

Real Picture Analysis (RPA)-Based Student Worksheet Training for Professional Competence of Teachers

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Article Info	Abstract
Article history: Received: May 8, 2025 Accepted: July 25, 2025 Published: December 21, 2025 Keywords: Competence Higher-order thinking RPA Student worksheet This article is licensed under a Creative Commons Attribution-ShareAlike 4.0 International License © 2025 Bubungan Tinggi: Jurnal Pengabdian Masyarakat	The availability of teaching materials, especially student worksheets used by teachers at MA Fatihul Ulum Jember, has limitations that lead to misunderstandings of materials and concepts. Training activities aim to improve teachers' professional competence, including RPA-based student worksheets as an alternative learning option to increase students' interest in self-directed learning. The training was attended by 38 subject teachers from MA Fatihul Ulum on October 12, 2024, using a process approach to implement it. The method used is Participatory Action Research. The training process involved the following stages: team formation; goal formulation; stakeholder identification; needs collection and analysis; problem prioritization; preparation; implementation; mentoring; review; and evaluation. The training increased teachers' professional competence in developing RPA-based student worksheets, including characteristics, components, strategies, and preparation. Therefore, it is expected that teachers will be more trained and competent in developing student worksheets integrated with real pictures to improve students' higher-order thinking. To cite this article: Wicaksono, I., Ibrahim, M. M., Sutarto, S., Indrawati, I., Hariyadi, S., & Hariani, S. A. (2025). Training on the use of student worksheet real picture analysis (rpa) based for professional competence of teachers. <i>Bubungan Tinggi: Jurnal Pengabdian Masyarakat</i>, 7 (4), 870-880.

INTRODUCTION

The Fatihul Ulum Islamic Boarding School is located in Manggisan village, Tanggul sub-district, Jember Regency, East Java. The school was founded around 1938 by KH Abdul Hannan and is currently led by KH Mahfudz. The name 'Fatihul Ulum' is also used for the MA Fatihul Ulum school, which was established in 2007. The boarding school is geographically located 33.9 km from the Faculty of Education at the University of Jember.

Fatihul Ulum Islamic Boarding School is divided into four distinct areas, focusing on different aspects of Islamic education. The school has a long history of providing

Islamic education in the area, and its strategic location in Tanggul District, Jember Regency, also facilitates access to quality education for students. The school's experienced caregivers have contributed to its success in guiding students to develop their character and knowledge.

One of the schools in this Islamic boarding school is MA Fatihul Ulum. A situational analysis of the school revealed that it is equipped with various facilities, including a school building, classrooms, and a library. The MA Fatihul Ulum school building is a permanent structure used for educational activities. The building's permanent condition indicates that there is sufficient infrastructure to support the learning process. The classrooms are equipped with seating and tables, which is an important factor in the design of a comfortable and conducive learning space ([Rahmawati, 2023](#)). The library, which is used as a storage place for teaching materials, including student worksheets, has limited resources, and this affects students' access to varied and relevant learning resources ([Susilowati, 2017](#)).

The student worksheet is a teaching material employed in teaching and learning activities ([Maulana & Sopandi, 2022](#)). It is prepared to facilitate students' understanding of the material through an approach that involves active participation and more in-depth study ([Afifah et al., 2019](#)). However, the number and variety of student worksheets available in the MA Fatihul Ulum library are limited. This has been shown to reduce students' interest in reading and in understanding concepts ([Utami, 2020](#)). A choice for learning is student worksheets based on Real Picture Analysis (RPA), which analyzes real problems students encounter in their environment to increase interest in independent learning ([Wicaksono et al., 2023](#)). This student worksheet represents an innovative approach to developing learning materials that utilizes real pictures as a medium for analysis to cultivate students' critical thinking skills ([Suryaningsih & Nurlita, 2021](#)). RPA can be defined as a problem-solving method using images that are both real and relevant to students' lives. The use of representations such as pictures and diagrams in RPA can facilitate conceptual understanding to inform problem-solving through quantitative analysis. The use of authentic images has been shown to enhance the material's visual appeal, making it more interesting and relevant to students ([Harianto, 2023](#)).

Student worksheets at Fatihul Ulum are inaccessible, primarily due to limited use, being perceived as less significant, and infrequent student attendance. Learning resources are mostly packaged books and texts that are largely irrelevant to current learning. Students frequently criticize the monotonous presentation of learning materials in the form of descriptive text. The lack of illustrative pictures to support the concepts presented in the book is also a concern ([Otoluwa et al., 2020](#)). The student worksheet included in the package book lacks standardization and does not align with the most recent curriculum. This may result in students having difficulty comprehending the lesson material ([Widiastuti, 2020](#)). Conversely, teachers at MA Fatihul Ulum encounter challenges in preparing Merdeka Curriculum-based learning materials. Furthermore, the teachers' low level of professional competence means they cannot create student worksheets in the context of the Merdeka Curriculum, which demands the development of students' critical reasoning skills ([Gradini & Zulmaulida, 2022](#)).

The use of a training program based on RPA-based student worksheets has been proposed as a potential solution to enhance the professional competence of teachers at MA Fatihul Ulum Tanggul Jember. The efficacy of this student worksheet has been demonstrated by empirical evidence, which attests to its validity, practicality, and effectiveness in augmenting teachers' professional competence. A comprehensive

understanding of the teaching material outlined in the student worksheet is a fundamental competency of a professional teacher. Consequently, it is imperative to conduct student worksheet development training aligned with student competencies ([Dudung, 2018](#)).

METHODS

The targets of this training activity are 38 subject teachers of MA Fatihul Ulum on October 12, 2024, at Street Argopuro No. 7, Manggisan, Tanggul District, Jember Regency, East Java Province. The approach used is the process approach, selected based on the activity participants' needs and in accordance with the training implementation activities. Participatory Action Research (PAR) refers to a research method that involves the community as the object of its research. The purpose of the PAR is to make changes and improvements toward the better ([Putri & Sembiring, 2021](#)). The training will be facilitated through discussions and brainstorming sessions, with a focus on teaching and learning RPA-based student worksheet products and their subsequent development ([Prasetya et al., 2020](#)). The training plan encompasses the formation of teams, the establishment of goals, the identification of stakeholders, the analysis of needs, the prioritization of problems, the preparation of services, the implementation of activities, training, and evaluation ([Kurniawan et al., 2023](#)).

The activity procedure involves the following: resource persons will present RPA-based student worksheet material; training will be conducted and the student worksheet practiced; financial reports on mentoring activities will be prepared; activity videos will be produced; and students will assist in collecting teacher portfolio data and documenting service activities. The aim is to improve the professional competence of teachers at MA Fatihul Ulum by using RPA-based student worksheets. It is anticipated that, as a result of this initiative, educators at the institution will be empowered to develop more innovative, relevant, and varied student worksheets, thereby enhancing the quality of education at MA Fatihul Ulum, as shown in Figure 1.



Figure 1 The implementation stages

The initial phase of the training program involved establishing an implementation team comprising research lecturers and RPA-based student worksheet product developers from diverse scientific backgrounds. This approach was adopted to ensure

that the priority needs of partners at MA Fatihul Ulum were addressed comprehensively. After the formation of the implementation team, Focus Group Discussions (FGDs) were conducted to ascertain and formulate the activity's objectives. The specific objective of the training program was to equip teachers at MA Fatihul Ulum, Jember Regency, with the skills to use RPA-based student worksheets, with the overarching aim of enhancing their professional competence. The third stage of the research identified the relevant stakeholders, namely, MA Fatihul Ulum. The subsequent stage involved collecting and analyzing data through interviews with the principal and teachers, as well as conducting a situational analysis. The analysis of the needs of MA Fatihul Ulum teachers revealed several issues, including a paucity of variety in student worksheets associated with everyday life, numerous complaints from students regarding the explanation of material or concepts that were text-based, and the necessity for student worksheets that provide examples of analyses derived from real phenomena to cultivate and encourage students to engage in critical thinking.

The fifth stage of the process is to set priorities according to urgency, scope, and impact. The key priority factors related to training on the use of RPA-based student worksheets to improve the professional competence of teachers at MA Fatihul Ulum Jember have been identified, and the following problems are the main issues. The sixth stage of preparation for implementing activities involves cooperation and coordination with MA Fatihul Ulum Jember to ensure the technical implementation of activities functions effectively. Teachers are provided with assistance to complete a series of learning implementations and to develop RPA-based student worksheets and other materials, with assistance also provided without direct meetings, using WhatsApp groups as a communication channel.

The next stage is a review and evaluation using methods such as interviews and surveys. The objective is to ascertain the assessment, obstacles faced, and further expectations regarding the implementation of the RPA-based student worksheet. The final stage is to determine new necessities and goals, which can be identified from the evaluation results. This process allows more RPA-based student worksheets to be implemented in learning activities.

Data collection techniques include interviews, questionnaires, and documentation. Then the data collection instrument is based on the methods used. Interview guides to gather information from teachers, identify teacher needs, or address problems. The questionnaire sheet uses a 1-5 Likert scale to assess participants' understanding of the training, the quality of the theme and presenters, the suitability of the material with the objectives of the activity, the opportunity for participants to discuss, and the completeness of facilities and infrastructure. The questionnaire comprised various components, including the ease of the provided material, the material's alignment with the objectives of the activity, the opportunity for participants to ask questions, the quality of the theme, and the completeness of facilities and infrastructure, as shown in Table 1.

Table 1 Questionnaire components

No	Component Evaluated
1	Participants' understanding of the training material
2	Relevance of the training material to the activity's objectives
3	Opportunities for participants to ask questions and engage in discussions
4	Quality of the theme and representation by the resource persons during the activity
5	Completeness of facilities and infrastructure during the activity

Responses to the questionnaire were evaluated using a Likert scale (1-5). Respondents indicated their level of agreement with the given statement: strongly agree (scale 5), agree (scale 4), undecided (scale 3), disagree (scale 2), and strongly disagree (scale 1) (Sugiyono, 2018). The scale score interpretation criteria in satisfaction measurement contexts are shown in Table 2.

Table 2 score interpretation criteria

Score	Category
0%-20%	Very dissatisfied
21%-40%	Dissatisfied
41%-60%	Moderately satisfied
61%-80%	Satisfied
81%-100%	Very satisfied

Documentation is also carried out as part of qualitative data. The data analysis technique includes quantitative descriptive analysis using a Likert scale and qualitative descriptive analysis.

RESULTS AND DISCUSSION

Assistance in Preparing RPA-based LKPD in Accordance with Merdeka Curriculum

In Indonesia, the education system is transitioning to the Merdeka Curriculum, which necessitates cultivating students' critical reasoning skills to address global challenges in the 21st century ([Chaeratunnisa & Pujiastuti, 2023](#)). This training program introduces teachers to RPA-based student worksheets to enhance their professional competence. Teacher competence is recognized as a pivotal factor in enhancing learning outcomes and fostering student development ([Ginting et al., 2023](#)). Teacher competence encompasses the capacity to develop teaching materials that align with students' competencies, such as RPA-based student worksheets. In the context of learning assessment, it is also acknowledged that it plays a significant role in enhancing learning quality ([Suardipa & Primayana, 2023](#)). In this study, the development of RPA-based Authentic Assessment was undertaken as a solution to address scientific problems through the utilization of real-life pictures of those occurrences.

Introduction to the Concept and Application of RPA-based LKPD in Contextual Science Learning

In this activity, training participants received an explanation of the material on strategies for implementing the Merdeka Curriculum and the benefits of higher-level thinking for students. The Merdeka Curriculum demands the development of students' critical reasoning skills, encouraging them to think at a high level and to analyze, evaluate, and create solutions to complex problems ([Maulida, 2022](#)). Teachers need to implement the Merdeka Curriculum to encourage students to actively think, collaborate, and communicate ([Prihatini, 2022](#)). The session concluded with a question-and-answer session and subsequent discussions between the participants and the speakers. The activity was concluded with the participants completing a post-activity questionnaire, which is shown in Figure 2.

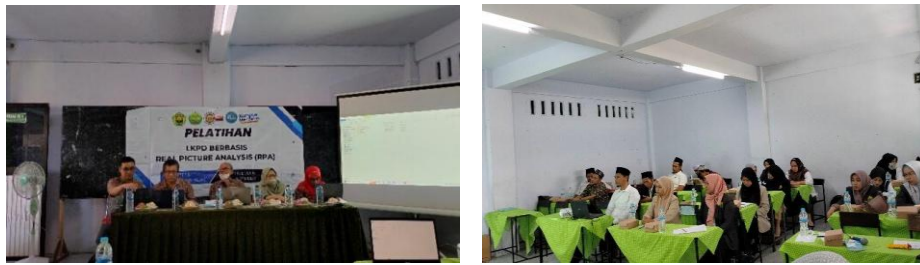


Figure 2 Resource persons provide material on the Merdeka Curriculum and higher-order thinking provided by resource persons

The following activity involves the training participants receiving an explanation of the material on the components of the preparation student worksheet (Hidayati & Zulandri, 2021). Teachers must develop a comprehensive understanding of student worksheets to create learning materials that are relevant, interesting, and effective. Each component must be well-designed, with clearly defined learning objectives, engaging and varied learning activities, reflection questions that encourage critical thinking, and evaluation that comprehensively assesses student understanding (Rukhaiyah et al., 2023). After the speakers' presentations, there were discussions and Q&A. The activity concluded with a questionnaire, shown in Figure 3.



Figure 3 Resource persons provide material on the components of student worksheet preparation provided by resource persons

Improving High-Level Thinking Skills Through Analysis of Real Phenomena

The participants were also provided with material explanations concerning the strategy for implementing RPA-based student worksheets. RPA-based student worksheets are learner worksheets that contain real pictures as a medium of analysis to assist students in understanding the concepts of the lesson and developing critical thinking skills (Utami, 2018). After the speakers had concluded their presentation, a question-and-answer session was held between the participants and the speakers. The activity ended with the participants completing a questionnaire. The activity is represented in Figure 4.



Figure 4 Resource persons provide strategies for implementation of RPA-based student worksheets

One of the training activities is to assist with preparing RPA-based student worksheets (learning materials), as shown in Figure 5. Through this assistance activity, the professional competence of teachers at MA Fatihul Ulum can be enhanced, particularly in designing and developing learning materials in accordance with the Merdeka Curriculum. Participants have gained an improved understanding of the characteristics of student worksheets and the application of RPA in learning and have been able to create materials that are interesting, relevant, and encourage students to think at a higher level. This training activity offers numerous benefits to participants, including a deeper understanding of the material presented. This is because learning with RPA-based student worksheets is infrequently implemented in educational practice, and in the 21st century, this poses a significant challenge.



Figure 5 Assisting in the preparation of an RPA-based student worksheet

The efficacy of the training program is demonstrated by participants' enthusiastic engagement in a variety of activities and their active participation in questioning the resource person and in using the RPA-based student worksheet. An evaluation survey of the training activities was conducted by distributing questionnaires to participants ([Pujihastuti, 2010](#)). The results of the measurements for each questionnaire component are presented in Figure 6.

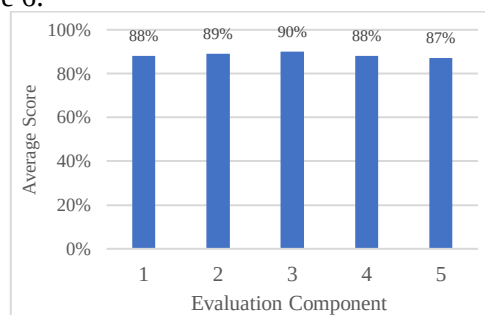


Figure 6 Training evaluation results

A survey of 38 training participants revealed that the training activities on the utilization of RPA-based student worksheets held at MA Fatihul Ulum Tanggul, Jember, generally improved teachers' professional competence. One of the training activities included assistance in preparing an RPA-based student worksheet that teachers can use in the learning process. The application of such student worksheets has been shown to contribute to the development of students' higher-level reasoning skills and to create a meaningful learning experience. In addition, the student worksheet has been shown to facilitate understanding of concepts and provide a unique learning experience for students ([Jamaluddin et al., 2019](#)).

CONCLUSION

The primary objective of this research is to examine the significance of enhancing teachers' professional competence in designing and developing RPA-based student worksheets. The components of student worksheet preparation that involve the utilization of real pictures as a medium of analysis, in conjunction with the strategy of employing RPA-based student worksheets, are identified as pivotal in fostering more interactive learning and promoting students' critical thinking. Teachers will be able to independently develop RPA-based LKPD for various other topics and subjects, not just limited to science. Similar training should be conducted on an ongoing basis so that teacher competencies continue to develop in line with changes in the curriculum and the needs of 21st-century learning. It is anticipated that the implementation of RPA-based student worksheets will extend beyond science subjects and be widely adopted across disciplines to enhance the quality of classroom instruction. The training activities designed to facilitate the use of RPA-based student worksheets have been found to enhance subject teachers' professional competencies at MA Fatihul Ulum, Jember. The participants' enthusiastic engagement, as evidenced by their active participation throughout the event, is a testament to the efficacy of these training methods. As a follow-up, schools are recommended to establish ongoing mentoring and evaluation programs to support the implementation of student worksheet-based RPA in classrooms. As well as forming teacher learning communities to share good practices and develop innovative learning materials.

CONFLICTS OF INTEREST

The authors declare that there is no conflict of interest.

AUTHOR CONTRIBUTIONS STATEMENT

Forming a team, I.W.; formulating objectives, S; identifying stakeholders, S.H.; preparing for community service, S.A.H.; prioritizing issues, I; analyzing needs, I.W.; implementing activities, M.I.; training on assessment instrument development, S.A.H.; and evaluating the community service, S. All authors have read and agreed to the published version of the manuscript.

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