

Workshop on Deep Learning Transformation of Project Based Learning and Digitalization of KKG Cluster 1 North Sinjai

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Abstrak

Kegiatan pengabdian kepada masyarakat ini berangkat dari kenyataan bahwa sebagian besar guru yang tergabung dalam Kelompok Kerja Guru (KKG) Gugus 1 Kecamatan Sinjai Utara masih menjalankan pembelajaran dengan cara lama, duduk-catat-hafal, tanpa banyak ruang bagi siswa untuk berpikir atau berkreasi. Di sisi lain, tuntutan kurikulum yang berlaku justru mendorong guru agar mampu merancang pembelajaran yang bermakna dan berbasis proyek, sekaligus fasih menggunakan perangkat digital di kelas. Celah antara tuntutan dan kenyataan inilah yang melatarbelakangi pelaksanaan workshop ini. Kegiatan dirancang secara bertahap mulai dari sosialisasi konsep pembelajaran mendalam, pelatihan perancangan Project Based Learning (PjBL), pengenalan platform digital, pendampingan menyusun perangkat ajar, hingga simulasi mengajar berbasis proyek secara berkelompok. Seluruh guru anggota KKG Gugus 1 Sinjai Utara dilibatkan secara aktif, bukan sekadar sebagai pendengar. Evaluasi dilakukan melalui observasi langsung, diskusi reflektif, dan angket respons peserta. Hasilnya cukup menggembirakan, Guru mulai memahami apa yang dimaksud pembelajaran mendalam dan bagaimana cara menerapkannya lewat proyek, mampu menyusun rancangan proyek pembelajaran yang aplikatif, dan sudah berani mencoba beberapa platform digital untuk menunjang proses mengajar. Lebih dari itu, semangat dan kepercayaan diri mereka untuk berinovasi juga ikut tumbuh. Ke depan, pendekatan PjBL yang dipadukan dengan digitalisasi ini diharapkan tidak berhenti di ruang pelatihan, melainkan benar-benar diterapkan dan dikembangkan secara berkelanjutan di sekolah masing-masing.

Kata Kunci: Pembelajaran mendalam; Project Based Learning; digitalisasi pembelajaran; KKG; pengabdian masyarakat.

Abstract

This community service activity departs from the fact that most of the teachers who are members of the Teacher Working Group (KKG) Cluster 1 North Sinjai

District is still carrying out learning in the old way, sit-note-memorize, without much room for students to think or create. On the other hand, the demands of the applicable curriculum actually encourage teachers to be able to design meaningful and project-based learning, as well as be fluent in using digital devices in the classroom. This gap between demands and reality is the background for the implementation of this workshop. The activity is designed in stages ranging from socialization of deep learning concepts, Project Based Learning (PjBL) design training, introduction to digital platforms, assistance in developing teaching tools, to project-based teaching simulations in groups. All teachers who are members of KKG Cluster 1 North Sinjai are actively involved, not just as listeners. Evaluation was carried out through direct observation, reflective discussions, and participant response questionnaires. The results are quite encouraging, teachers are beginning to understand what deep learning is and how to apply it through projects, are able to develop applicable learning project designs, and have dared to try several digital platforms to support the teaching process. More than that, their enthusiasm and confidence to innovate also grew. In the future, the PjBL approach combined with digitalization is expected not to stop at the training room, but to be truly implemented and developed sustainably in their respective schools.

Keywords: Deep learning; Project Based Learning; Learning digitalization; KKG; Community Service.

INTRODUCTION

Teachers are the main actors in determining the quality of the learning process in schools. The success of the implementation of a curriculum is not only determined by the completeness of the curriculum documents, but also by the teacher's ability to translate learning objectives into meaningful learning experiences for students. The change in the educational paradigm in the 21st century requires teachers to no longer play the role of the only source of information, but rather as facilitators who are able to create an active, collaborative, creative, and student-centered learning environment (Falloon, 2020; Torrisi-Steele, 2020).

The Independent Curriculum Policy currently implemented in Indonesia encourages the transformation of the learning process towards deeper learning. This approach emphasizes the importance of conceptual understanding, critical thinking skills, problem-solving, communication, collaboration, and the ability to transfer knowledge into a variety of real-world situations. Thus, learning is no longer only oriented to mastering the material, but also to the formation of 21st-century competencies needed by students (Ministry of Education, Culture, Research, and Technology, 2024; Maifah et al., 2025; Prihantoro et al., 2025).

One of the approaches that is considered able to realize this goal is Project Based Learning (PjBL). This learning model provides opportunities for students to learn through contextual project completion so that they are able to improve high-level thinking skills, creativity, cooperative skills, and

responsibility for the learning process. Hung (2023) explained that the consistent implementation of PjBL can improve the quality of learning if teachers have adequate competence in designing project activities in accordance with learning outcomes (Dewi et al., 2025; IICLS, 2024).

In addition to mastering the learning model, teachers are also required to be able to integrate digital technology into the learning process. Digitization of education is not only related to the use of technological devices, but also includes the ability to choose relevant digital media, utilize collaborative platforms, conduct technology-based assessments, and provide fast and effective feedback to students. Therefore, strengthening teachers' digital competencies is an integral part of learning transformation in schools (Falloon, 2020; UNESCO, 2021).

However, the implementation of deep learning, PjBL, and digitization of learning still faces various obstacles in the field. Teachers who are members of the Teacher Working Group (KKG) Cluster 1 of North Sinjai District based on the results of initial observations of the service team still show limitations in designing project-based learning and utilizing digital technology as part of the learning process. Most teachers still use conventional teacher-centered learning methods so that student involvement in the learning process is not optimal (Hidayat et al., 2023; Rahmatia, 2022; Umar et al., 2025)..

These problems show that there is a gap between the demands of the national education policy and the real conditions in schools. If not addressed immediately, this condition has the potential to hinder the optimal implementation of the Independent Curriculum. Therefore, a mentoring program is needed that not only provides conceptual understanding, but also provides practical experience to teachers in designing, implementing, and evaluating project-based learning supported by digital technology.

In contrast to teacher training activities which generally focus on delivering material theoretically, this service activity integrates workshops, intensive mentoring, practice of preparing teaching tools, learning simulations, and joint reflection. This approach is expected to be able to improve teacher competence more comprehensively because participants gain direct learning experience through the principle of learning by doing.

Based on these conditions, the service team carried out the Workshop on Deep Learning Transformation of Project Based Learning and Digitalization of KKG Cluster 1 North Sinjai. This activity aims to improve the professional competence of teachers in implementing Project-Based Learning-based deep learning that is integrated with digital technology so that it can support the improvement of the quality of learning in elementary schools.

METHOD OF IMPLEMENTATION OF ACTIVITIES

This community service activity was carried out in North Sinjai District, Sinjai Regency, South Sulawesi, with the target of elementary school teachers who are members of the Teacher Working Group (KKG) Cluster 1 of North Sinjai District. The workshop was held from April 25, 2026 to May 23, 2026 involving 78

teachers from all elementary schools that are members of KKG Cluster 1. The selection of partners is based on the results of the identification of needs that show that teachers still need to strengthen their competencies in implementing deep learning, Project Based Learning (PjBL), and the use of digital technology in learning (Petrus et al., 2026; Saleh, 2024).

The activity uses the Participatory Action Learning approach, which is a training approach that places participants as the main subject in the learning process through a combination of problem identification, training, direct practice, reflection, and evaluation activities. This approach was chosen because it was able to increase participant involvement so that the competencies obtained were not only conceptual, but also applicable (Arba et al., 2025; Hudain et al., 2025; Rerung et al., 2025; Tinri et al., 2024).

The implementation of activities is carried out through four main stages as shown in Figure 1.

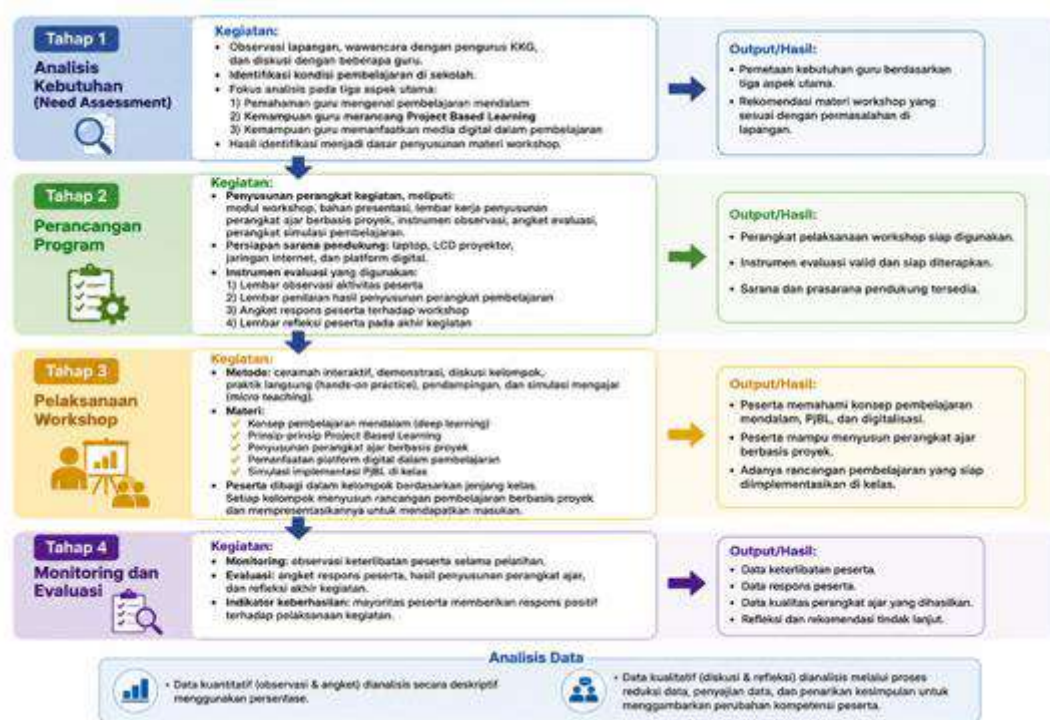


Figure 1. Stages of Service

Stage 1. Need Assessment

The initial stage was carried out through field observations, interviews with KKG administrators, and discussions with several teachers to identify the learning conditions that took place in the school. The needs analysis is focused on three main aspects, namely (1) teachers' understanding of deep learning, (2) teachers' ability to design Project-Based Learning, and (3) teachers' ability to utilize digital media in learning.

The results of the identification of needs are the basis for the preparation

of workshop materials so that the materials provided are really in accordance with the problems faced by teachers in the field.

Stage 2. Program Planning

At this stage, the service team compiled all the activity tools which included workshop modules, presentation materials, worksheets for the preparation of project-based teaching tools, observation instruments, evaluation questionnaires, and learning simulation tools. In addition, various supporting facilities were also prepared in the form of laptops, LCD projectors, internet networks, and several digital platforms used during the training.

The evaluation instruments used consist of: Participant activity observation sheet, assessment sheet of the results of the preparation of learning tools; Participant response questionnaire to the implementation of the workshop, participant reflection sheet at the end of the activity.

Stage 3. Workshop Implementation

The implementation of the workshop uses a combination of several complementary learning methods, namely interactive lectures, demonstrations, group discussions, hands-on practice, mentoring, and teaching simulations (micro teaching).

The materials provided include: Deep learning concepts, principles of Project Based Learning, preparation of project-based teaching tools, use of platforms digital dalam pembelajaran, simulasi implementasi PjBL di kelas.

Participants were divided into several groups based on the class level taught. Each group was asked to develop a project-based learning plan which was then presented to obtain input from other facilitators and participants.

Stage 4. Monitoring and Evaluation

Evaluations are carried out during and after the activity. Monitoring was carried out through observation of participant involvement during the training process, while evaluation was carried out using participant response questionnaires, the results of the preparation of teaching tools, and the final reflection of the activity. The indicator of success criteria is the response of the majority of participants to the implementation of the activity

The data from observation and questionnaires were analyzed descriptively using percentages. The data from the discussion and reflection were analyzed qualitatively through the process of data reduction, data presentation, and conclusion drawing so that it was able to describe changes in participants' competencies after participating in workshop activities.

IMPLEMENTATION OF ACTIVITIES AND DISCUSSIONS

The workshop was attended with enthusiasm by all teachers who are members of the KKG. The workshop on deep learning transformation based on Project Based Learning (PjBL) and digitalization was carried out by involving elementary school teachers who are members of the Teacher Working Group (KKG) Cluster 1 of North Sinjai District. All participants participated in a series of activities ranging from the delivery of materials, the practice of preparing learning tools, mentoring, to simulations of project-based learning

implementation. The attendance rate of participants reached 100%, showing high enthusiasm for the activities carried out.

Before the workshop, the service team conducted an initial identification of participants' understanding of deep learning, Project Based Learning, and the use of digital technology in learning. The identification results show that most teachers still use teacher-centered learning, while the implementation of project-based learning and the use of digital platforms are still limited. This condition is the basis for the preparation of workshop materials so that the training really answers the needs of the participants.

Socialization of Deep Learning Concepts

The activity began with the delivery of material on the concept of deep learning. In this session, participants were invited to understand the change in the learning paradigm from teacher-centered learning to student-centered learning. The discussion took place interactively so that participants not only gained conceptual understanding, but were also able to identify various problems that had been faced in the learning process.

The results of the observations showed that participants began to understand that deep learning is not just about providing more difficult material to students, but rather creating learning experiences that encourage students to think critically, solve problems, collaborate, and connect concepts with real life. This change in understanding can be seen from the increased ability of participants to explain the characteristics of deep learning during the discussion session.

Pelatihan Project Based Learning

The next stage is focused on the preparation of project-based learning. Participants received an explanation of the PjBL syntax, authentic project characteristics, the preparation of driving questions, the preparation of assessments, and project implementation strategies in accordance with the characteristics of elementary school students.

During the practical session, each group developed a project-based learning plan based on the subjects taught. The facilitator provides intensive assistance so that participants are able to identify the suitability between learning outcomes, project activities, assessment indicators, and the final product produced by students.

The results of the mentoring showed that most of the groups had been able to develop project-based learning tools in accordance with the principles of PjBL. However, some groups still needed assistance in formulating triggering questions and compiling authentic assessments.

Implementation of Digitalization of Learning

The next session introduced various digital platforms that can be used to support the implementation of PjBL. Participants were given the opportunity to try firsthand the use of interactive presentation applications, online collaborative media, cloud-based document storage, and learning evaluation applications.

At the beginning of the activity, some participants still had difficulty operating the digital platform due to the limitations of previous experience. However, after receiving direct assistance, participants began to show increased confidence in utilizing technology as part of the learning process.

These findings show that the main obstacle to the implementation of digitalization does not lie in the low motivation of teachers, but in the limited opportunity to obtain applicable training. Therefore, the practice-based workshop model applied in this activity is one of the effective strategies to improve teachers' digital competence.

Learning Simulation

The final stage of the activity is in the form of a simulation of project-based learning implementation (micro teaching). Each group presented a lesson plan that had been prepared, then received input from the facilitator and other participants.

Learning simulation is an effective medium of reflection because participants can directly evaluate the advantages and disadvantages of the learning tools that have been prepared. In addition to improving pedagogic skills, this activity also encourages the emergence of a culture of sharing best practices among teachers.

Evaluation of Activities

Evaluation was carried out through observation of participants' activities, assessment of the results of the preparation of learning tools, reflective discussions, and participant response questionnaires. The results of the evaluation showed an increase in teachers' understanding of the material provided. In addition, participants responded positively to the training method that combined material delivery, hands-on practice, mentoring, and learning simulation.

The results of the service showed an increase in the competence of participants in all measured indicators. The increase indicates that the training approach that emphasizes hands-on practice has a positive impact on the mastery of the material and the skills of the participants.

The results of the questionnaire showed that the majority of participants gave a positive response to all aspects of the implementation of the activity. The high level of participant satisfaction shows that the participatory workshop method is able to increase teachers' learning motivation while strengthening their readiness to implement learning innovations in schools.



Figure 1. Delivery of materials and group discussions

The findings of this service activity show that workshops that combine conceptual learning, hands-on practice, mentoring, and reflection are able to improve teachers' professional competence more effectively than training that is only oriented towards delivering material. These results are in line with Hung (2023) who explains that the success of Project Based Learning implementation is greatly influenced by teachers' competence in designing authentic learning experiences.

In addition, improving participants' ability to utilize digital technology shows that strengthening teachers' digital literacy needs to be done through an applicative and sustainable approach. These results support the opinion of Sani (2024) who states that the success of educational digitalization is not determined by technological sophistication alone, but by the ability of teachers to integrate this technology into the learning process (Arba et al., 2026).

The participatory approach applied in this activity also has a positive impact on the confidence of the participants. Teachers not only gain new knowledge, but also gain hands-on experience in compiling learning tools, carrying out learning simulations, and obtaining feedback from facilitators and peers. This process encourages the formation of a professional learning community that is expected to be able to maintain the sustainability of learning innovations after the service activities end.

The results of the activity showed that this workshop succeeded in increasing teachers' understanding, skills, and readiness in implementing Project-Based Learning-based deep learning supported by digital technology.

However, the sustainability of the program still requires further assistance so that the implementation of learning innovations can take place consistently in their respective schools.

CONCLUSION

The Project-Based Learning and digitalization Deep Learning Transformation Workshop for KKG Cluster 1 teachers in North Sinjai District has had a concrete positive impact. Teachers not only gain a new understanding of the concept of deep learning and PjBL, but also produce a design of learning projects that are ready to be tried in the classroom. The participatory approach chosen proved to be effective because participants really felt the learning process they were learning, not just listening to the explanation.

The digitalization introduced in this workshop is not seen as an additional burden by the participants, but as a tool that makes the teacher's work easier in the classroom. This attitude is an important capital so that the use of technology in learning can continue independently after the activity is completed. What needs to be underlined is that the real change will not occur in the workshop room, but in the classroom of each teacher, and it will take time, support, and courage to keep trying.

In the future, similar activities need to be designed on an ongoing basis by adding post-training mentoring sessions, so that teachers who have tried to implement PjBL in the classroom can get feedback and continue to grow. The involvement of more clusters and collaboration with local education offices will also expand the impact of such initiatives.

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