

Classroom Management Practices in Pharmacy Education by Teachers at SMKS Kesehatan Pro Skill Indonesia

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Abstract: Vocational education plays a crucial role in preparing competent and work-ready human resources, especially in the pharmaceutical field which demands precision, technical skills, and a strong work ethic. This study aims to describe the classroom management practices applied by pharmacy teachers at SMKS Kesehatan Pro Skill Indonesia, and to analyze the strategies used to foster students' professional character and overcome challenges in practical learning. Using a descriptive qualitative approach, data were collected through observations, in-depth interviews with pharmacy teachers, and documentation of classroom and laboratory activities. The results indicate that pharmacy teachers apply practice-based classroom management using Project-Based Learning approaches, structured group roles, and digital teaching modules. The instruction focuses on hands-on pharmaceutical preparations, assessment of technical skills, and reinforcement of standard operating procedures and professional ethics. The main challenges faced include limited materials and varied student abilities. Strategies to address these challenges include group rotation, alternative materials, and additional guidance. Discussion reveals that this approach aligns with previous research emphasizing the importance of industrial practice, teaching factories, and effective classroom management in enhancing students' job readiness. Therefore, the pharmacy classroom management model implemented by the teachers contributes not only to academic achievement but also significantly to the development of students' professional character, in line with industry needs.

Keywords: *Classroom management, practical learning, pharmacy, vocational education, job readiness, professional character.*

1. INTRODUCTION

SMK Kesehatan Pro Skill Indonesia, located in the city of Pekanbaru, Riau, is a private vocational institution established in 2013 and accredited with an A rating in 2019. The school is strongly committed to producing professional graduates in the health sector, particularly in the pharmaceutical study program.

Vocational education at vocational high schools (SMKs) aims to equip students to be competitive in the workforce in accordance with the skills they study (Devita Maulina Putri et al., 2017). To bridge the gap between school learning and industry demands, collaboration and curriculum alignment between SMKs and the business sector are essential (M. Sobari et al., 2023). Effective learning methods include industrial work practice programs (internships) and teaching factories, which enable students to gain hands-on experience in real work environments (Endah Andayani, 2016; Devita Maulina Putri et al., 2017). Internships significantly contribute to developing students' skills, both technical (hard skills) and non-technical (soft skills), required in professional fields (Endah Andayani, 2016). The alignment of school-taught material, including laboratory practice, with industrial needs also determines the success of students during internships (I. N. A. P. Merta, 2022). These various approaches are ultimately aimed at increasing graduates' job readiness and reducing unemployment.

Laboratory-based practice plays a vital role in vocational education as it helps students develop both technical competencies and professional attitudes. Laboratories function as centers for active learning, allowing students to perform direct experiments, deepen conceptual understanding, and train practical skills and critical thinking (Suryana et al., 2024). In optimal vocational education, effective management of classrooms, workshops, and laboratories is crucial to support practical learning (Irwanto, 2020).

Practical activities in laboratories also contribute to the development of students' process and working skills, such as observing, classifying, communicating, measuring, predicting, and drawing conclusions (Candra & Hidayati, 2020). Additionally, the link between instructional material and laboratory practice with students' success during field internships is highly significant, demonstrating the importance of school-based practice experience (Merta, 2022).

Classroom management refers to the strategies designed by teachers to create and maintain a conducive, efficient, and effective learning environment in order to achieve learning objectives (Wiguna & Muhroji, 2022; Muyasaroh, 2019). The management strategies involve various methods applied across all learning stages—from opening to closing (Mujianto & Sudjalil, 2020). Teachers play a central role in accommodating diverse student characteristics, needs, and learning styles, while also preventing disruptive behaviors that may hinder learning

(Masfufah et al., 2023). Good classroom management includes preparation, direct instruction (demonstration), and self-reflection or evaluation, with an emphasis on mastering problem-based learning models and effective discussion strategies (Masfufah et al., 2023). The success of classroom management is largely determined by the teacher's competence and professionalism in fostering a positive learning climate and serving as a role model (Wiguna & Muhroji, 2022; Muyasaroh, 2019).

In addition, project-based teaching modules have proven to be an effective strategy in increasing student engagement and ensuring material relevance with the pharmaceutical industry's needs. These modules provide structured learning that helps students understand content more clearly and in a targeted manner.

Teachers play a central role in managing pharmacy classes, particularly in directing the dynamics of practical learning. Through adaptive and innovative approaches, teachers can create learning environments that are conducive to developing students' competencies. The application of varied learning methods—such as discussion, simulation, and projects—can improve students' understanding of course material and the practical skills required in the job market.

Therefore, classroom management in the pharmacy program at SMK Kesehatan Pro Skill Indonesia focuses not only on knowledge transfer but also on shaping students' professional character to face challenges in the pharmaceutical industry. According to Zubaedi (2011), character education should be integrated throughout the learning process, including vocational education, so students are not only cognitively and technically competent but also possess strong work ethics. In the vocational context, Sudira (2016) emphasized that learning must lead to holistic competence development, including knowledge, skills, and professional attitudes aligned with industry demands.

Based on the above, this study aims to deeply explore the real-life practices of pharmacy classroom management as implemented by teachers at SMK Kesehatan Pro Skill Indonesia. This includes not only technical aspects of learning and academic achievement, but also how teachers create a meaningful, participatory, and conducive learning environment. It covers pedagogical strategies such as teaching methods, instructional media, and student-centered approaches tailored to their characteristics and needs. Thus, this research seeks to present a comprehensive picture of how pharmacy teachers design, implement, and evaluate learning in the vocational education context aligned with industry expectations.

Furthermore, the study also seeks to understand how classroom management contributes to shaping students' professional character—especially regarding work ethics, responsibility, discipline, and social attitudes. This is crucial, considering that vocational students are expected to transition directly into the workforce and thus require early reinforcement of professional values. The research also identifies the challenges teachers face in managing pharmacy classes, both internally (e.g., limited resources) and externally (e.g., diverse student backgrounds). Strategies used by teachers to address these challenges are also a key focus, so that best practices can be identified as references for improving vocational education quality.

2. METHODS

This study adopts a qualitative approach using fieldwork research. This approach was chosen to gain an in-depth understanding of the experiences and perspectives of the research subjects regarding classroom management practices in pharmacy education. The goal of fieldwork research is to uncover the underlying meaning behind individual experiences—in this case, the teachers—in implementing effective classroom management practices.

The subjects of this study consist of two pharmacy teachers at SMKS Kesehatan Pro Skill Indonesia who actively participate in the learning process. The selection of subjects was conducted purposively, based on specific criteria aligned with the research focus, namely teachers who have prior experience in implementing classroom strategies in pharmacy instruction.

The study was conducted in May 2025 at SMKS Kesehatan Pro Skill Indonesia. The timing was chosen based on the school's and participants' readiness, and to ensure that data collection did not disrupt the ongoing learning process.

Three data collection techniques were used: interviews, observations, and documentation. In-depth interviews were conducted with teachers to gather information about the strategies they use to foster student motivation, engagement, and enthusiasm in learning. Observations were made to directly examine the

implementation of learning practices and teacher–student interactions in the classroom. Documentation was used to obtain supporting data such as schedules, school regulations, and teaching modules used during instruction.

The data obtained from interviews, observations, and documentation were analyzed using the qualitative data analysis model developed by Miles and Huberman. The analysis process includes three stages: data reduction, data display, and conclusion drawing. Data reduction was carried out by selecting relevant information in line with the research focus. Data were then presented in narrative-descriptive form. Finally, conclusions were drawn by identifying patterns and meanings from the data to answer the research questions.

3. FINDINGS AND DISCUSSION

Based on observations and interviews, it was found that pharmacy teachers at SMKS Kesehatan Pro Skill Indonesia have implemented classroom management with a practical approach and a high level of work discipline. The learning activities are actively packaged through hands-on practice, teacher demonstrations, and regular evaluations that not only measure students' knowledge but also assess procedural accuracy and work ethics. This management model has proven effective in holistically developing student competencies, particularly in terms of technical skills and job readiness. This has become one of the main reasons why the Pharmacy department at SMKS Kesehatan Pro Skill Indonesia remains highly favored by prospective students each year.

Public enthusiasm for this department continues to increase due to the fact that graduates are easily absorbed into the workforce—whether in pharmacies, hospitals, the pharmaceutical industry, or other health institutions. Graduates of this school's pharmacy department are well-known for their strong practical skills, attention to detail, and adherence to standard operating procedures, making them highly sought after by industry partners who often recruit directly from the school. An interview with Ms. Mira, one of the pharmacy teachers, also reinforced this finding. She stated:

“We always start the class with a short briefing, then students immediately practice in the lab. Our goal is to instill pharmaceutical skills gradually and measurably, from the most basic level up to service-level tasks such as those done in pharmacies.”

Based on the interview, it can be concluded that students—especially those in the pharmacy department—are guided to be more involved in hands-on learning activities rather than purely theoretical learning. This is done because practical learning is considered more effective in fostering conceptual understanding while simultaneously developing students' technical skills in accordance with the demands of the industry. Practical learning also encourages students to think critically, solve real-world problems, and get accustomed to working in environments that simulate actual job settings.

With regular exposure to hands-on practice, pharmacy graduates from this school become more prepared and confident to enter the workforce upon graduation. This gives SMKS Kesehatan Pro Skill Indonesia a competitive advantage over other schools in the field of pharmaceutical expertise.

a. Teachers' Strategies in Managing Practical Learning

In the process of practice-based learning, pharmacy teachers at SMKS Kesehatan Pro Skill Indonesia apply project-based learning (PBL) and structured group work. This approach is designed to integrate theory with practice through meaningful hands-on experiences. During implementation, students are divided into small groups and assigned tasks to produce simple pharmaceutical preparations such as ointments, capsules, oral solutions, and antiseptic solutions. Each group is required to develop a work plan, determine the materials, prepare the tools, carry out the production process in accordance with procedures, and finally present the results to the class and teacher. This presentation process not only tests students' technical abilities but also develops their communication, scientific argumentation, and confidence.

An interview with Ms. Isna, one of the pharmacy teachers involved in practical learning, emphasized this point:

“We usually use Project-Based Learning. For example, one group makes an antiseptic solution and then has to explain the ingredients, procedures, and benefits. This trains them not only technically but also in terms of communication and product understanding.”

Besides assigning project tasks, teachers also implement role division within groups so that every student contributes actively. Typically, roles such as coordinator, technician, documentation recorder, and final

presenter are assigned. This teaches students the importance of teamwork, individual responsibility, and coordination in task execution. It also fosters leadership and organizational skills from an early age.

To support learning, teachers use interactive digital modules containing step-by-step guides, procedural images, and demonstration videos. Additionally, teachers conduct live demonstrations at the beginning of each session to ensure students understand key steps before practicing independently. In this process, teachers serve as facilitators who actively provide guidance, corrections, and reinforcement. This model is considered effective in increasing student engagement, developing real-world work skills, and building both mental and technical preparedness for the pharmaceutical industry.

b. Teachers' Role in Creating an Effective Learning Environment

In implementing practical pharmacy lessons, teachers at SMKS Kesehatan Pro Skill Indonesia play essential roles as facilitators, mentors, and supervisors of laboratory activities. They are responsible not only for delivering materials and procedures but also for ensuring the entire process runs safely, orderly, and in accordance with operational standards. Teachers actively monitor student practices—from selecting tools and materials, executing procedures, to completing simple pharmaceutical products. Safety and cleanliness are top priorities given the nature of pharmaceutical practice involving chemicals, precision tools, and occupational risks. Therefore, the use of Personal Protective Equipment (PPE) such as lab coats, masks, and gloves is mandatory during practice.

Teachers also foster a professional and conducive learning atmosphere. They enforce rules while instilling discipline, responsibility, and work ethics early on. Classrooms are arranged to resemble actual work environments in the pharmaceutical industry, so students become accustomed to work culture that values accuracy, cleanliness, and procedural compliance. Ms. Mira emphasized this during the interview:

“We emphasize the importance of work ethics: punctuality, cleanliness, and accuracy. We want students to get used to the work culture found in the real pharmaceutical industry.”

However, teachers also face several challenges in conducting practical lessons, both technical and non-technical. One major challenge is the limited availability of practice materials, which are not always sufficient for all students. Additionally, varying student abilities present another challenge—some students follow instructions quickly while others require more intensive guidance. To address this, teachers implement several adaptive strategies, such as:

- Using alternative tools or substitute materials that are still safe and pedagogically relevant.
- Rotating practice schedules to ensure each group has a chance to complete the practical session despite limited materials.
- Providing extra guidance or remedial sessions for students struggling with understanding or completing tasks.

Ms. Isna elaborated on this during the interview:

“When practice materials are limited, we rotate groups. Sometimes we create simulations or small scale practices. The important thing is that students still get hands-on experience, even if it's limited.”

Teachers also devise creative solutions such as video-based simulations, simple visual aids, or micro-practices (mini-labs) to teach work principles even without original materials. This approach highlights teacher flexibility in maintaining instructional quality without full reliance on available facilities.

Overall, the role of teachers in managing practical learning goes beyond technical aspects—they also play a key role in shaping students' work character. Teachers act as role models in discipline and professionalism and are actively involved in creating relevant, meaningful learning experiences that promote student work-readiness. The strategies and flexibility applied by teachers are key to the success of the pharmacy department in producing competent and industry-preferred graduates.

c. Impact of Classroom Management Practices on Students

The results of practical activities conducted by pharmacy students at SMKS Kesehatan Pro Skill Indonesia show significant improvement in both technical and non-technical skills. Based on observation and documentation, students demonstrated greater accuracy and cleanliness in preparing pharmaceutical products such as capsules, ointments, and oral solutions, in line with taught standards. Additionally, non-technical skills such as teamwork, communication, responsibility, and time management have also improved. Students are now

more confident working in teams, take more initiative in completing tasks, and are more proactive during lab activities.

Ms. Mira noted:

“Students are more prepared during internships. They already know how to work in a lab, how to measure materials, and how to communicate in pharmacy services. This is a positive outcome of structured classroom management.”

This statement reinforces the finding that a systematic and practice-based learning approach not only shapes academic competencies but also prepares students for real-world work environments. Students’ readiness for fieldwork internships (PKL) increases because they have been trained in settings that simulate actual pharmaceutical industry conditions, both in terms of technical procedures and work discipline.

Based on field findings, classroom observations, and teacher interviews, it can be concluded that the classroom management practices in the pharmacy department at SMKS Kesehatan Pro Skill Indonesia are considered professional and effective. Teachers serve not only as instructors but also as facilitators, mentors, and supervisors. They are actively involved in designing creative and contextual learning activities, tailoring methods to student needs, and adapting to field conditions—including addressing technical limitations like insufficient materials.

The learning models used by teachers are practical and contextual, emphasizing skills required in the pharmaceutical industry. Students are not only taught theory but are directly shown how to apply that theory in real-world practices. This creates meaningful and relevant learning experiences. Factors contributing to the program’s success include:

- Adequate laboratory and practical facilities
- Strong teacher commitment to skill-oriented teaching
- Consistent practice evaluation covering both work results and student attitudes

Through this learning approach, pharmacy graduates from SMKS Kesehatan Pro Skill Indonesia possess a high level of competitiveness in the job market and adapt quickly to professional work environments. This serves as clear evidence of the success of the school’s practice-based classroom management strategy.

DISCUSSION

The research findings show that pharmacy teachers at SMK Kesehatan Pro Skill Indonesia have implemented practice-based classroom management that emphasizes not only the mastery of technical skills but also the development of students’ professional character. The learning approaches used—such as Project-Based Learning, role division in group work, the use of interactive digital modules, and hands-on laboratory practice—align with vocational education principles that emphasize real-world work experiences (Endah Andayani, 2016; Devita Maulina Putri et al., 2017). These strategies have proven effective in enhancing students’ technical competencies as well as soft skills such as communication, teamwork, and responsibility, which are crucial in the workforce (Andayani, 2016).

These findings support Merta’s (2022) assertion that the alignment between school laboratory practices and industrial environments plays an important role in increasing students’ readiness for internships. In this study, routine laboratory practice combined with direct guidance from teachers significantly contributes to students’ preparedness for real-world work. Teachers confirmed that pharmacy graduates from the school are more easily absorbed into the industry due to their familiarity with workplace culture and standard operating procedures. This also reinforces the view of Suryana et al. (2024), who argue that laboratories serve as centers for developing both technical skills and professional attitudes in vocational education.

Furthermore, effective classroom management by teachers is evident not only in the planning of practical activities but also in managing class dynamics and employing pedagogical approaches tailored to student needs. Teachers address challenges such as limited practice materials and varying student abilities by applying alternative strategies, including rotating practice groups, using simulations, and providing additional guidance. This supports the argument by Masfufah et al. (2023), who emphasize the importance of teacher flexibility in addressing different student characters and learning styles to ensure effective learning. In this context, teachers act not only

as instructors but also as facilitators and role models who actively create a conducive and professional classroom environment (Wiguna & Muhroji, 2022; Muyasaroh, 2019).

The classroom management strategies employed by pharmacy teachers at SMKS Kesehatan Pro Skill Indonesia also align with learning concepts that integrate character development into the educational process, as suggested by Zubaedi (2011). Students are trained not only cognitively and psychomotorically but also habituated to work values such as work ethics, discipline, and integrity. This approach supports Sudira's (2016) view that vocational education should foster holistic competencies—knowledge, skills, and professional attitudes—that are relevant to industry demands.

Overall, this study offers new contributions by demonstrating that successful classroom management in vocational schools is greatly influenced by a combination of teacher preparedness, practice-based learning strategies, and a focus on developing work-related character. It underscores the critical role of teachers as key agents in bridging the gap between education and industry, as also highlighted by Sobari et al. (2023), who assert that collaboration between schools and the business world should be realized not only through curriculum but also in everyday teaching practices. In other words, the success of the pharmacy program at SMKS Kesehatan Pro Skill Indonesia reflects the practical and measurable application of vocational education principles.

4. CONCLUSION

This study reveals that classroom management in the pharmacy department at SMK Kesehatan Pro Skill Indonesia is carried out using a systematic, practical, and industry-oriented approach. Teachers play a central role in designing and implementing practice-based learning through methods such as Project-Based Learning, structured group work, and direct demonstrations in the laboratory. These strategies enhance students' technical skills while also cultivating professional character traits such as discipline, responsibility, and communication skills.

Moreover, teachers demonstrate adaptive capabilities in addressing challenges such as limited practice materials and diverse student abilities. Strategies like rotating practice sessions, using alternative teaching aids, and providing additional mentoring help maintain learning effectiveness. These findings support previous research highlighting the importance of hands-on learning and professional classroom management in preparing vocational school graduates for the workforce. Thus, the classroom management practices employed by pharmacy teachers at this school serve as a key success factor in the department's popularity and its ability to produce competent graduates who are readily absorbed into the labor market.

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