation

The results of the evaluation and interviews with PPG managers show that the implementation of PPG in Positions is carried out well. The LPTK has tried to implement the right and appropriate work mechanism in conducting recruitment, selection, and learning systems at the LPTK of Malikussaleh University. In this case, teachers are

required to focus more on the TPACK-based learning process and also assessment assessments. At the stage of the activity in accordance with the direction of the Directorate General of Teachers and Education Personnel (Dirjen GTK). Starting from the orientation stage and ending with the evaluation of the ongoing PPG program. Each field of study is assisted by a coordinator of the field of study. The implementation of learning for PPG in Positions (Certain Teachers) is carried out through *zoom meetings* and live *youtube*.

3. Process Evaluation

The results of the evaluation of the literacy and numeracy of teachers participating in the PPG Certain Teachers on the process aspects including the components of the learning plan, learning activities, learning assessment, monitoring and evaluation showed that overall the components were running well. A lesson plan (RPS) has been prepared and includes each meeting by looking at learning outcomes. The lecture schedule has been prepared by each coordinator of the field of study according to the direction of the coordinator.

At the learning assessment stage, it is carried out in accordance with the topics discussed in SIMPKB (Year 2023) and PMM (Year 2024). Literacy and numeracy skills as previously conveyed in the discussion of deepening the material of the activity objectives are that participants can analyze problem-based material, literacy, numeracy and HOTS and can develop appropriate learning tools. This leads teachers to get used to and understand how literacy and numeracy and the problems related to it are. In PMM, one of the modules that must be done is the Principles of Teaching and Assessment. This module discusses the development of learning objectives and assessments.

In the monitoring and evaluation section, the results of the interview with the LPTK IT admin stated that the communication of participant readiness had been carried out in the form of equalizing the perception of UKPPPG. The forms of UKPPPG are Computer-Based Written Exams (UTBK) and Performance Exams (UKIN), which are learning videos and learning tools. For PPG Certain Teacher participants in 2024 can take part in UKPPPG if they have passed independent learning through PMM. The results of the overall participant assessment based on IT admin interviews showed that 569 participants graduated through independent learning by 100%. The next stage can take part in UKPPPG. The results of the UKPPPG from both assessments can be seen in the table below:

Table 1. UKPPPG Piloting 2 Assessment Results 2024

No	Types of UKPPPG	Pass	Not Passed	Number of Participants	Percentage
1	Written Test	568	1	569	0,18%
2	Competency Test	566	3	569	0,53%
Percentage of Non-Graduates					0,70%

Based on the table above, the number of participants in UKPPPG Piloting 2 of 2024 is 569 participants. The number of participants who did not pass was 4 participants or 0.70% and the number of participants who passed was 565 participants or 99.3%.

4. Product Evaluation

Based on the results and discussion above, each participant has been able to pass independent learning and can be seen from the graduation of certain PPG Teacher participants by 100% so that they can continue to the UKPPPG stage. The findings showed that the literacy and numeracy skills of PPG participants were very good based on the results of PMM and the final results of UKPPPG. The results of the UKPPPG assessment were carried out by lecturers and teachers.

5. Outcome Evaluation

The results of the evaluation for the *outcome aspect* are documentation with students, institutions (agencies) in this case the principal, representatives of the Director General of GTK and PPG managers. Based on the results of monitoring and evaluation that has been carried out by representatives from the Director General of GTK to the location of the LPTK of Malikussaleh University in Lhokseumawe, the implementation of monitoring and evaluation was carried out for 2 days. The first day at LPTK Malikussaleh University and the second day of the visit to the home school of PPG In-Service participants, namely SMPN 3 Dewantara in North Aceh. Based on an interview with the principal of SMPN 3 Dewantara, one of the teachers at the school is a participant of PPG In-Service (Certain Teachers). The PPG Daljab teacher has been able to master learning with TPACK and understand the characteristics of HOTS questions and the form of litears and numeracy questions. The importance of teachers' understanding related to literacy and numeracy can help students in working on AKM questions.

5. DISCUSSION

The purpose of this study is to find out how to evaluate the literacy and numeracy skills of teachers participating in the PPG Certain Teachers. Furthermore, the importance

of teachers' understanding related to literacy and numeracy can help students in working on AKM questions. In addition, often or not getting students used to answering literacy and numeracy questions in class helps students understand the characteristics of AKM questions, including: ordinary multiple choice, complex multiple choice, matchmaking, short fills and essays.

Based on the results of UKPPPG Piloting 2 of 2024, PPG participants were declared to have passed by 99.3%, this can support good teachers' literacy and numeracy skills and can be useful in their respective schools after completing the PPG stage.

6. CONCLUSION

Based on the results and discussions, it can be concluded that the implementation of PPG in Positions (Certain Teachers) has gone well and can be continued. This can be seen from the evaluation of the literacy and numeracy skills of teachers participating in the PPG Certain Teachers based on the five components of the CIPPO evaluation, namely *context, input, process, product and outcome*. The results of the final assessment of UKPPPG were 99.3% of participants who passed the UKPPPG exam and as many as 0.7% did not pass. Based on the outcome aspect of this research, it has an impact on schools and the wider community, making it easier for students to understand AKM questions related to literacy and numeracy, and a fun learning process based on TPACK.

7. REFERENCES

- Ardellea, F., & Hamdu, G. (2022). Pentingnya kemampuan guru sekolah dasar dalam mengembangkan soal tes literasi dan numerasi berbasis education for sustainable development (ESD). *Edu Cendikia: Jurnal Ilmiah Kependidikan*, 2(02), 220–227. <https://doi.org/10.47709/educendikia.v2i02.1587>
- Bahar, M., Murni, D., Amalita, N., Gustituati, N., & Rusdinal, R. (2024). Analisis implementasi kebijakan pendidikan profesi guru matematika dalam jabatan. *Naturalistic: Jurnal Kajian Dan Penelitian Pendidikan Dan Pembelajaran*, 8(2), 360–368. <https://doi.org/10.35568/naturalistic.v8i2.3627>
- Erniati. (2022). Peningkatan kemampuan literasi dan numerasi guru di SD Negeri 4 Banda Sakti Kota Lhokseumawe melalui. *Jurnal Ilmiah Ikatan Guru Indonesia (IGI)*, 3(2), 68–75.
- Fattah, A., Tarbiyah, F., Keguruan, D., Mataram, I., Gajah, J., Jempong, M., & Ntb, M. (2014). Evaluasi program peningkatan kualifikasi S1 guru madrasah dan guru PAI melalui dual mode system (DMS) Kementerian Agama Republik Indonesia di LPTK Rayon 210 IAIN Mataram.

- Fauziah, A., Sobari, E. F. D., & Robandi, B. (2021). Analisis pemahaman guru sekolah menengah pertama (SMP) mengenai asesmen kompetensi minimum (AKM). *Edukatif: Jurnal Ilmu Pendidikan*, 3(4), 1550–1558. <https://doi.org/10.31004/edukatif.v3i4.608>
- Fonna, M., Unaida, R., Sakdiah, H., Putri, I. A., & Dewi, A. F. (2024). Inovasi sosial: Jurnal pengabdian masyarakat pendampingan penguatan literasi dan numerasi guru dalam menghadapi kurikulum merdeka. *Strengthening Assistance for Teachers' Literacy and Numeracy in Facing the Independent Curriculum Universitas Malikussaleh*, 1(4), 66–73. <https://doi.org/https://pkm.lpkd.or.id/index.php/InovasiSosial/article/view/757>
- Maryani, E. (2022). Pendidikan profesi guru (PPG) sebagai cara untuk menjadikan guru menjadi profesional. *GUAAU: Jurnal Pendidikan Profesi Guru Agama Islam*, 2, 171–178. <http://202.162.210.184/index.php/guau/article/view/405%0Ahttp://202.162.210.184/index.php/guau/article/download/405/376>
- Maulana, I., Rahma, N. A., Mahfirah, N. F., Alfarizi, W., & Darlis, A. (2023). Meningkatkan profesional guru dengan program pendidikan profesi guru (PPG). *Journal on Education*, 5(2), 2158–2167. <https://doi.org/10.31004/joe.v5i2.867>
- Miles, M. B., & Huberman, A. M. (1992). *Analisis data kualitatif* (T. R. Rohidi, Trans.). Jakarta: UI-Press.
- Mulyasa, E. (2011). *Menjadi guru profesional*. Bandung: Remaja Rosdakarya.
- Puspitaningtyas, A. W., & Jasmina, T. (2023). The effect of teacher competency on the 2021 elementary school national assessment result. *Journal La Sociale*, 4(6), 499–513. <https://doi.org/10.37899/journal-la-sociale.v4i6.975>
- Ristanto, S., Rahaju, E. B., & Mariana, N. (2024). Identification of numeracy skills of elementary school students in working on national assessment problems. *International Journal of Emerging Research and Review*, 2(2), 000069. <https://doi.org/10.56707/ijoerar.v2i2.69>
- Robiah, R., Hendarman, H., & Hidayat, R. (2023). Evaluasi program literasi anak dengan pendekatan model CIPPO. *Murhum: Jurnal Pendidikan Anak Usia Dini*, 4(1), 528–539. <https://doi.org/10.37985/murhum.v4i1.262>
- Santoso, E., Nurjamil, D., Mahmudin, D., & ... (2023). Pendidikan profesi guru: Strategi peningkatan kualitas guru menuju Indonesia Emas 2045. *Indonesian Journal*, 3(3), 72–80. <http://ijocs.rcipublisher.org/index.php/ijocs/article/view/283%0Ahttps://ijocs.rcipublisher.org/index.php/ijocs/article/download/283/217>
- Stufflebeam, D. L., & Shinkfield, A. J. (2007). *Evaluation theory, models, and applications*. San Francisco: Jossey-Bass.
- Sukirwan, S., Ratnaningsih, N., Patmawati, H., & ... (2024). 4-Cs: Teachers' efforts to transform 21st-century skills in teaching and learning. *Journal of Authentic*, 6(1).

<https://jurnal.unsil.ac.id/index.php/jarme/article/view/9079%0Ahttps://jurnal.unsil.ac.id/index.php/jarme/article/download/9079/3169>

- Wiryatmo, R. D., Iriani, A., & Waruwu, M. (2023). Evaluasi pelaksanaan penguatan SDM program sekolah penggerak di sekolah menengah pertama dengan model CIPPO. *Kelola: Jurnal Manajemen Pendidikan*, 10(1), 22–34. <https://doi.org/10.24246/j.jk.2023.v10.i1.p22-34>
- Wulandari, W., Marhami, M., Rohantizani, R., & Muliana, M. (2020). Peningkatan kompetensi dan kreativitas guru SMP melalui pelatihan pembuatan soal-soal berbasis higher order thinking skill (HOTS). *INTEGRITAS: Jurnal Pengabdian*, 4(2), 321-332.