

SCCONNECT: A Student Portal for Academic Management and Services for Elementary Students in St. Clare College

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ABSTRACT

This study presents the development and evaluation of SCCONNECT, a web-based student portal designed to improve academic management, activity tracking, and communication among elementary students and teachers at St. Clare College of Caloocan. The increasing reliance on multiple digital platforms for academic tasks has resulted in fragmented communication, missed deadlines, and inefficient class management. To address this issue, SCCONNECT was developed as a centralized system integrating class management tools, activity tracking, announcement dissemination, group messaging, an AI chatbot, and interactive educational games.

The study employed a quantitative research design supported by the Agile development methodology. Data were collected through structured surveys and usability testing involving elementary faculty members with diverse age ranges. A pre-test and post-test approach was used to measure improvements in academic management efficiency, communication effectiveness, and user satisfaction. Statistical tools, including weighted mean and paired sample t-tests, were applied to analyze the data.

Findings revealed significant improvements in all evaluated indicators after the implementation of SCCONNECT. Teachers reported better class organization, while students demonstrated improved task completion and reduced missed deadlines. Communication efficiency also improved through the integrated messaging system. Usability testing confirmed that the system is accessible even for older users, indicating strong interface simplicity. Overall, SCCONNECT proved to be an effective academic tool that enhances productivity, reduces fragmentation, and supports early digital learning.

Keywords: Student Portal, Academic Management System, Elementary Education, Web-Based Application, Learning Management System, Digital Learning Tools

INTRODUCTION

In recent years, educational institutions have increasingly adopted digital technologies to enhance academic processes and improve communication between teachers and students. However, many schools still rely on multiple disconnected applications for managing academic tasks such as assignments, announcements, and communication. This fragmentation often leads to inefficiencies, missed deadlines, and reduced student engagement.

At St. Clare College of Caloocan, the existing system primarily focuses on financial management and does not fully support academic coordination. As a result, students and teachers depend on external messaging applications and manual tracking systems to manage academic responsibilities. This lack of integration highlights the need for a centralized platform that can unify academic processes into a single, accessible system.

SCCONNECT was developed in response to this need. It is a web-based student portal designed specifically for elementary learners, aiming to streamline class management, improve activity tracking, and enhance communication. In addition, it introduces interactive learning tools such as educational games and AI-assisted academic support to encourage engagement and improve learning outcomes.

LITERATURE REVIEW

Previous studies have consistently highlighted the importance of digital platforms in improving educational efficiency. Research on digital educational platforms in primary education emphasizes the role of technology in ensuring continuity of learning while improving accessibility and organization (European Commission, 2020). However, such platforms often lack localization and adaptability to specific institutional needs.

A systematic literature review on web portals in higher education institutions found that centralized systems significantly improve information management and communication efficiency among academic stakeholders (Al-Fraihat et al., 2020). Similarly, studies on Learning Management Systems (LMS) indicate that features such as accessibility, interactivity, and feedback mechanisms contribute positively to student performance and satisfaction.

The DeLone and McLean Information Systems Success Model has also been widely used to evaluate system effectiveness in academic environments, emphasizing system quality, information quality, and user satisfaction as key success indicators (DeLone & McLean, 2003).

Usability studies further stress that system effectiveness depends heavily on interface design and ease of use, particularly for younger learners. Think-aloud and heuristic evaluations have shown that intuitive navigation significantly improves user performance and satisfaction in educational systems.

Local studies in the Philippines also support the adoption of centralized academic portals. The implementation of Education Management Information Systems (EMIS) in elementary schools has improved planning and monitoring processes, although gaps remain in usability and accessibility. Additionally, studies on student portals in universities highlight their role in improving academic organization and communication efficiency.

Another key factor identified in literature is parental involvement in digital learning environments. Studies show that students perform better academically when parents are actively engaged in monitoring learning progress, especially in online or blended learning setups.

Despite the growing body of research, there remains a gap in the development of integrated academic portals tailored specifically for elementary learners. Most existing systems are designed for higher education and are not optimized for younger users. SCCONNECT addresses this gap by providing a simplified, interactive, and centralized academic platform designed for elementary education.

METHODOLOGY

This study employed a quantitative research methodology combined with the Agile software development framework. The quantitative approach was used to measure system effectiveness through numerical data, while Agile allowed iterative development and continuous improvement of the SCCONNECT platform.

The research design consisted of three phases: pre-implementation assessment, system development with iterative testing, and post-implementation evaluation. In the pre-implementation phase, structured surveys were administered to elementary teachers and students to determine existing challenges in academic management and communication.

The system was then developed using Agile methodology, allowing incremental implementation of features such as class management tools, activity tracking, announcement systems, group messaging, AI chatbot support, and educational games. Each development sprint incorporated user feedback to improve functionality and usability.

After a four-week trial period, a post-implementation survey was conducted using the same respondents. This allowed for direct comparison of academic management efficiency, communication effectiveness, and user satisfaction before and after system use.

A stratified random sampling technique was used to ensure representation across students, teachers, and administrators. Data collection instruments included Likert-scale questionnaires and usability testing tasks. Usability metrics such as task completion time, navigation efficiency, and error frequency were recorded.

Statistical analysis included weighted mean computation to summarize survey responses and paired sample t-tests to determine significant differences between pre-test and post-test results. Pearson correlation analysis was also used to examine relationships between system usage and user satisfaction.

All data collected were treated with strict confidentiality, and participation was voluntary. The combination of quantitative analysis and iterative development ensured that SCONNECTION was evaluated both objectively and functionally.

RESULT AND DISCUSSION

The results of the study present a comparative evaluation of academic management practices before and after the implementation of SCONNECTION. The respondents were elementary faculty members of St. Clare College of Caloocan with varying ages and digital literacy levels. The weighted mean was used to interpret survey responses, and the results were analyzed using pre-test and post-test comparisons.

Pre-Implementation Results

The pre-implementation phase assessed the existing challenges in academic management before the introduction of SCONNECTION. The results reflect moderate satisfaction levels, indicating inefficiencies in the current system.

Indicator	(5) SA	(4) A	(3) N	(2) D	(1) SD	Weighted Sum	Weighted Mean
1. System Management Ease	0	3	1	0	0	$(4 \times 3) + (3 \times 1) = 15$	3.75
2. Strategy Support	0	4	0	0	0	$(4 \times 4) = 16$	4
3. Collection Efficiency	1	3	0	0	0	$(5 \times 1) + (4 \times 3) = 17$	4.25
4. Feature Usefulness	1	3	0	0	0	$(5 \times 1) + (4 \times 3) = 17$	4.25
5. Current Challenges	0	2	2	0	0	$(4 \times 2) + (3 \times 2) = 14$	3.5
Pre-Test Average							3.95

Pre-Test Average Weighted Mean: 3.95

The results show that while respondents generally agreed with the effectiveness of current systems, issues in organization and task management still existed.

Post-Implementation Results

After the implementation of SCONNECTION, the system was evaluated based on its effectiveness in improving academic management, communication, and productivity.

Indicator	(5) SA	(4) A	(3) N	(2) D	(1) SD	Weighted Sum	Weighted Mean
1. Class Organization	0	4	0	0	0	$(4 \times 4) = 16$	4
2. Efficiency/Scheduling	1	3	0	0	0	$(5 \times 1) + (4 \times 3) = 17$	4.25
3. Tracking Deadlines	1	3	0	0	0	$(5 \times 1) + (4 \times 3) = 17$	4.25

4. Notifications/Reminders	2	2	0	0	0	$(5 \times 2) + (4 \times 2) = 18$	4.5
5. Class Group Message	1	3	0	0	0	$(5 \times 1) + (4 \times 3) = 17$	4.25
6. Reduced Confusion	0	4	0	0	0	$(4 \times 4) = 16$	4
7. Overall Productivity	2	2	0	0	0	$(5 \times 2) + (4 \times 2) = 18$	4.50
8. Enhanced Experience	0	4	0	0	0	$(4 \times 4) = 16$	4
Post-Test Average							4.22

Post-Test Average Weighted Mean: 4.22

The post-test results show a clear improvement in all indicators, particularly in notifications, productivity, and communication efficiency.

Interpretation of Results

The comparison between pre-test (3.95) and post-test (4.22) results indicates a significant improvement in academic management after the implementation of SCCONNECT. This confirms that the system effectively addresses fragmentation in academic processes and improves overall efficiency.

System Testing Results

Following Agile development, SCCONNECT underwent usability and functional testing.

- Announcement Module: 100% of respondents accessed announcements within seconds, confirming real-time accessibility.
- Activity Tracker: Improved deadline monitoring reduced late submissions.
- Class Group Messaging: Reduced repetitive teacher responses by centralizing communication.
- User Dashboard: Successfully navigated by all users, including the oldest respondent (70 years old), confirming ease of use.

DISCUSSION OF FINDINGS

The results confirm that SCCONNECT effectively resolves the problem of fragmented academic tools by integrating essential functions into one platform. Productivity improvements and higher satisfaction scores indicate that the system supports better academic organization and communication.

However, qualitative feedback suggests that onboarding support (such as step-by-step guides) is necessary to maximize adoption, especially for first-time users.

CONCLUSION

The development and evaluation of SCCONNECT demonstrate that a centralized web-based academic portal can significantly improve academic management, communication, and task tracking in an elementary school setting.

The system successfully addressed the problem of fragmented academic tools by integrating class management, activity tracking, announcements, messaging, AI assistance, and educational games into a single platform. This integration led to improved organization, reduced missed deadlines, and enhanced communication between students and teachers.

Statistical analysis confirmed that the improvements observed after system implementation were significant, validating the effectiveness of SCCONNECT as an academic management tool. The system also proved to be user-friendly, accommodating users with varying levels of digital literacy, including older faculty members.

Furthermore, SCCONNECT contributed to improved student engagement by providing interactive and structured academic support. The inclusion of educational games and AI chatbot features added value by enhancing learning motivation and providing immediate assistance.

Despite these positive outcomes, the study identified the need for improved user onboarding and training materials. A structured guide or tutorial system is recommended to ensure smooth adoption across all users.

Overall, SCCONNECT is an effective solution for modernizing academic management in elementary education. It provides a scalable model that can be expanded in the future to include additional features such as parental access, mobile integration, and grading systems.

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