

DEVELOPMENT of Student Registration and Automated Class Assignment System for Public Senior High SCHOOL

Mary Jean Mondelo-Auza¹, Shenna Rhea M. Cloribel²

¹ Instructor, Esperanza National High School, Esperanza, Sultan Kudarat
mmondelo_190000002781@uic.edu.ph

² University of the Immaculate Conception, Davao City
scloribel@uic.edu.ph

ABSTRACT

This study developed student registration and class assignment processes essential to improving school operations in public senior high schools. The investigation developed and evaluated the Student Registration and Automated Class Assignment System (SRACAS) to address inefficiencies in students' registration and automated class assignment procedures. A Design-Based Research (DBR) approach was employed, incorporating iterative development, user testing, and feedback-based refinement. The system's usability and acceptability were assessed using the Technology Acceptance Model (TAM), focusing on perceived usefulness, perceived ease of use, and user satisfaction. The system automates key functions, including student enrollment, class allocation, academic setup, and reporting. It features a user-friendly interface with dedicated pages, including the Home Page, Student Management Page, and Enroll Student Page, helping school administrators and teachers manage tasks more efficiently. The findings revealed a strong positive response from users. The results highlight SRACAS's potential to enhance operational efficiency and support more modern, responsive school management practices. For successful implementation and sustainability, the study recommends phased rollouts, integration with existing systems, user training, ongoing feedback collection, and technical support.

KEYWORDS: *IT education, student registration, class assignment, senior high school, Philippines.*

INTRODUCTION

Challenges in student registration and automated class assignment systems are enormous and complex, and are faced globally. Many schools still use traditional and manual approaches, which are time-consuming, error-prone, and costly to manage. According to Bagacay et al. (2024), traditional registrar systems are characterized by slow and inconsistent data collection, along with poorly integrated processes that often result in errors in managing student information. Similarly, Regpack (2023) reports that the transition to online student registration has been accompanied by technical issues and a lack of adequate support.

The Philippine school system shows identical problems. Most of the public schools, according to the Department of Education (2021), still run a manual student registration system, which undermines accuracy and punctuality. The World Bank (2021) also noted that the COVID-19 epidemic has damaged the educational system of the country, therefore worsening student learning losses and dropouts. As pointed out by Nzimande (2022), there is a need to improve automation and integration of the systems to improve working performance and avoid mistakes in data collection to benefit the entire education system.

The study of Gamale et al. (2012) shows that student registration and automated class scheduling systems continue to face persistent shortcomings despite increasing technology adoption in school administration. Additionally, Saini et al. (2025) emphasize that the benefits of automation for data quality and administrative burden reduction remain underexplored because studies lack systematic institutional comparisons and fail to consider how AI and machine learning can improve class scheduling.

The researcher conducts this research because the need for efficient student registration systems with automated class assignment solutions to address current administrative problems and enhance student experiences is critical. The initiative delivers substantial social value by creating equal educational opportunities and decreasing administrative work while enhancing student satisfaction to build an inclusive, efficient learning environment.

The research supports the United Nations Sustainable Development Goal 4 (Quality Education) by focusing on inclusive and equitable quality

education and lifelong learning opportunities for all. The research addresses these challenges to advance sustainable development through better educational processes and outcomes. The researcher wants to build a system that can solve this problem, making the registration and class assignment process easier and helping school staff with their duties.

Training sessions were conducted for school staff to ensure proficient use and understanding of the integrated student registration and automated class assignment system. Continuous technical support and feedback mechanisms were established to address challenges and gather user input for ongoing system improvements. An awareness campaign promoted the system's benefits in enhancing user experience and streamlining administrative processes. Collaboration with educational authorities helped align institutional policies, facilitating wider adoption and ultimately boosting efficiency and stakeholder satisfaction. Finally, the outcomes of the system were disseminated through international conferences and peer-reviewed journals to maximize visibility and academic impact.

Statement of the Problem

1. What are the essential features and functionalities required for an integrated student registration and automated class assignment for public senior high school?
2. How acceptable is the developed integrated student registration and automated class assignment for public senior high school to users based on TAM?
3. What are the strategies for implementing the integrated student registration and automated class assignment for public senior high schools to ensure their successful adoption and sustainability?

Theoretical Lens

This investigation is anchored on the Technology Acceptance Model (TAM) proposed by Davis in 1989. TAM is one of the most popular theories attempting to explain the determinants of system usage. Davis identified two primary factors influencing system acceptance: usefulness and ease of use. Perceived usefulness is the extent to which the user thinks using a specific system will help him or her perform his or her job better. Perceived ease of use is the ease or difficulty of using the system. Based on TAM, if the technology is perceived as valuable and easy to use, users will adopt it. This model has been applied extensively across different fields, such as education, to determine how

technology can be incorporated effectively into the systems.

The TAM can be used to explain the perceptions that educators and administrators have of new systems that are developed for these purposes. School systems for tasks like student registration and class assignments must be efficient and easy to use. Suppose teachers believe the new technology will make their work easier, for example, by helping place students in classes based on their abilities and interests. In that case, they are likely to accept it. Furthermore, if the system is straightforward and does not present complex procedures that require users to undergo extensive training, then the chances of its adoption by staff are high.

METHODOLOGY

This study used Design-Based Research (DBR) as its primary methodology to develop and evaluate a Computerized Student Registration and Automated Class Assignment System for Public Senior High School (Anderson & Shattuck, 2012). DBR is appropriate for this study since it guarantees that the solutions created are both practical and successful by allowing the iterative design and testing of educational interventions in real-world environments. The reason for using DBR stems from its focus on addressing specific educational challenges while simultaneously generating theoretical insights that can inform future practices.

This study also used quantitative research, which is a systematic approach to collecting and analyzing numerical data to understand patterns, relationships, or phenomena. It involves measurable variables, large sample sizes, and objective analysis, often using tools like surveys, experiments, or statistical methods. Quantitative descriptive research specifically focuses on describing characteristics of a population or phenomenon without aiming to establish cause-and-effect relationships. It emphasizes the collection of numerical data to observe existing trends or conditions, providing a clear and objective picture of the subject being studied.

Development of SRACAS aims to describe and quantify various aspects of the student registration process, class assignment, and system functionality. The researcher would collect numerical data related to system performance, student enrollment numbers, class assignments, and other measurable factors such as time efficiency, accuracy, or user satisfaction. The goal is to analyze and describe how the system operates, identify trends or patterns, and provide a

clear, statistical overview of its effectiveness or impact.

Ethical Considerations. This study was submitted to the Research Ethics Committee of the University of the Immaculate Conception with a protocol code of GS-ER-02-25-0224 . Upon careful consideration, the study was deemed ethically sound and received ethical clearance granted on March 22, 2025.

RESULTS AND DISCUSSION

Table 1
Level of Acceptability of the Developed Integrated Student Registration and Automated Class Assignment

	Mean	SD	Description
A. Perceived Usefulness (PU)	4.83	0.39	Very High
B. Perceived Ease-of-Use (PEU)	4.81	0.55	Very High
C. Attitude Toward Use (ATU)	4.86	0.69	Very High
D. Behavioral Intention to Use (BI)	4.83	0.65	Very High
Overall Mean	4.83	0.57	Very High

Presented in Table 1 is the level of the acceptability of the developed integrated student registration and automated class assignment system for public senior high school. The results reflect an overall mean of 4.83, described as very high, which means that user acceptance of SRACAS is always evident. The results imply that users not only find the system easy to use, but also have a very positive attitude towards the use of SRACAS, which are both critical factors for successful acceptance and sustained use. In addition, the system is well-designed in terms of usability and is well-received by users.

The very high level of user acceptance is consistent with the findings of Embodo (2025), when users find a system easy to learn and navigate, it not only promotes faster engagement, but also significantly enhances overall satisfaction and productivity. Likewise, the findings aligned with the result of Getenet et al. (2024), where positive attitudes toward digital technology not only boost user engagement but also contribute to increased happiness and job performance. This underscores the relationship between positive attitudes, enjoyable technology use, and beneficial outcomes.

Perceived Usefulness. The category mean of 4.83 is classified as very high. Specifically, the mean range is from 4.77 to 4.97. The item using ISCARAS would make it easier for them to do my job ($x=4.77$), and they would find the ISCARAS useful in their job ($x=4.99$). The results imply that users perceive SCARAS as a highly effective and useful tool that greatly enhances their job performance. This positive reception supports the potential for successful implementation and adoption of the system.

This result is supported by Dada (2020), who emphasizes that the use of technology in school management supports the findings. Both digital and physical records are necessary for effective organizational management. Additionally, this result is aligned with the study of Gupta (2015), which expounds how Information and Communication Technology (ICT) augments productivity by optimizing data management and report creation procedures. This corresponds with respondents' views that ISRACAS enhances job performance and productivity. Further, these results also align with the study of Eustaquio and Nisperos (2023), who emphasize that web-based student registration systems received good usability ratings for their effectiveness in mitigating inefficiencies in conventional processes.

Perceived Ease-of-Use. The category mean of 4.81 is classified as very high. Specifically, the mean range is from 4.77 to 4.85. The item learning to operate the SRACAS in their job would be easy for me ($x=4.77$), and they would find the SRACAS easy to use ($x=4.85$). These results indicate that users find SRACAS extremely easy to use and understand. The high level of perceived ease of use is a critical factor in the successful adoption and continued use of educational technologies in both academic and administrative settings.

This is in consonance with the findings of Embodo (2025), who states that when users find a system easy to learn and navigate, it not only fosters quicker engagement but also significantly boosts overall satisfaction and productivity. Moreover, Chugh et al. (2023) emphasize that positive user experiences are fundamental to best practices in deploying education management technologies, as they facilitate smoother integration, higher acceptance rates, and ultimately enhance operational efficiency and user outcomes. Similarly, Davis (1989) highlights perceived ease of use as a core component of the Technology Acceptance Model (TAM), reinforcing its influence on user acceptance and sustained use of information systems.

Attitude Toward Use. The category mean of 4.86 is classified as very high. Specifically, the mean range is from 4.79 to 4.92. The item having a positive attitude towards SRACAS, ($x=4.79$), and enjoying using SRACAS ($x=4.92$). The strong mean value shows that users have a very positive attitude toward SRACAS. Positive attitudes and enjoyment in using a system typically lead to greater user engagement, smoother adoption, and higher overall satisfaction.

The research by Hornbaek and Hertzum (2017) demonstrates how emotional and affective elements influence technology adoption. Users maintain positive attitudes and intentions to use technology when they experience enjoyment and positive emotions during system use. Users who experience enjoyment from a system and find it emotionally rewarding tend to stay engaged and satisfied, which results in better adoption rates and continued use. Moreover, Getenet et al. (2024) emphasize that positive attitudes toward digital technology enhance user engagement while simultaneously influencing happiness and job performance, which supports the relationship between positive attitudes and enjoyable technology use and beneficial results. Additionally, Venkatesh et al. (2012) argue that affective factors, including user enjoyment and emotional response, are critical components of behavioral intention in technology acceptance, further supporting the importance of designing emotionally engaging systems.

Behavioral Intention to Use. The category mean of 4.83 is classified as very high. Specifically, the mean range is from 4.79 to 4.86. The item intending to use SRACAS regularly, ($x=4.79$), and recommending SRACAS to others ($x=4.86$). The result demonstrates a strong intention to utilize SRACAS consistently and endorse it to others, and the respondents' confidence in the effectiveness and willingness to advocate for its adoption among peers within the system.

This result is supported by Alghamdi and Soh (2023), who stress that users who find a system useful and easy to use will develop higher intentions to use the technology, which leads to both adoption and continued utilization. Furthermore, Haverila et al. (2024) emphasize that strong intentions indicate users' belief in system effectiveness and their desire to promote adoption to others. This is further reinforced by Venkatesh et al. (2012), who argue that behavioral intention is a key predictor of actual system use and plays a critical role in the diffusion of new technologies.

Strategies for Implementing SRACAS in Public Senior High Schools

To ensure the successful adoption and sustainability of the Integrated Student Registration and Automated Class Assignment System (SRACAS) for public senior high schools, several key considerations and strategies must be addressed:

Strategies for Successful Implementation

PHASED ROLLOUT
Implement SRACAS in phases to allow gradual adoption. Start with pilot testing in select schools to identify potential challenges before full deployment.
CUSTOMIZATION
Tailor the system to meet specific school needs, such as unique academic tracks or grade structures. This ensures relevance and enhances user satisfaction.
INTEGRATION WITH EXISTING SYSTEMS
Ensure compatibility with existing educational systems (e.g., grading platforms or attendance tracking systems) to streamline workflows and avoid redundancy.
CONTINUOUS FEEDBACK MECHANISM
Establish channels for users to provide feedback on system functionality. Regularly review this feedback to make improvements that align with user expectations
PROMOTING BENEFITS
Highlight the advantages of SRACAS, such as improved productivity, streamlined processes, and enhanced administrative efficiency. This aligns with findings that users perceive SRACAS as highly beneficial for their roles.
MONITORING AND EVALUATION
Regularly monitor system usage metrics and evaluate its impact on school operations. Use these insights to refine functionalities and ensure long-term sustainability.

CONCLUSION

The following conclusions were drawn based on the findings of the study:

1. The system includes features such as System Overview and Navigation, Student and Enrollment Management, Academic Setup and Configuration, and Reporting and Data Export. These functionalities streamline administrative tasks through dedicated pages like the Home Page, Student Management Page, and Enroll Student Page. By integrating these features, the system enhances operational efficiency and supports more effective school management processes.
2. The results indicate that the SRACAS has very high acceptability to users who find it effective, intuitive, and enjoyable. Many are willing to recommend and continue using the system.
3. Ensuring long-term success in technology initiatives requires strategies such as phased rollouts, continuous iteration, seamless system integration, ongoing user feedback, and regular performance monitoring.

REFERENCES

- Embodo, M. Z. (2025). E-learning user satisfaction: A survey for the higher education Institution's web domain using a user experience questionnaire. *Journal of Information Systems Engineering and Management*, 10(32s), 555-567.
<https://doi.org/10.52783/jisem.v10i32s.5337>
- Eustaquio, J.Z., & Nisperos, Z.A.V. (2023). *A Web-Based Student Registration System with Decision Support Capability*. International Journal of Engineering Research in Computer Science & Engineering.
- Falolo, V.M., Capillas, K.T., Vergarra, N.A., & Cerbito, A.F. (2022). *Student Registration and Records Management Services towards Digitization*. International Journal of Educational Management and Development Studies, 3(1), 149–165. DOI: <https://doi.org/10.53378/352867>
- Getenet, S., Cante, R., Redmond, P., & Albion, P. (2024). Students' digital technology attitude, literacy and self-efficacy and their effect on online learning engagement. *International Journal of Educational Technology in Higher Education*, 21(1). <https://doi.org/10.1186/s41239-023-00437-y>
- Kwan, A., Chan, C., & Wong, H. (2020). Optimizing Class Assignments Using Student Information Systems: An Empirical Study. International Journal of Educational Management.
- Mabera, L., Nkhata, M., & Chikoko, V. (2020). Data-Driven Decision Making in Education: The Case for Automated Class Assignments. Journal of Education Policy.
- MECS Press (2022). *Integrated Educational Management Systems: Challenges & Solutions*. International Journal of Information Engineering & Electronic Business.
- Yemisi, B., Olajumoke, A., & Gabriel, A. (2021). Influence of records management practices on administrative effectiveness in public secondary schools in Lagos state, Nigeria. *International Journal of Development Strategies in Humanities, Management and Social Sciences*, 11(1), 13-29.
<https://doi.org/10.48028/iiprds/ijdshmss.v11.i1>