Developing Guidance and Counseling Administration Management Information System "Simas BK" to Increase the Accountability of Vocational Education School Counselors in Yogyakarta City

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Abstract

The success of guidance and counseling services in schools largely depends on School Counselors' managerial abilities in planning, organizing, and evaluating services. However, many School Counselors are burdened with additional tasks beyond their main responsibilities, including administrative duties that are still handled manually, hindering optimal service delivery. Therefore, an information system is needed to simplify administrative tasks and reduce barriers to work. This study aims to examine: 1) the feasibility of an administrative information system in improving the accountability of School Counselors, 2) the practicality of an administrative information system in improving the accountability of School Counselors, and 3) the effectiveness of an administrative information system in improving the accountability of School Counselors. Using the Borg & Gall R&D model, the study involved vocational high school School Counselors and employed an administrative information system scale as the research instrument. The results showed that the system was deemed feasible by expert validation, practical by School Counselors, and effective in enhancing accountability. In the long term, SIMAS BK has the potential to be broadly implemented and integrated into national education systems to support data-driven counseling services.
Keywords: administrative, information system, accountability

Abstrak

Keberhasilan layanan bimbingan dan konseling di sekolah sangat bergantung pada kemampuan manajerial Guru BK dalam merencanakan, mengatur, dan mengevaluasi layanan. Namun, banyak Guru BK terbebani tugas tambahan di luar tanggung jawab utama, termasuk beban administrasi yang masih dilakukan secara manual, sehingga menghambat layanan yang optimal. Untuk itu, dibutuhkan sistem informasi yang dapat menyederhanakan administrasi dan mengurangi hambatan kerja. Penelitian ini bertujuan untuk mengetahui: 1) kelayakan sistem informasi administrasi dalam meningkatkan akuntabilitas Guru BK, 2) kepraktisan sistem informasi administrasi dalam meningkatkan akuntabilitas Guru BK, dan 3) efektivitas sistem informasi administrasi dalam meningkatkan akuntabilitas Guru BK. Menggunakan model R&D Borg & Gall, penelitian ini melibatkan Guru BK SMK dengan instrumen skala sistem informasi administrasi. Hasilnya, sistem dinyatakan layak melalui validasi ahli, praktis oleh Guru BK, dan efektif dalam meningkatkan akuntabilitas. Dalam jangka panjang, SIMAS BK berpotensi diterapkan lebih luas dan terintegrasi dengan sistem pendidikan nasional untuk mendukung layanan berbasis data.
***Keywords**: administrasi, sistem informasi, akuntabilitas*

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INTRODUCTION

The purpose of guidance and counseling services is to assist students or counselees throughout the process of achieving optimal personal development, so that they become independent, successful, and prosperous individuals who experience happiness in their lives. One of the main roles of school counselors is carried out through various activities, including preventive efforts, corrective actions, and rehabilitative measures, as well as activities that support the maintenance and development of students (Regulation of the Minister of Education and Culture Number 111 of 2014). This is further supported by its derivative regulations, namely the Guidelines for Guidance and Counseling in Primary and Secondary Education and the Operational Guidelines for the Implementation of Guidance and Counseling, which clarify the roles and responsibilities of school counselors in schools in a more structured way, accompanied by a well-organized administrative service management system.

The success of guidance and counseling services in schools depends largely on school counselors' managerial ability to plan, manage, and evaluate these services (Gunawan, 2018). However, many school counselors are burdened with additional duties beyond their main responsibilities, such as serving as duty officers, student council (OSIS) advisors, or library managers, which hinders the optimization of guidance and counseling services (Nurhayati & Pw, 2019). They are also often asked to record attendance, document student violations, prepare parent summons letters, and compile service reports, all of which are still done manually using books or note cards. Another obstacle arises when notification letters fail to reach parents, resulting in delays in case handling (Cahyadi & Susanto, 2020).

In addition, classroom guidance is often hindered by the lack of a specific schedule for school counselors to deliver services in class. They are frequently seen merely as “complementary teachers” who only enter the classroom when subject teachers are absent and are often perceived as having no fixed workload (Gunawan, 2018). As a result, school counselors do not have enough time to thoroughly prepare service administration, which reduces the quality of services provided. Many teachers in Indonesia struggle to focus solely on teaching due to the heavy administrative workload they face (Hermawan & Olawiyola, 2004). This is the reality that must to be addressed through good strategy and innovation, not by merely complaining and blaming the system, but by actively participating in the change. However, this situation presents a challenge for teachers to improve their skills, especially technological skills. Fithroni et al. (2018) explained that school counselors should improve their current skills due to several factors, such as technological advances and systemic problems among students.

The additional workload and obstacles to implementing classroom guidance disrupt the administrative recording of services, which should be done each time a service is provided. In fact, according to the POP BK (Operational Guidelines for the Implementation of Guidance and Counseling) of vocational high schools (SMK), administration is a form of professional accountability that must be documented as evidence of performance and as the basis for calculating workload (Kemendikbud, 2016). Based on this explanation, one benchmark of accountability in guidance and counseling services is the availability of well-organized, reportable documents, including data derived from guidance and counseling administrative activities.

In the current digital era, integrating information technology into educational services, including school counseling, is indispensable. Digitalisation enhances administrative efficiency, improves data accuracy, and enables evidence-based decision-

making, all of which substantively contribute to higher-quality counseling services (Nasution et al., 2025). Guidance and counseling are a critical part of education that cannot be separated from technology. Technological competence and support are prominent in the process of guidance and counseling services in schools (Kurniasih et al., 2022). Guidance and counseling services must adapt to the times by embracing the following technological advancements to enhance both effectiveness and efficiency. This requires openness and exploration to avoid being mired in outdated traditions. Therefore, a guidance and counseling administration management information system is developed. This administration covers all types of services, areas, and components involved in the guidance and counseling program.

An information system is defined as an interrelated set of components that collect, process, store, and distribute information to support decision-making, coordination, and control within an organization (Latifah et al., 2022). In school counseling, such systems are vital for managing student records, scheduling interventions, monitoring progress, and evaluating program outcomes, thereby increasing accountability and service effectiveness. Notably, vocational high schools in Indonesia currently lack a dedicated web-based administrative information system for counseling services. This gap underlines the novelty and importance of the present study, which aims to fill that void and advance digital infrastructure in school counseling.

This research was conducted in vocational high schools because they received significant government attention, especially during the administration of President Joko Widodo. Vocational high schools were encouraged to become leading schools and the top choice for junior high school graduates, as stated in Presidential Instruction Number 9 of 2016 on the Revitalization of Vocational High Schools. This policy led to the establishment of the Center of Excellence program for vocational high schools, which aimed to improve the quality and performance of vocational schools by developing specific skills and collaborating with the business, industrial, and employment sectors. Vocational High Schools Center of Excellence schools were expected to serve as models and drivers of quality improvement for other vocational high schools, while also promoting efficiency and simplifying services through digital technology.

A preliminary study conducted by the researcher from May 18 to 23, 2022, at three centers of excellence vocational high schools in Yogyakarta City revealed that the administration of guidance and counseling services did not yet meet the standards set by the POP BK guidelines for vocational schools. The available service documentation was generally limited to individual and group counseling reports, consultations, collaborations, home visits, and case conferences. The school counselor faced difficulties in managing administrative tasks, especially in recording activities before and after services, which were still done manually using handwritten forms and stored without a proper archiving system.

This situation was worsened by additional duties outside their primary roles and the large number of cases they had to handle daily. Since the Covid-19 pandemic, guidance and counseling services have been delivered online through platforms such as WhatsApp, Zoom, and Google Meet; however, informational services had yet to use websites or blogs, and administrative records remained undigitized. Therefore, school counselors expressed the need for an online administrative system using information technology to facilitate documentation and reporting and improve the efficiency of guidance and counseling services.

A system is a collection of elements interconnected to achieve a goal, while information is the result of data processing that has meaning and can be used in decision-making (Sutabri, 2012). Hutahaean (2014) added that the system is a network of interrelated procedures for carrying out certain activities, and that information is data that has been processed so that it is useful to the recipient. So, an information system can be interpreted as a collection of information that has been classified and processed, and that is interrelated and can be used for decision-making.

Information system design should be carried out in several stages to ensure the developed system aligns with user needs. This research focuses on the development of management information systems or academic information systems. According to Fatta (2007), the success of an information system depends on the quality of its analysis and design, especially in identifying organizational problems. Common stages in system development include: 1) Analysis, 2) Design, 3) Implementation, and 4) Maintenance. All of these stages constitute the System Development Life Cycle (SDLC), a common approach in information system development (Nugraha, 2020). This study follows these stages using the Borg and Gall model, which accommodates the entire process.

This information system accommodates two aspects: administration and accountability, both closely related. Nuzliah (2017) explains that, in a narrow sense, administration refers to the organization of information or data arranged systematically and recorded in written form. Meanwhile, in a broader sense, administration encompasses a range of activities that are part of a comprehensive, dynamic management process. Nelissa et al. (2020) explain that overall, administration in guidance and counseling services includes various activities such as archiving, document storage, data categorization, procedures for accessing and retrieving information, data updates, and the utilization of needs assessment results.

It also covers the preparation of annual and semester programs, organizational structure, distribution of roles among team members, program information dissemination systems, budget management, and the preparation of supporting facilities and infrastructure. The purpose of implementing administration is to assist school counselors in monitoring student development. Meanwhile, according to Badrujaman et al. (2018), accountability in guidance and counseling services refers to the school counselor's responsibility for their duties, including delivering information openly, providing explanations, establishing feedback systems, and evaluating and improving programs for stakeholders. Furthermore, Putri et al. (2018) add that accountability refers to the counselor's responsibility to service recipients, as demonstrated by the effectiveness of guidance and counseling programs and their impact on student development, based on available data. From the above statements, it can be inferred that effective administrative processes strongly support school counselors' accountability.

Although information technology currently facilitates access to digital media, developing an information system still requires expertise and time, from research to implementation, making it a challenge for school counselors. A web-based information system is considered ideal because it is flexible and can integrate all services into a single interface. Arafat (2016) states that system flexibility allows adaptation to users' evolving needs. Therefore, system development must begin with user needs research. Based on these conditions, the researcher sees the need to develop a web-based guidance and counseling administrative information system in vocational high schools. This system is expected to help school counselors manage administrative tasks in accordance with the

POP Guidance and Counseling Vocational High Schools format and to provide information services that enhance their professional accountability.

METHOD

This research uses the Research and Development (R&D) method, adopting the Borg & Gall model, which comprises 10 systematic stages. This model was chosen for its ability to comprehensively accommodate the product development process, from problem identification to final product dissemination. The stages carried out include: (1) research and initial data collection, (2) planning, (3) initial product design development, (4) initial field test, (5) revision of initial test results, (6) main field test, (7) product improvement of field test results, (8) operational field test, (9) final product revision, and (10) dissemination and implementation. With this approach, researchers can ensure that the developed system is truly appropriate to the user's needs and the real context in the school.

The subjects of the trial in this study were Guidance and Counseling (BK) teachers from several vocational schools in Yogyakarta City, selected purposively based on their involvement in the Center of Excellence (PK) program. The research instrument is a guidance and counseling administrative information system scale that has been validated using Aiken's V coefficient and tested for reliability using Cronbach's alpha. The data obtained was analyzed descriptively to process validation results from media and material experts, as well as practical and effectiveness assessments by users. Expert validation was conducted to assess the feasibility of the content and media, while practicality and effectiveness were assessed through pretests and posttests with BK teacher respondents.

At the effectiveness test stage, a pretest and posttest were conducted on 19 BK teachers to measure increases in accountability after using SIMAS BK. The data obtained were tested for normality with the Kolmogorov-Smirnov test. Since the data were not normally distributed (p-value = 0.036 < 0.05), the analysis was followed by a nonparametric Mann-Whitney test. The test results showed a significant difference between pretest and posttest scores (sig. 2-tailed = 0.000 < 0.05), indicating that SIMAS BK is effective in increasing the accountability of vocational BK teachers.

Overall, the methodology applied in this study not only emphasizes the technical aspects of system development but also involves an in-depth assessment of feasibility, practicality, and the real impact on users. Thus, the resulting product is a tested, relevant, and ready system to increase accountability for guidance and counseling services in vocational schools.

RESULTS AND DISCUSSION

Results

The planning stage of developing the guidance and counseling administration management information system (SIMAS BK) began with a comprehensive needs analysis through a preliminary study to identify the existing guidance and counseling administrative processes in schools. The results of this analysis served as the foundation for developing structured research guidelines and instruments, covering aspects such as student data management, guidance and counseling program planning, counseling documentation, and reporting. Subsequently, the researcher, in collaboration with a web designer, designed the layout and features of the information system in detail, taking into account the administrative needs of school counselors. The system was developed as a web-based platform with cloud storage support to ensure accessibility on devices such as

computers and tablets and was equipped with a data security system to protect the confidentiality of student information while remaining user-friendly for school counselors. As a complement, the researcher also developed a user manual to help counselors perform documentation and reporting more effectively in accordance with the POP BK standards. With a systematic, comprehensive technical plan, the development of SIMAS BK was directed toward producing a functional, efficient system ready for implementation to support the professional performance of school counselors.

At the product design stage, the development of the guidance and counseling administration management information system (SIMAS BK) focused on creating a comprehensive and integrated web-based platform to facilitate school counselors in managing services according to POP BK standards. The system was built using Laravel, a web framework, to ensure an attractive interface and ease of use. Several key features were developed, including: 1) an online guidance board based on a Content Management System (CMS) that enabled school counselors to upload, edit, and manage student data efficiently; 2) information content on the guidance board with categorizing system to help organize student information more effectively; 3) a guidance and counseling administrative service report feature that assisted school counselors in mapping student cases and monitoring student progress continuously; and 4) a user manual designed to help school counselors learn the system independently. The user interface (UI) was designed to be visually appealing and provide a comfortable user experience, complemented by a data encryption security system to protect the confidentiality of student information.

The preliminary field testing was conducted by testing the testexperts with the product through media validation, content validation, and user practicality assessment. Media validation was conducted by an information systems expert who assessed aspects such as visual appearance, programming, interactivity, accessibility, and security. The media expert validator gave a total score of "107"**,** which falls into the highly feasible category. Content validation was conducted by a guidance and counseling expert who evaluated the completeness of content, accuracy of content, and language use. The content expert validator gave a total score of "80", also categorized as highly feasible**.** In addition, school counselors conducted a practicality assessment to evaluate the acceptability and practicality of the "SIMAS BK" information system developed by the researcher. Based on the assessment, the system received a total score of "90", placing it in the highly feasible category.

The main field testing involved three school counselors from three schools, such as State Vocational High School 3 Yogyakarta, Muhammadiyah Vocational High School 1 Yogyakarta, and State Vocational High School 5 Yogyakarta. These teachers were given the same assessment sheet used in the small group trial to evaluate the acceptability of the **"**SIMAS BK**"** information system. Based on the main field-testing results, all three school counselors rated the system as highly feasible. There is no suggestion or feedback from them. However, the researcher still carried out system maintenance to ensure that the "SIMAS BK" information system would run more smoothly and be more accessible when used simultaneously by multiple users**.**

This phase was conducted to examine the product's effectiveness among 19 guidance and counseling teachers from vocational high schools in Yogyakarta. The researcher distributed a pretest questionnaire to assess accountability levels prior to the use of SIMAS BK. Subsequently, the researcher provided the SIMAS BK information system application to school counselors, with the aim of improving their accountability.

After using the SIMAS BK system, a posttest questionnaire was administered. The posttest results were also collected from the same 19 school counselors in Yogyakarta.

After collecting the data, a normality test using the Kolmogorov-Smirnov test was conducted to determine whether the pretest and posttest scores of the guidance and counseling information system scale were normally distributed. The results of the normality test are shown below:

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Predicted Value
N			19
Normal Parameters[a,b]	Mean		97.8947368
	Std. Deviation		2.80224810
Most Extreme Differences	Absolute		.204
	Positive		.204
	Negative		-.161
Test Statistic			.204
Asymp. Sig. (2-tailed)[c]			.036
Monte Carlo Sig. (2-tailed)[d]	Sig.		.033
	99% Confidence Interval	Lower Bound	.029
		Upper Bound	.038

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. Lilliefors' method based on 10000 Monte Carlo samples with starting seed 2000000.

Figure 1. Normality Test Results with One-Sample Kolmogorov-Smirnov

Based on the results of the normality test, the p-value in the Kolmogorov-Smirnov test was 0.036. This indicates that if the p-value is less than 0.05, the data are not normally distributed. Since the data was not normally distributed, the researcher used a non-parametric test, specifically the Mann-Whitney test, to examine the difference. The Mann-Whitney test was used to assess the effectiveness of the "SIMAS BK" administrative information system in improving vocational school counselors' accountability. The following are the results of the difference test:

Test Statistics[a]

	Nilai pretest postest
Mann-Whitney U	39.000
Wilcoxon W	229.000
Z	-4.133
Asymp. Sig. (2-tailed)	.000
Exact Sig. [2*(1-tailed Sig.)]	.000[b]

a. Grouping Variable: Simbol
b. Not corrected for ties.

Figure 2. Mann-Whitney Test Results for Pretest and Posttest Score Differences

The Mann-Whitney test showed a significant difference (sig. 2-tailed = 0.000 < 0.05) between pretest and posttest scores, indicating that SIMAS BK effectively improved vocational school counselors' accountability.

The researcher has disseminated the SIMAS BK system to school counselors through the Vocational School Counselor Forum in Yogyakarta City. As a future plan, the researcher will apply for Intellectual Property Rights and expand the distribution of

the SIMAS BK information system through the school counselor forum network at the provincial level in the Special Region of Yogyakarta. This effort aims to reach more school counselor and further enhance their accountability.

Discussion

The Guidance and Counseling Administrative Information System (SIMAS BK) is a digital innovation product designed to support the documentation and reporting of guidance and counseling services. SIMAS BK has undergone several stages of development and validation by relevant experts and stakeholders and has been declared feasible for implementation in schools. The development of SIMAS BK aligns with the concept of accountability in guidance and counseling proposed by Badrujaman, Furqon, Yusuf, & Suherman (2017), which describes accountability as a condition where guidance and counseling teachers are able to take responsibility, communicate clearly, explain processes, establish feedback mechanisms, and improve programs for stakeholders. Therefore, this product is expected to serve as a solution that integrates all these aspects into one platform. In addition to simplifying the documentation process, SIMAS BK also functions as a tool for managing and analyzing various guidance and counseling services. This enables systematic evaluation and improvement of each program. This aligns with the importance of governance as highlighted by Gunawan (2018), who stated that the effectiveness of guidance and counseling services in schools depends on the teacher's ability to manage, design, implement, and evaluate their programs effectively.

Based on the research and development results of the "SIMAS BK" administrative information system aimed at enhancing the accountability of vocational school counselors, several key conclusions can be drawn. First, the system was deemed feasible, as both media and content experts rated it in the "highly feasible" category, and the system and its user guide were validated, revised, and approved. Second, the system was found to be practical, as shown by user testing conducted with one teacher during the initial trial and three school counselors during the field test, all of whom agreed that SIMAS BK was practical and supported accountability improvement. Third, the system proved effective, as confirmed by testing with 19 teachers. The Mann-Whitney test showed a significant difference (sig. 2-tailed = 0.000 < 0.05) between pretest and posttest scores, indicating that SIMAS BK effectively improved vocational school counselors' accountability.

As a final product, SIMAS BK has met the accountability indicators for guidance and counseling services as outlined in the Vocational High School Guidance and Counseling Operational Guidelines (POP BK SMK, Kemdikbud, 2016), specifically by supporting services with recorded and reported data. This system enables guidance and counseling teachers to record, store, and present service data in a systematic and organized manner. The ease of data access, a structured reporting system, and comprehensive monitoring features not only enhance the efficiency of counselors' work but also significantly improve the accountability of guidance and counseling services in schools.

However, there are still some limitations in this development. The system's development and maintenance currently rely on a third-party developer to update menus and features, which may affect the flexibility and responsiveness to evolving user needs over time. Additionally, the system requires a large storage capacity, particularly for schools with more than 1,000 students. This high storage demand is due to the need to store various administrative data, documentation, and a growing history of guidance and

counseling services. Furthermore, SIMAS BK relies on an always-on server to ensure continuous access, which means stable network infrastructure and consistent maintenance are essential.

CONCLUSION

Based on the research and development of the SIMAS BK administrative information system, it can be concluded that the system is feasible, practical, and effective in enhancing the accountability of vocational school counselors. Expert validation and user testing confirmed its high feasibility and practicality, while a Mann-Whitney test showed a significant improvement in accountability scores following implementation. The system aligns with national operational guidelines by enabling systematic documentation, reporting, and monitoring of counseling services. Despite its proven effectiveness, limitations include reliance on third-party maintenance, high storage demands for large-scale implementation, and dependence on stable network infrastructure for continuous access. Nevertheless, SIMAS BK is a viable digital tool for supporting data-driven, accountable guidance and counseling services in vocational schools.

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