

## Empowering Vocational Students: Teaching Informatics and Computer Skills at SMK Santo Gabriel Maumere

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### Abstract

**Purpose:** To develop effective teaching strategies that keep up with technological advancements and meet student needs, ensuring they gain practical and comprehensive knowledge in informatics and computers. These strategies aim to equip students with the skills and knowledge needed for academic success and future careers in technology.

**Method:** This study uses a student-centered approach, focusing on teacher-student interaction and the use of technology in teaching. Data is collected through student feedback on teaching methods and interviews with teachers and staff. The data is analyzed to evaluate the effectiveness of informatics and computer teaching at SMK Santo Gabriel Maumere.

**Practical Application:** Provide guidance for teachers at SMK Santo Gabriel Maumere to improve the effectiveness of informatics and computer teaching. With better teaching methods, teachers can create more engaging and interactive strategies, helping students better understand technology.

**Conclusion:** The teaching methods for informatics and computers at SMK Santo Gabriel Maumere need improvement for better results. Combining qualitative and quantitative evaluations offers valuable insights into teaching performance and guides future curriculum development.



## Introduction

Vocational High Schools (SMK) play a pivotal role in equipping the younger generation to meet the demands of an ever-evolving workforce, particularly in fields such as information technology and computers (Faradila et al., 2024; Saputra & Widana, 2024). SMK Santo Gabriel Maumere, as a notable secondary education institution in its region, bears the responsibility of imparting knowledge and practical skills essential for students in the digital age.

Currently, the educational approach at SMK Santo Gabriel leans heavily towards theoretical instruction, with limited emphasis on practical application. Additionally, laboratory facilities are substandard, and there is a noticeable lack of student interest in computer studies. These issues negatively impact the learning process and reduce the effectiveness of education. According to (Salsabila & Purnomo, 2023; Sudirman, 2021) a predominantly theoretical teaching model restricts students' ability to bridge the gap between theoretical knowledge and its practical application in real-life scenarios.

Teaching methods significantly influence the success of education by ensuring selective, effective, and dynamic learning processes (Ferawati et al., 2019; Ummah & Maghviroh, 2022). Therefore, SMK Santo Gabriel needs to adopt a teaching methodology that prioritizes practical engagement and real-world application. For instance, project-based learning (PBL) can serve as a robust framework, enabling students to develop hands-on skills that align with theoretical concepts (Maukar et al., 2021; Pratidina & Nindiasari, 2023; Shaffan et al., 2024). Enhancing laboratory infrastructure and incorporating cutting-edge technologies can further support this approach, ensuring that students gain the practical exposure necessary for today's competitive workforce (Khairiyah, 2024; Subekti et al., 2024).

Interactive and relevant teaching methods are also critical to increasing student interest in computer-related subjects. The adoption of appropriate teaching strategies can make lessons more engaging and prevent students from becoming disinterested. Teachers must choose instructional approaches tailored to the varied learning preferences and personalities of students (Falera, 2024; Mutmainah & Rudhan, 2021; Ulansari et al., 2023). Such strategies not only facilitate better understanding but also make learning more enjoyable and impactful.

In conclusion, SMK Santo Gabriel must address its challenges by implementing improvements in teaching methods, upgrading laboratory facilities, and employing strategies to increase student interest in computer studies. By integrating these enhancements, students will gain not only theoretical knowledge but also the practical competencies necessary to thrive in the rapidly advancing digital era.

## Method

The internship (PKL) program at SMK Santo Gabriel Maumere, conducted between August 7, 2023, and October 31, 2023, provided an enriching opportunity for both the interns and students. The school, located in Jln Soekarno Hatta, Kel. Beru, Kec. Alor Timur, Kab. Sikka in East Nusa Tenggara Province, served as an ideal setting for an immersive educational experience. Over the three months, the author engaged directly with students through teaching and observation to assess the learning methods used in the classroom.

One of the primary methods employed during the internship was to actively involve students in the learning process. This meant not only delivering theoretical content but also providing practical, hands-on experiences that helped students understand how computer concepts were applied in real-world situations. The focus was on creating an engaging, participatory environment where students could practice what they were learning in an interactive and supportive atmosphere. This method also allowed the author to monitor how students grasped new information and to adjust the delivery accordingly.

Alongside student interaction, the internship also involved regular interviews with

teachers. These discussions allowed the author to gain insights into the existing teaching practices and strategies in place at the school. By understanding the teachers' perspectives, the author was able to tailor their approach to align with the school's educational goals while also introducing new methods that might better cater to students' interests, particularly in computer subjects.

To improve student engagement and make the learning process more enjoyable, the author made certain modifications to the established teaching system. While the core structure remained intact, the emphasis was shifted toward practical learning experiences. This included the integration of activities that allowed students to apply theoretical knowledge in real-life scenarios, making the learning process more relevant to their future careers in technology and digital fields. For example, the author created a friendly and relaxed learning atmosphere to help students feel more comfortable and less intimidated by technical content.

To further enhance student involvement, the author incorporated several innovative strategies into the teaching plan. Educational games, group projects, and small competitions were used to make learning both fun and impactful. These activities were designed to not only improve students' understanding of computer subjects but also to encourage collaboration, critical thinking, and problem-solving. The hands-on nature of these activities allowed students to see the practical applications of what they were learning, reinforcing the importance of the subjects.

In addition, direct feedback played a crucial role in motivating students. By providing constructive feedback, the author helped students recognize areas for improvement and celebrate their successes. To further motivate students, awards were given for achievements, fostering a sense of accomplishment and encouraging students to strive for excellence.

The internship also focused on creating an inclusive learning environment where every student felt valued and supported. This approach was based on the belief that a positive and nurturing environment would encourage students to take risks, ask questions, and pursue their interests in computer science and technology. The author's efforts were directed toward boosting students' self-confidence, helping them develop a deeper interest in the subject, and building a strong foundation for their future careers.

The overarching goal of the internship was to not only improve the students' academic performance but also to prepare them for the challenges of the digital age. By developing skills in informatics and computers, the author hoped to equip students with the tools they need to navigate and succeed in an increasingly digital world. Ultimately, the internship served as a model for how educational practices can be adapted to foster greater engagement, encourage deeper learning, and better prepare students for their future roles in the digital economy.

## **Result**

SMK Santo Gabriel Maumere, located in Maumere, Alok Timur District, Sikka Regency, East Nusa Tenggara, serves a student body of 972 across five departments: Software Engineering, Fashion Design, Financial and Institutional Accounting, Office Automation and Management, and Online Business and Marketing. The school provides significant resources for its computer-focused programs, particularly in the Software Engineering (SEE) department, which benefits four computer laboratories. These labs are integral in fostering practical skills, as each student has access to them twice a week according to the RPL (Recognition of Prior Learning) lesson schedule. This access ensures that all students, regardless of department, can engage deeply with technology, honing their skills in programming, software development, network management, and other essential technical areas relevant to the field of information technology.

The computer laboratories play a crucial role not only in enhancing students' technical

knowledge but also in supporting teachers in their instructional efforts. Teachers can use the lab facilities to create interactive and hands-on lessons, demonstrating key concepts in real-time and providing individual support to students. This access to technology allows students to bridge the gap between theoretical learning and practical application, giving them a better understanding of the skills required in the real world. Regular use of these facilities boosts students' confidence and competence in using technology—skills that are indispensable in the digital era.

SMK Santo Gabriel Maumere has adopted a teaching approach that prioritizes practical and interactive learning. One of the key methods used is project-based learning, where students tackle real-world projects through group discussions, simulations, and case studies. This method encourages critical thinking and enables students to apply their knowledge in relevant contexts, making learning more meaningful and engaging. Teachers also integrate digital tools such as simulation software for computer networks, software development applications, and online learning platforms to enhance interactivity in the classroom. These tools offer students direct experience with the technology they will encounter in their careers, helping them better understand both theoretical concepts and their practical applications.

In addition to technology, teachers at SMK Santo Gabriel Maumere embrace differentiated learning strategies to meet the diverse needs of their students. They recognize that each student has unique strengths and challenges and strive to provide personalized support. By identifying the individual learning styles and paces of their students, teachers can adapt their instruction to ensure that every student is given the best chance to succeed. This approach includes content differentiation, where the material is tailored to students' current understanding; process differentiation, where teaching methods are adapted to student learning preferences; and product differentiation, where students demonstrate their learning through varied assessments that cater to their abilities and interests.

Despite the many strengths of the program, SMK Santo Gabriel Maumere faces challenges, particularly in terms of student engagement and technical issues within the computer labs. Teachers have noted that some students lack interest in computer lessons, and network disruptions in the laboratories sometimes hinder the effectiveness of practical lessons. These challenges have led to an increased focus on theoretical explanations in class, rather than hands-on experiences. However, the school is committed to overcoming these obstacles. In response, the faculty continues to innovate, seeking to create a more engaging and supportive learning environment. Collaborative efforts between teachers, students, and external partners, such as technology experts and institutions, have led to improvements in the school's infrastructure, including network upgrades and equipment modernization. Additionally, regular training programs for teachers help them stay current with the latest teaching methods and technologies, enabling them to deliver more effective lessons.

To further bolster student interest, SMK Santo Gabriel Maumere has also introduced extracurricular initiatives such as a computer club, where students can participate in activities like programming competitions. These initiatives offer students a platform to explore their passion for computers outside the classroom, fostering a deeper connection to the field. The school's holistic approach to education—combining state-of-the-art facilities, innovative teaching methods, and extracurricular activities—aims to rekindle students' interest in computer science and prepare them for success in the fast-evolving digital landscape.

Ultimately, the school is determined to continue improving its teaching methods and facilities to provide students with the best possible educational experience. Through continued collaboration, innovation, and commitment, SMK Santo Gabriel Maumere is working to create an inspiring learning environment where students can reach their full potential in information technology and computer science. The goal is not only to improve

technical skills but to foster a genuine love for learning that will help students navigate the challenges and opportunities of the digital world.

### Discussion

SMK Santo Gabriel Maumere plays a vital role in providing educational services in Maumere, East Nusa Tenggara, with a student population of 972, spread across five departments: Software Engineering (RPL), Fashion Design, Financial and Institutional Accounting, Office Automation and Management, and Online Business and Marketing. One of the school's key assets is its four computer laboratories, which offer opportunities for students in the Software Engineering major to develop their practical skills and technical knowledge. These facilities not only meet the students' needs but also provide crucial support for teachers in guiding students through demonstrations of lesson concepts and relevant practical activities. The presence of these facilities has had a significant positive impact on educational progress in the region.

*Figure 1. Teaching and Learning Process in Class X*



Source: SMK Santo Gabriel, 2023

The computer laboratories allow students in the Software Engineering department to gain hands-on experience in various fields, such as programming, software development, and network management. The practical experience provided by these labs is essential for deepening the material taught in the classroom, as it enables students to apply the theories they learn in real-world situations. Regular access to these facilities enhances students' skills and self-confidence in using technology, which is crucial in today's digital age.

Moreover, the computer laboratories also provide substantial support to teachers in their teaching methods. Teachers can utilize these facilities to demonstrate theoretical concepts through practical applications, making the learning process more interactive and engaging. As a result, students not only learn from theory but also deepen their understanding through practice conducted in the labs. This practical approach to learning is expected to increase students' interest and comprehension of the material being taught.

*Figure 2. Teaching And Learning Process in Class X*



Source: SMK Santo Gabriel, 2023

In addition to classroom teaching, SMK Santo Gabriel Maumere is committed to making a broader contribution to the surrounding community. Through quality education, the school helps students develop their potential to become productive and competitive members of society, while also preparing them for the challenges of the digital era. Thus, the school serves not only as a place of learning but also as a driving force for innovation and development in the local environment.

*Figure 3. Teaching and Learning Process in Class X*



Source: SMK Santo Gabriel, 2023

SMK Santo Gabriel Maumere has designed several programs involving collaboration with local communities and industries. One such initiative is the internship program and partnerships with technology companies, which provide students with the opportunity to gain real-world work experience before they graduate. This program is highly beneficial for students as it allows them to directly apply the knowledge they acquire in school to real-world industrial settings. Furthermore, the school regularly organizes seminars and workshops involving technology professionals to provide students with the latest insights and inspiration. These events are vital in preparing students to face the rapidly changing technological landscape, offering them clear perspectives on the challenges they will encounter in the workforce.



*Figure 4. Teaching And Learning Process in Class X*



Source: SMK Santo Gabriel, 2023

As part of its community contribution, SMK Santo Gabriel Maumere also conducts community service activities, such as basic computer training for local residents, aimed at improving digital literacy in the community. Through such activities, the school not only enhances the digital skills of local residents but also strengthens its relationship with the surrounding community, creating a mutually beneficial synergy. By providing access to technology training, SMK Santo Gabriel Maumere is involved in community empowerment and supporting sustainable social development.

Additionally, the school regularly organizes social activities, such as environmental campaigns and community service, with the aim of raising students' social awareness of societal issues. These activities also teach students to take greater social responsibility and contribute to the well-being of the community. Through their involvement in these social initiatives, students gain not only practical knowledge and skills but also character development, which is important for facing social challenges.

Through these various initiatives, SMK Santo Gabriel Maumere demonstrates its commitment to creating a lasting positive impact on the surrounding community. Through collaboration between the school, industries, and the community, the school strives to create an inspiring learning environment that supports the development of students' potential. The contribution of SMK Santo Gabriel Maumere to the social and economic development of the Maumere area reflects its dedication to providing meaningful impact, preparing students to face challenges in the digital and global workforce. As a result of the Field Work Practice, it can be concluded that the school's role in integrating education, community service, and industry collaboration is crucial in shaping a better and more sustainable future for students and the community around them.

Figure 5. Teaching and Learning Process in Class X



Source: SMK Santo Gabriel, 2023

### Conclusion

In summary, SMK Santo Gabriel Maumere plays a vital role in preparing students for the demands of the digital era. Despite challenges such as limited practical engagement and technical issues in laboratories, the school has implemented strategies like project-based learning, differentiated instruction, and extracurricular initiatives to improve student interest and learning outcomes in computer studies. By enhancing teaching methods, upgrading facilities, and fostering collaboration among teachers, students, and external partners, the school aims to create a supportive and innovative environment. These efforts ensure students acquire both theoretical knowledge and practical skills essential for success in the evolving digital landscape.

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