

## IMPLEMENTATION OF EDUCATIONAL PRACTICES IN THE MACHINE ENGINEERING SKILL PROGRAM AT SMK NEGERI 1 NANGGULAN KULON PROGO

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### *Abstract*

*Educational Practice (EP) is one of the activities organized by Yogyakarta State University for students in the education study program. The purpose of this EP is to provide practical experience to students in the field of education. EP is carried out in three stages: preparation, implementation, and evaluation. This activity is conducted at SMK Negeri 1 Nanggulan from November 2023 to January 2024. The research method used is descriptive qualitative with field studies in three stages: preparation, implementation, and evaluation. The results indicate that students gain valuable experience in teaching and engage in various non-teaching activities, as well as being able to overcome obstacles that arise during the implementation of EP. This experience is expected to be a useful asset for students in preparing themselves as professional educators.*

**Keywords:** *Educational Practice, Teaching Program, Non-Teaching Program*

### 1. INTRODUCTION

Education is the main foundation for developing quality human resources (Lian & Amiruddin, 2021). The development of these human resources is supported by the existence of schools and educators. Schools are places where students can learn, shape their character, and enhance their skills (Bahiroh, 2024). In addition, some educators are among the important components of facilitators and moderators (Pujingsih, 2021). According to Artini (2020), educators must be able to engage their students with professional and competent teaching abilities. This will lead to the achievement of student learning outcomes from the learning process implemented by educators (Rahmah, 2023).

To produce professional and competent educators, there is an Educational Practice (EP) program. This program is designed to implement the Merdeka Learning Campus Merdeka (MBKM) curriculum. EP aims to provide students with practical experience in the learning process as educators (Chemistry Education Study Program UNY, 2023). According to Fatturahman & Farih (2018), EP, which is another name for Field Experience Practice (PPL), allows students in the education program to apply the educational theories learned on campus to be implemented in schools. EP also equips students with management and administrative skills in the field of education.

SMK Negeri 1 Nanggulan is located at Jalan Gadjah Mada, Desa Wijimulyo, Kecamatan Nanggulan, Kabupaten Kulon Progo, Special Region of Yogyakarta. SMK Negeri 1 Nanggulan was established on April 15, 2004, by the Decree of the Regent of Kulon Progo Number 1068 (SMKN 1 Nanggulan, 2023). SMK Negeri 1 Nanggulan has become a partner of Yogyakarta State University (UNY) as a place to develop students' teaching skills. SMK Negeri 1 Nanggulan is a vocational school based on agribusiness and engineering with 6 areas of expertise. In the implementation of this EP, the author

was assigned to teach in the mechanical engineering program. This article will discuss the implementation of EP, the challenges faced, and the results obtained from the activities.

## **2. LITERATURE REVIEW**

### **2.1. Educational Practice as a Means of Developing Educator Competencies**

Educational Practice (EP) is an important component in the higher education curriculum, especially in the field of education. According to Hidayat (2019), EP provides students with the opportunity to develop pedagogical, social, and professional competencies. EP offers direct experience in teaching, preparing learning devices, and interacting with students in schools. In line with the objectives of EP, which is to prepare students as prospective teachers to face challenges in the dynamic and complex world of education.

### **2.2. Implementation of the Independent Learning Campus Independent (MBKM) in Educational Practice (EP)**

The Independent Learning Campus Independent (MBKM) policy implemented by the Indonesian Ministry of Education and Culture (Kemendikbud) opens significant opportunities for students to implement learning programs outside the classroom, including from Educational Practice (EP). According to Rahman (2022), through MBKM, students are equipped not only with academic knowledge but also with practical experience, including in the field of education. EP is promoted to provide flexibility for students in determining their career paths and to enhance non-technical skills such as communication, leadership, and so on.

### **2.3. Challenges and Solutions in Implementing Educational Practice in Vocational High Schools**

The implementation of Educational Practice (EP) in Vocational High Schools (SMK) presents challenges related to adjusting teaching methods that are suitable for the needs of SMK students. According to Rineksiane (2022), there are several challenges such as low student motivation caused by a lack of variation in learning. The solution to this problem is the application of innovations with problem-based learning and project-based learning approaches to enhance student motivation. This approach not only adds teaching experience but also helps students undertaking EP develop pedagogical skills.

## **3. RESEARCH METHODS**

### **3.1. Research Methods**

The research method used is descriptive qualitative with the type of research being field research. Descriptive qualitative explains the current situation both naturally and through human engineering, with a strong emphasis on quality, characteristics, and the relationships between activities (Utami et al., 2021). The description provided is of events that occurred during the implementation of community service for 3 months, from November 2023 to January 2024.

### 3.2. Data Collection Techniques

Data collection techniques involved obtaining primary and secondary data. Primary data was obtained through observations via interviews (Khosyati et al., 2023). Meanwhile, secondary data was sourced from literature studies from journals, proceedings, and other scientific writings (Andrian et al., 2024). Thus, data collection according to Sofiah et al. (2020) involves gathering data through field studies and literature studies with topics aligned with this research.

### 3.3. The Research Location

This research was conducted at SMK Negeri 1 Nanggulan. The target audience for this research consists of teachers and students from the mechanical engineering program at SMK Negeri 1 Nanggulan. The data analysis techniques used in this research include three types. The first is the data reduction stage, which involves selecting data from previous research (Biworo et al., 2024). The second is the data presentation stage, which is conducted to describe the phenomena being studied (Yusuf et al., 2024). The third stage is the conclusion drawing stage using inductive techniques, which involves drawing conclusions based on universal (Mustofa, 2016).

## 4. RESULTS AND DISCUSSION

The implementation of Educational Practice (EP) at SMK Negeri 1 Nanggulan has provided valuable experience in reviewing the dynamics of the learning process for students. Students play a role as educators, particularly in delivering theoretical material and accompanying the vocational practical process for students, especially in the mechanical engineering program. In line with the views of Hidayat & Abdilah (2019), students apply the knowledge gained from campus theory to directly engage in the field as professional educators. The implementation of EP includes explanations regarding the preparation stage, the implementation stage, and the evaluation stage.

### 4.1. The Preparation Stage

The preparation activities for Educational Practice are a series of activities intended to prepare students before directly entering the school institution and ensuring that the implementation of EP runs smoothly. The preparation is organized by the campus through the KKN-EP Unit, the school, and group and individual preparations. The preparation activities for educational practice include:

#### 4.1.1. Microteaching

Microteaching is a learning method that focuses on developing teaching performance technically by identifying and explaining the basic components of teaching competence. Microteaching is designed simply by lecturers or educators to facilitate teaching students (Syahdila et al, 2023). Through microteaching, potential teaching skills can be channeled into the classroom. Micro Teaching has a positive impact on training teaching skills in the classroom (Sadikin, 2020). The main objective of this learning is to ensure that students can fully master every aspect related to the learning process. Microteaching is an integral part of the compulsory courses with a weight allocation of 3 credits offered in the 5th semester.

In its implementation, microteaching involves various activities, including teaching in theory classes, conducting learning in laboratories, and providing instruction in workshops. Microteaching is conducted by 1 lecturer with 10 students in one class. In the implementation of microteaching, students take on the role of students while other students act as teachers. Students will simulate the learning process starting with opening activities, core activities, and closing activities. With this method, students will later understand how the learning process is carried out and what needs to be prepared to become a teacher in schools.

#### **4.1.2. Educational Practice Training**

The EP training is an activity organized by the KKN-EP Unit of UNY in the form of a technical meeting that contains technical explanations of all aspects related to the implementation of EP. The EP training is conducted once on October 12, 2023, using an offline method. The training materials cover various important aspects, such as understanding EP policies, applicable professional ethics codes (for teachers, educational administrative staff, and coaches), observations at the EP location, and programs that can be implemented during EP at schools. Students are also provided with guidelines on active, effective, and clear communication. Students are accompanied by field supervisors (DPL) during the EP activities. At the end of the implementation, students will report the results of the EP after completing the activities in the field.

#### **4.1.3. Observation**

Observation includes monitoring the environmental conditions of the school, facilities, learning activities, and characteristics of the students. The observation activities are carried out after being deployed to the school. Through this observation, students can gain a deep understanding of how the learning process takes place and the condition of the school. The purpose of the observation is to identify the problems present at the EP location.

#### **4.1.4. Coordination with Mentor Teacher**

Coordination with the mentor teacher is intended to discuss the flow and content of the lessons to be delivered throughout the semester. The mentor teacher also guides preparation for developing teaching materials and the completeness of the teacher's administration in the Teacher's Workbook. In addition, the mentor teacher provides references related to the teaching materials to be developed so that students have a clearer picture.

#### **4.1.5. Preparation of Teaching Materials & Media**

The preparation of teaching materials is carried out as preparation before the implementation of learning activities. Teaching materials include learning outcomes (LO), learning objectives (LO), and references for learning objectives (RLO). The preparation of learning media such as teaching modules, teaching materials, student worksheets (LKPD), and assessments is also conducted. In addition to teaching materials and media, students also prepare administrative needs such as attendance, teaching schedules, and duty schedules.

## **4.2. The Implementation Stage**

The research discussion explains the summary of research results, linkages with concepts or theories and other relevant research results, interpretation of findings, research limitations, and implications for concept or scientific development.

### **4.2.1. Teaching Activities**

The implementation of teaching activities includes the interaction of learning between students as teachers and learners. The target of the learning activities is the students of class XI in the Mechanical Engineering (TM) vocational program. The author is entrusted with teaching the subject of Milling Machining. The implementation of the learning activities is based on the creation of teaching modules and the execution of practical work according to the job sheet that has been prepared beforehand.

Teaching activities begin with a prayer, an opening statement, student attendance, motivating students, and finally delivering the material being taught. Students discuss the material by presenting the title and then the learning objectives to be achieved. There is also a question-and-answer discussion with students at the end of the material presentation in class.

In this teaching activity, theory is presented, and practical work is carried out in the mechanical engineering workshop. Students are given guidance before the practical work about the job sheet provided by the educator. After the explanation is delivered, students proceed to complete the practical work.

### **4.2.2 Non-Teaching Activities**

Non-teaching activities are those conducted during the implementation of the internship outside of learning activities. These non-teaching activities include routine morning duties to welcome students, supervision of final semester exams, as well as organizing and maintaining the workshop and computer laboratory. In addition, students also assist in the administration of library management and improve the fertilizer shredding machine for organic raw materials.

## **4.3. The Evaluation Stage**

The evaluation stage is conducted to assess the success and effectiveness of the community service activities carried out by the students. The evaluation includes several aspects, including the assessment of teaching activities and involvement in non-teaching activities. There are two types of evaluation: individual evaluation and joint evaluation. Individual evaluation is found when students master the material presented, demonstrate communication skills, and supervise the practical sessions in the mechanical engineering workshop. Joint evaluation indicates the emergence of several challenges in providing school facilities and infrastructure, as well as variations in student learning motivation. In both types of evaluation, guidance and direction from supervising teachers and field supervisors (DPL) are essential to address all these issues. The evaluation stage serves as a foundation for students to improve and develop their competencies as competent and professional future educators.

## 5. CONCLUSION

The educational practice activities (EP) emphasize the importance of developing varied learning methods to enhance student motivation. These activities also teach students how to face and overcome various obstacles that arise during the learning process. EP is not only a means for students to apply the knowledge they have gained during their studies but also a platform to develop the soft skills and hard skills needed in the teaching profession.

## REFERENCES

- Andrian, S. H., Yusuf, A., Biworo, M., Khosyati, N. E., & Wulida, S. N. (2024). Bifation Inovasi Budi Daya Perikanan Terintegrasi Aerator Dan Sirkulasi Kualitas Air Guna Optimalisasi Perikanan Berkelanjutan. *TEKTONIK : Jurnal Ilmu Teknik*, 1(4), 91-95. <https://doi.org/10.62017/tektionik.v1i4.1393>
- Artini, N. N. M. (2020). Pembelajaran model stad untuk meningkatkan prestasi belajar matematika pada siswa kelas v sdn 39 cakranegara. *Jurnal Paedagogy*, 3(1), 30–37. <https://doi.org/10.33394/jp.v3i1.3033>
- Bahiroh, S. (2024). Strategi Bimbingan Konseling Dalam Mengatasi Bullying Verbal Siswa. *JURNAL RISET PENDIDIKAN DAN PENGAJARAN*, 3(1), 55-63. <https://doi.org/10.55047/jrpp.v3i1.628>
- Biworo, M., Yusuf, A., Andrian, S. H., Khosyati, N. E., & Wulida, S. N. (2024). Inovasi Mesin Pengolah Sampah Organik Menjadi Eco Enzyme Di Pasar Induk Buah Dan Sayur Gamping. *TEKTONIK : Jurnal Ilmu Teknik*, 1(4), 85-90. <https://doi.org/10.62017/tektionik.v1i4.1484>
- Fathurrahman, F., & Farih, A. (2018). Implementasi praktik pengalaman lapangan (ppl) mahasiswa program studi pendidikan bahasa inggris fkip universitas islam lamongan. *Reforma: Jurnal Pendidikan dan Pembelajaran*, 7(2), 77-85. <https://doi.org/10.30736/rfma.v7i2.80>
- Hidayat, R., & Abdillah, A. (2019). Ilmu pendidikan: konsep, teori dan aplikasinya. *LPPPI:Medan*
- Khosyati, N.E., Ma'ruf, K., Wulida, S.N., Hafidzah, S.A., & Setiyawan, P.B. (2023). Keyfood Inovasi Aplikasi Mobile Sebagai Teknologi Dalam Mengatasi Waste Food Guna Mendukung Sdgs 2030. *Jurnal Pengabdian West Science*. 02(05), 271-278. <https://doi.org/10.58812/jpws.v2i5.316>
- Lian, B., & Amiruddin, A. (2021). Peran Pendidikan Dalam Menciptakan Sdm Berkualitas di Era Disrupsi Dan Pandemi Covid-19. In *Prosiding Seminar Nasional Program Pascasarjana Universitas PGRI Palembang*
- Mustofa, I. (2016). Jendela Logika dalam Berfikir: Deduksi dan Induksi sebagai Dasar Penalaran Ilmiah. *Jurnal El-Banat*. 6(2), 122-142
- Pendidikan Kimia FMIPA Universitas Negeri Yogyakarta. (2023). Penerjunan Praktik Kependidikan Mahasiswa Pendidikan Kimia UNY. Accessed on 30 Agustus 2024 from <https://pendidikankimia.fmipa.uny.ac.id/id/content/penerjunan-praktik-kependidikan-mahasiswa-pendidikan-kimia-uny>

- Pujingsih, R. R. S. H. (2021). Meningkatkan Motivasi dan Hasil Belajar Matematika dengan Metode Kooperatif Tipe Jigsaw di SMA Negeri 1 Gerung. *Jurnal Paedagogy*, 8(1), 50–56. <https://doi.org/10.33394/jp.v8i1.3196>
- Rahmah, F. (2024). Penerapan Model Pembelajaran Berbasis Proyek Dalam Meningkatkan Hasil Belajar IPA Siswa Kelas IV. *JURNAL RISET PENDIDIKAN DAN PENGAJARAN*, 3(1), 118-128. <https://doi.org/10.55047/jrpp.v3i1.719>
- Rahman, A. B. P., Munandar, S. A., Fitriani, A., Karlina, Y., & Yumriani, Y. (2022). Pengertian pendidikan, ilmu pendidikan dan unsur-unsur pendidikan. *Al-Urwatul Wutsqa: Kajian Pendidikan Islam*, 2(1), 1-8.
- Rineksiane, N. P. (2022). Penerapan metode pembelajaran project-based learning untuk membantu siswa dalam berpikir kritis. *Jurnal Pendidikan Manajemen Perkantoran*, 7(1), 82-91.
- Sadikin, A. (2020). Pembelajaran mikro. *Salim Media Indonesia*.
- SMKN 1 Nanggulan. (2023). Program Studi SMK Negeri 1 Nanggulan. Accessed on 30 Agustus 2024 from <https://www.smkn1nanggulan.sch.id/>.
- Sofiah, R., Suhartono., & Hidayah, R. (2020). Analisis Karakteristik Sains Teknologi Masyarakat (Stm) Sebagai Model Pembelajaran: Sebuah Studi Literatur. *Pedagogi: Jurnal Penelitian Pendidikan*. 07(01), 01-18. <https://doi.org/10.25134/pedagogi.v7i1.2611>
- Syahdila, I., Hasibuan, Q., nggraini, S. A., Wahyuni, I., & Nasution, F. (2023). Pembelajaran Mikro Dalam Mengembangkan Kreativitas Mengajar Guru RA (Raudhatul Athfal). *Innovative: Journal Of Social Science Research*, 3(2), 5797–5812. <https://doi.org/10.31004/innovative.v3i2.1012>
- Utami, D. P., Melliani, D., Maolana, F. N., Marliyanti, F., & Hidayat, A. (2021). Iklim Organisasi Kelurahan dalam Perspektif Ekologi. *Industry and Higher Education*, 3(1), 1689–1699. <https://doi.org/10.47492/jip.v1i12.536>
- Yusuf, A., Wulida, S. N., Khosyati, N. E., Andrian, S. H., & Biworo, M. (2024). Felerchine Inovasi Mesin Sayur Portabel Bertenaga Surya Sebagai Teknologi Ketahanan Pangan Pasca Panen. *Jurnal Multidisiplin West Science*, 3(06), 696–704. <https://doi.org/10.58812/jmws.v3i06.1218>

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