SCHOOLOGY IN THE EYES OF SAMPOERNA UNIVERSITY STUDENTS

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Abstract

The utilization of technology in postsecondary education is inevitable. The 21st-century education requires college students to actively collaborate with other learners yet engage with technology to create a more attractive and effective learning environment. Schoology is one of the platforms that enable users to create, manage, and share learning materials. Thus, this paper discusses the utilization of Schoology in Sampoerna University, which focuses on identifying (1) the way Schoology supports Sampoerna University students in achieving the learning goals, (2) the features of Learning Management System that bring positive impacts to the students, and (3) the viable improvements in the Schoology's features to boost student performance and stimulate collaboration. The study employs a quantitative method, which gathers the response from direct users to answer the research questions. Based on the results of the survey conducted to Sampoerna University students, Schoology is still a preferable online learning platform. However, Schoology developers should inevitably carry out continuous improvements to provide the optimum learning experience for Sampoerna University students.

Keywords

Schoology, Technology, Learning Management System, Online Learning Platform, Sampoerna University

1. Introduction

1.1 Problem Background

The postsecondary education sector continues to change. In the era of 21st-century education, university students are expected to collaborate with other learners actively yet adapt to technological advancement to experience a more exciting yet engaging learning atmosphere. Collaboration is an "active, social, and contextual" learning approach that encourages students to respond and solve a particular problem collectively. Collaborative learning helps students to develop their interpersonal skills, effective communication, and higher-level thinking. Moreover, students are exposed and strongly encouraged to recognize and evaluate different views and perspectives from their peers. It helps them to prepare and face a "real-life social and employment situations" (Cornell University, 2019).

Technology also plays an essential role in education these days.It has evolved a traditional classroom into a learning environment incorporated with technology(Lai & Lee, 2019). However, it is not as simple as merely adding new technology to the existing learning method. Instead, technology must be utilized strategically and optimally to the advantage of the students. The advancement of technology empowers the process, platform, and dissemination of learning resources. It also provides a medium for exchanging information and ideas between students and lecturers that helps them to collaborate online.

Collaboration and technology promote the implementation of e-learning, which refers to the education process and learning system that intentionally seek benefits from the utilization of information and communications technology in learning and teaching activities. Students can access learning resources online instead of carrying textbooks and bundles of papers around. They can submit their work and assignments electronically to the lecturer. They can also share their opinions and argumentation to a particular topic with their classmates online. Thus, there should be a platform that can organize and manage their learning resources, facilitate their work submission, and provide a medium for online discussion. It can be manifested in the form of a Learning Management System (LMS).

Sampoerna University, as one of the "Indonesia's premier international universities," realizes that information and communication technology is essential in helping students to acquire knowledge and

achieve their learning goals (Sampoerna University, 2019). Therefore, Sampoerna University partners with Schoology, one of the leading Learning Management Systems based in the United States, to support their students. Sampoerna University students have been using and experiencing the benefits and drawbacks of this online learning platform by themselves. Sampoerna University students can easily organize their learning resources through this platform. They can structurally categorize documents, videos, links, and other learning resources based on their courses, chapters, and time.It puts the students at ease in storing and locating their learning materials. Moreover, Schoologyhelps Sampoerna University students to monitor their learning progress and results. Itapplies a "check-list" system that allows users to classify which learning resources have been comprehended and quizzes have been performed. It also helps them to distinguish which ones have to be completed. Another critical point is that they can access the platform anytime and anywhere through their mobile devices.

On the other hand, Sampoerna University students experiencekinds of struggle in running an online class discussion, receiving feedback from lecturers, and navigating the Schoology platform. The flow of online class discussion through Schoology is a bit fraught as students cannot promptly follow up on their classmates' opinions. The available feature is not seamlessly allowing lecturers to moderate the discussion. The system is also not letting the lecturers give feedback on an individual question in the quiz. Furthermore, students encounter a problem when it comes to accessing and using Schoology.They found it challenging to navigate the platform in the beginning as they had to spend time in finding the location of certain features and resources. Therefore, this research will evaluate the effectiveness of Schoology in the eyes of Sampoerna University students to captivate Sampoerna University students' opinions and perspectives towards the utilization of Schoology as an online learning platform, identify the loophole of Schoology's features, and provide suggestions and recommendations for Schoology's further improvements.

1.2 Research Questions

1. To what extent does Schoology support Sampoerna University students in achieving their learning goals?

2. What are the features of the Learning Management System that bring positive impacts to Sampoerna University students?

3. What viable improvement in the Schoology's features that can be carried out to boost student performance and stimulate better collaboration?

2. Literature Review

2.1 Learning Management System

Hundreds of online learning platforms exist in the market at the moment. They are competing to provide better solutions for existing users and potential users through numerous features and functions. Those platforms are often entitled as Learning Management System (LMS). It comes in the form of a web-based platform designed to plan and distribute learning resources yet evaluate the learning process (Ayub, Tarmizi, Jaafar, Ali, & Luan, 2010). It technically integrates different electronic learning tools through a shared administrative interface (Nichols, 2003). Some academic institutions have fostered the adoption of the Learning Management System in response to the rigorous requirements that promote a faster and flexible education and enhance pedagogical quality (Avgeriou, Papasalouros, Retalis, & Skordalakis, 2003). It helps students and teachers to manage and administer the educational courses. This software system can significantly support the management of face-to-face classroom (Simonson, 2007). Thus, the adoption of the Learning Management System is necessary to support the learning process as it becomes the backbone of numerous educational institutions.

Learning Management System (LMS) is an online learning platform that helps users to plan and enforce the learning process.This cloud-based or server-based software system comprises synchronous and asynchronous communication functions, which encloses "the repository storage of documents and content"and digital media and interactive tools, including online courses, virtual live sessions, chats and video meetings, and discussion boards (McCormack & Jones, 1997). It allows users to manage their learning resources, track their learning progress and outcomes, and collaborate with other users.Three categories are made to classify LMS users: learners, instructors, and administrators (Avgeriou, Papasalouros, Retalis, & Skordalakis, 2003). LMS is designed to help students with their academic learning and participation; thus, the learners are deemed to be the end-users of the platform. The instructors refer to educators and teachers who facilitate the online learning process by employing the system to share, educate, oversee, and appraise learners. The administrators are the ones who provide technical support to end-users yet maintain and upgrade the system.Hence, the Learning Management System involves many stakeholders in the utilization and development of the system.

Key characteristics that LMS should possess are described below.

- All-in-one Platform

    LMS helps users to consolidate the learning process through a single platform. The users should have access to all functions that they need to support their learning activities in one place, be it

learning resource access, discussion board, work submission, or other related features. It makes the users at ease to get their learning process run well (Kasim & Khalid, 2016).

- Accessibility

    LMS helps users to stay connected with their learning resources anytime and anywhere regarding its configuration as an online learning platform. It enables users to do mobile learning as long as they have an internet connection and mobile device in their pocket. Valk, Rashid, and Elder mentioned it as a "greater opportunity for timing, location, accessibility, and context of learning" (Valk, Rashid, & Elder, 2010).

- Compatibility

    These days, students are more exposed to different learning formats as types of learning resources vary concerning the development of technology. A textbook is no longer the only resource that students can use to acquire knowledge (Sicat, 2015). Therefore, LMS should be compatible with various formats for the sake of fulfilling users' needs, be it a document, video, animation, graphics, or podcast.

- Ease of Use

    Intuitive and user-friendly are the keys to better user experience. LMS developers should ensure that their platform is easy to learn and easy to use (Iqbal & Qureshi, 2011). The interface should be able to automatically resize concerning the different screen sizes between a computer screen and mobile phone screen where the users are accessing the application on, especially for the mobile platform. Designing for touch is necessarily vital since users are using their fingers to navigate the platform instead of using a mouse.

Even though the adoption of LMS transforms the way of learning, users may face some challenges in utilizing the system. Sicilia (2007) believes that users encountered problems that might never exist before (Sicilia, 2007). It is fundamentally due to the revolution of the learning process that gradually substitutes traditional classrooms with blended or online learning classrooms. Some challenges that may arise are an internet connection issue, users' IT skills, IT costs, availability of online resources, and teacher's roles. The utilization of LMS inevitably requires an internet connection. In reality, not all users have access to the internet connection as the quality of the network varies based upon the location and network infrastructure available. Users may also experience difficulty in using LMS if they are not capable of or have no experience in operating a computer and getting into the platform. High IT costs to adopt the system may become a critical problem for an academic institution

that has a low budget in developing the online learning system.Moreover, not all learning resources can be converted into a digital version, which may hamper the optimization of LMS function in managing and distributing the learning materials. Another critical point is that students may still be strongly dependent on their teachers as the center of learning, whereas LMS is designed to promote active learning and collaboration.Therefore, it is essential to understand and gain insights into the socio-technical factors which could enable or obstruct the utilization of LMS before the adoption of the system.

2.2 Schoology

Schoology is an online learning platform that serves as the Learning Management System (LMS). This platform is mainly designed for students and teachers to share and access learning resources. It allows students to learn from wide-ranging learning materials developed by the lecturer yet offers learning modalities to the students, either "classroom, semi-presence, distance or online." It gives them "more enriching and personalized learning experiences" (Garcia, Amat, Garcia, & Colomina, 2018). Schoology provides instructors a wide variety of resources and functionality that may boost students' learning experience. It offers dynamic educational support and instruction that are mostly adjustable for meeting learners' and instructors' needs. Moreover, it serves as a collaborative tool that promotes interactions among classmates and with the lecturer. Students and lecturers can collaborate and exchange ideas and perspectives on specific issues through this platform. It encourages learners to work together to gain better outcomes.

Features available on the Schoology include:

- *Learning Resources Access*: It functions to store and track documents, videos, and images used for learning resources.
- *Work Submission*: Lecturers can use Schoology as a platform to collect students' work and assignments.
- *Quiz*: Lecturers can hold quiz through Schoology by storing question bank to the system and set the deadline and regulations.
- *Discussion Board*: It serves as the medium for Schoology users to discuss and exchange opinions.
- *Calendar*: It displays the calendar of events that have been posted by the lectures and the students.

- *Grades*: Schoology users can view their progress and results of their learning activities through this feature.

- *Attendance*: It shows the attendance of each student that can be divided into three categories: Absent, Late, and Excused.

Schoology goes beyond the typical Learning Management System. It combines e-learning and social networking (Garcia, Amat, Garcia, & Colomina, 2018). Gonzalez (2014) adds that Schoology may significantly contribute to the high involvement of students in their schooling, thanks to Schoology's "social-media-like-style."(Gonzalez, 2014). It is thus particularly user-friendly for students as they are familiar with social media. Moreover, it adopts an advanced Application Programming Interface (API) that helps instructors to focus on developing an effective teaching process. Biswas (2013) claims that it puts less burden on instructors in carrying out administrative tasks (Biswas, 2013). Not to mention, it concentrates on the elements of connectivity and mobility, which allows both learners and instructors to stay connected beyond time and place. Schoology becomes a useful tool to supplement traditional classroom or blended learning methods. It is thus deemed to be a promising educational tool for encountering existing and potential challenges of teaching and learning in the 21st century (Biswas, 2013).

Schoology promotes a comprehensive partnership and collaboration between platform developers and academic institutions. The process of development and integration of Schoology into the educational system aims to connect the academic community with the technology-supported educational environment.Not only boosts teaching efficiency, but Schoology also shapes students' way of thinking and learning for the diverse community needs(Lankshear & Knobel, 2011).It catalyzes the effectiveness of teaching and learning at any level of any educational setting. All stakeholders hold a strong groundwork to connect and collaborate as this mutual relationship may help encounter challenges and reducethe technology gap.

3. Methodology

This study is exercised under the quantitative method, which accentuates the objective measurements. According to the University of Southern California (2019), this method gathers statistical, numerical, or mathematical analysis of data and "generalizes it across groups of people to explain a particular phenomenon" (University of Southern California, 2019). Under the quantitative method, data are collected by utilizing structured research tools such as questionnaires and polls to

acquire quantifiable data. The data are gathered from a target sample that represents the entire population. The data collected are usually presented in the form of numbers and then organized in charts, tables, graphs, or other non-textual forms to ease the analyzing process.

This study is centered on the significance of Schoology in helping Sampoerna University students to achieve their learning goals. Therefore, this research generally focuses on the users of Schoology, which specifically targets the students of Sampoerna University, who have ever used this online learning platform. Fifty Sampoerna University students from four cohorts and three faculties are the samples to represent the entire population of the university.

**Table 1:** *Profile of Respondents*

Profile	Categories	Frequency	Percentage
Faculty	Faculty of Business	19	38%
	Faculty of Education	9	18%
	Faculty of Engineering and Technology	22	44%
	Total	**50**	**100%**
Cohort	2015	3	6%
	2016	17	34%
	2017	11	22%
	2018	19	38%
	Total	**50**	**100%**

Data are collected by adopting the quantitative method and utilizing online questionnaires such as Google Form. The online survey is preferable due to its key features such as ease of data gathering, minimal costs, automation in data input and handling, the flexibility of design, speedy result, scalability, users' anonymity, and no time constraint(Gupta, 2018). The online questionnaire used in this quantitative research consists of 19 questions that pinpoint the respondents' characteristics and three elements of Schoology that indicate its level of effectiveness as an online learning platform.Respondents' characteristics encompass two aspects, which are demography and their exposure towards Schoology. Three questions are asking for respondents' demography that includes name, faculty, and cohort. Three questions are asking for respondents' exposure towards this online learning platform, which comprises the intention of use.Moreover, data that point out the level of effectiveness of Schoology are collected by weighing three significant elements such as accessibility, features, and user experience. There are 13 questions related to these three elements.

4. Findings and Discussion

4.1 How Schoology Supports Sampoerna University Students in the Learning Process

How Schoology Supports Sampoerna University Students in the Learning Process
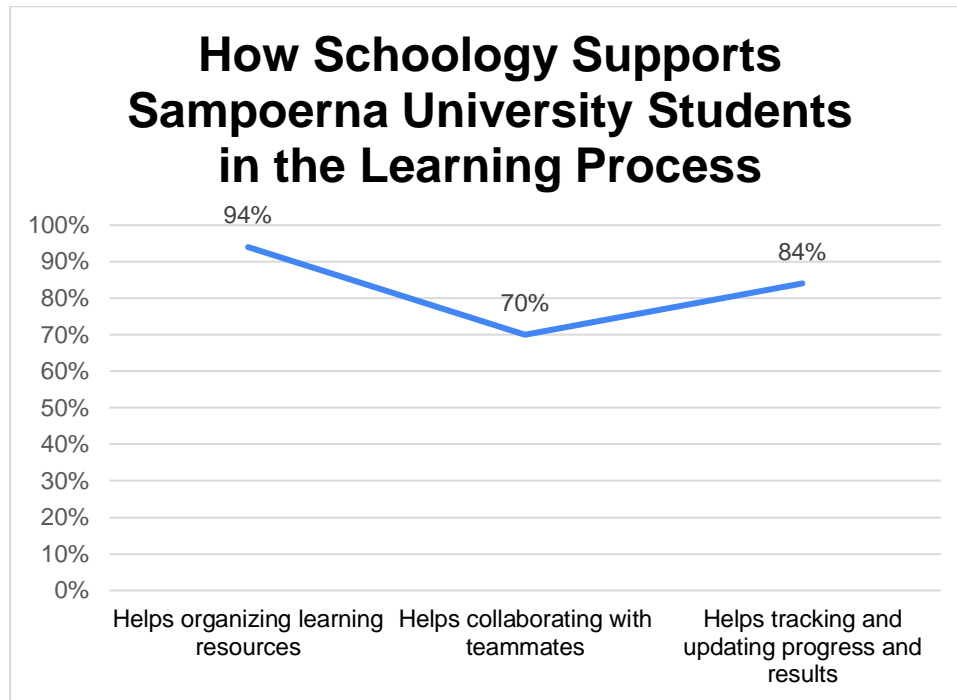
Figure 1: *The Support that Schoology Provides to Sampoerna University Students*

Most respondents give a positive response when it comes to the Schoology's function as the organizer of their learning resources. Based on the result of the survey, 94% of respondents give a positive response as Schoology supports their learning process by helping them to manage their learning resources. Documents, links, videos, and other learning resources can be structurally classified based on the courses, chapters, and time. This finding is supported by a research conducted by Schoonenboom (2014) that Learning Management System like Schoology makes academic content professionally structured(Schoonenboom, 2014). It makes the process of storing and locating learning materials much more comfortable.

Moreover, Schoology enforces the learning process of Sampoerna University students by providing them with a digital medium to discuss and collaborate with other students. It is reflected in the survey, as 70 % of respondents give a positive response to this statement. Lecturers can invite students to discuss by formulating questions that require students to express their ideas and thoughts by making a post through a discussion board. Discussions can also take place in smaller groups that encourage students to collaborate and solve the questions together. However, some respondents said that the flow of discussion through Schoology does not let them to promptly follow up their classmates' opinions

since ideas are conveyed in the form of posts instead of online chat. It also makes it hard for lecturers to moderate the discussion.

The results of the survey also show that 84% of respondents give a positive response to the statement that Schoology helps Sampoerna University students to keep track of their learning progress and results. This online learning platform adopts a "check-list" system that allows users to identify which learning resources and quizzes have been completed and which ones have to be completed. Students can also check their attendance to ensure that they meet the minimum requirement of 75%. Besides, it provides a grading menu that displays the results of their assignments, quizzes, and class participation. The existence of an online learning platform can help ease the evaluation process towards students' work (Fukunaga, Sasaki, & Hanis, 2019). Through Schoology, lecturers can put some comments and feedback on students' work. By doing so, students can identify their pain points and re-work to achieve better results in the future. However, the system does not let the lecturers give feedback on an individual question in the quiz. Further improvement should be carried out to optimize the feedback feature.

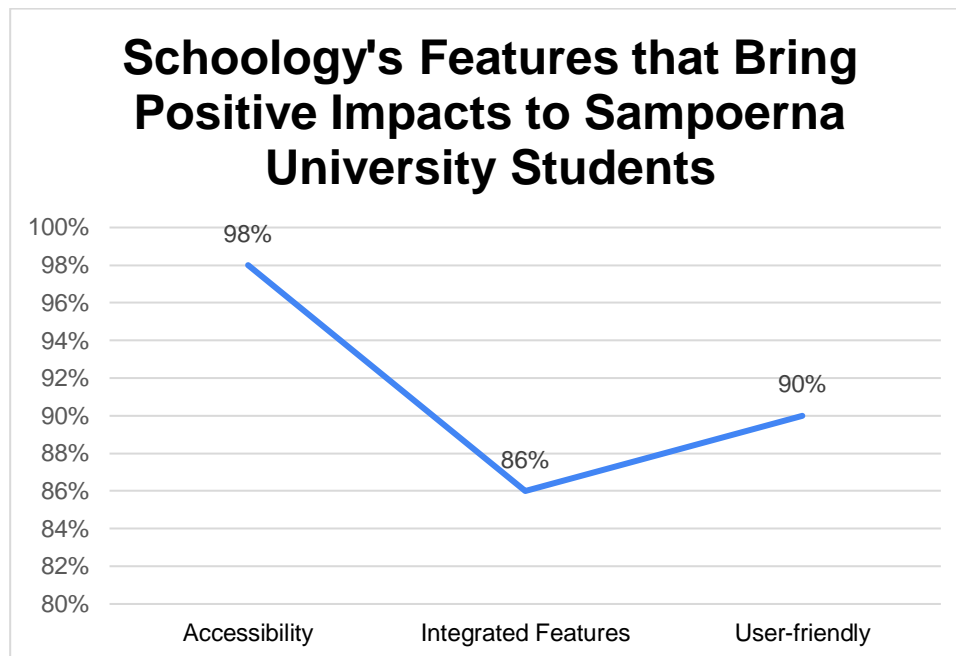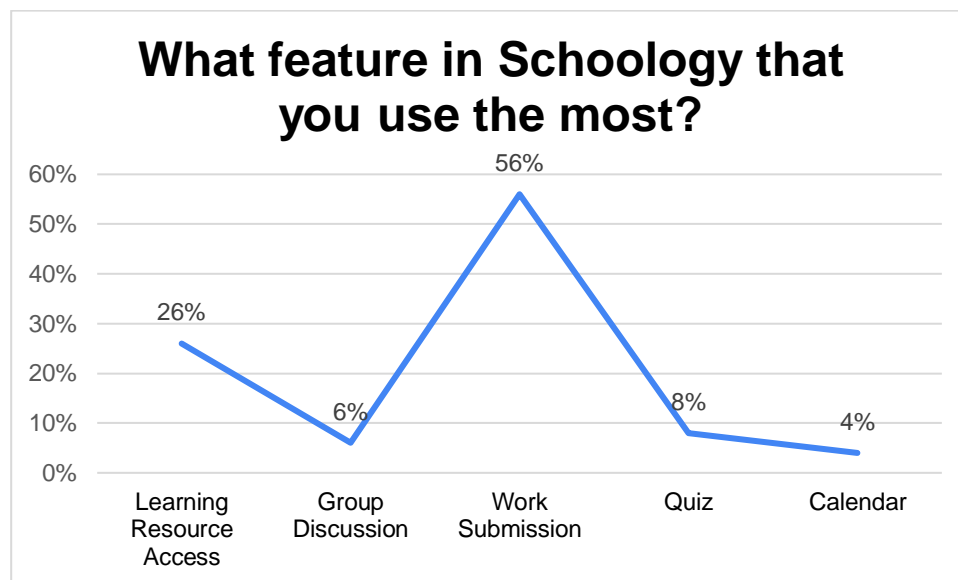**4.2 The Features of Learning Management System that Bring Positive Impacts to Sampoerna University Students**

Figure 2: *Schoology's Features that Bring Positive Impacts to Sampoerna University Students*
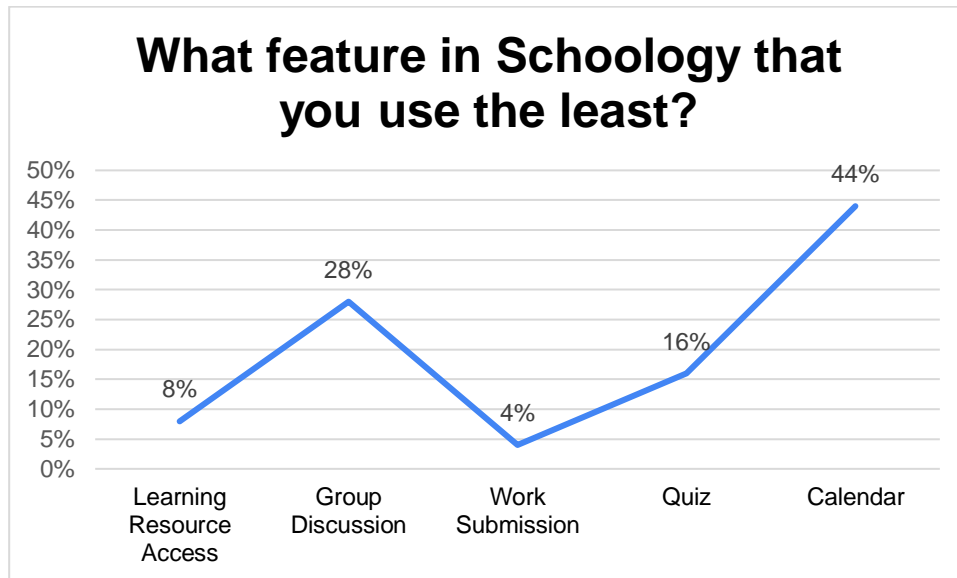
All respondents of the survey believe that Learning Management System should be accessible anytime and anywhere. When they were asked whether Schoology is accessible, 98% of respondents give a positive response that Schoology is accessible anytime and anywhere. Students can access the

content from any device, be it a mobile phone or personal computer. Schoology also makes the content 24/7 available, no matter what time the users are online. Moreover, students cancomplete assignments or quizzes yet engage with their learning resources everywhere, whether at home, in class, in a coffee shop, or public transportation, as long as they are connected with the internet.

Most respondents agree that Learning Management System should have integrated features. By integrating all functions into one single platform, it puts the users at ease in enforcing the learning process. Five significant features of Schoology discussed in this paper include Learning Resource, Work Submission, Quiz, Discussion Board, and Calendar. Based on the survey, Work Submission is Sampoerna University students' most frequently used feature on Schoology, followed by Learning Resource Access in the second position. Conversely, the Calendar and Discussion Board are the least used features. 86% of the respondents view Schoology as an integrated learning platform. However, 14% of respondents give a negative response to the statement that Schoology has integrated features. Those respondents revealed that they found it uneasy about uploading the documents because their Schoology account does not integrate with their Google Drive. Moreover, some respondents are currently using Cengage to administer one of their courses. They suggest that integration between Schoology and Cengage puts them at ease to manage their learning resources and stay updated with their grades.

Figure 3: *Schoology's Features that Sampoerna University Students use the Most*

Figure 4: *Schoology's Features that Sampoerna University Students Use the Least*

All respondents of the survey believe that Learning Management System should be user-friendly. It can be observed when the students and lecturers try to use the platform for the first time. A user-friendly platform puts its users at ease even though they are not knowledgeable or have no experience in using it before. The user interface is also crucial as it relates to how easy the users navigating the platform(Galitz, 2007). It should display a well-organized layout yet free of clutter so that the users can seamlessly access the learning resources and utilize the features instead of stumbling through a disorganized dashboard with unnecessary graphics. Based on the results of the survey, most of the respondents agree that Schoology is user-friendly platforms, with the specific figures of 90% give a positive response. However, when the respondents were asked about the problem they ever encountered when it comes to accessing and using Schoology, 20 respondents admit that the utilization of access code makes it complicated to join courses. Seven respondents found it challenging to navigate the platform in the beginning. The most common problem is that they could not easily find the location of certain features and resources, which requires them to search for minutes on end.
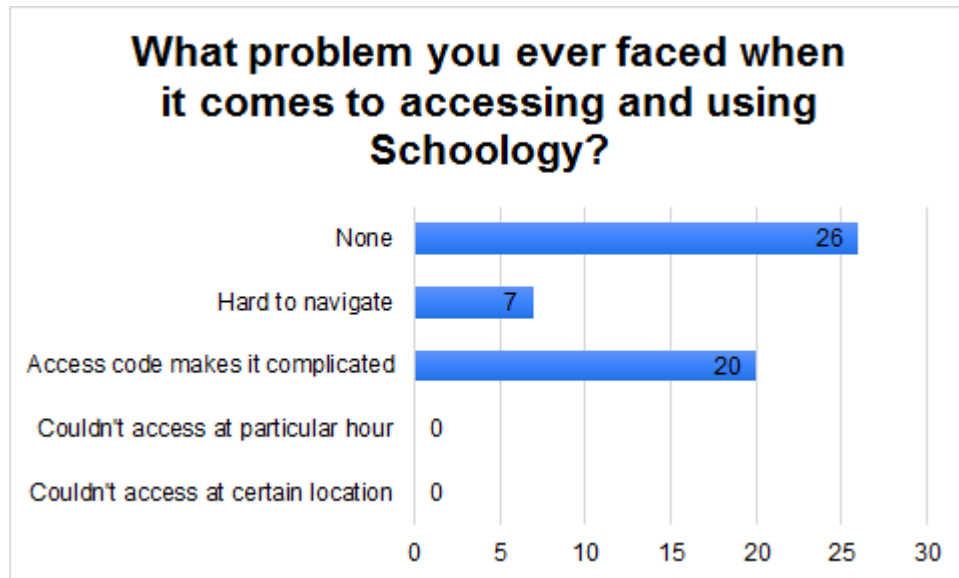
Figure 5: *Problems that Sampoerna University Students Ever Faced*

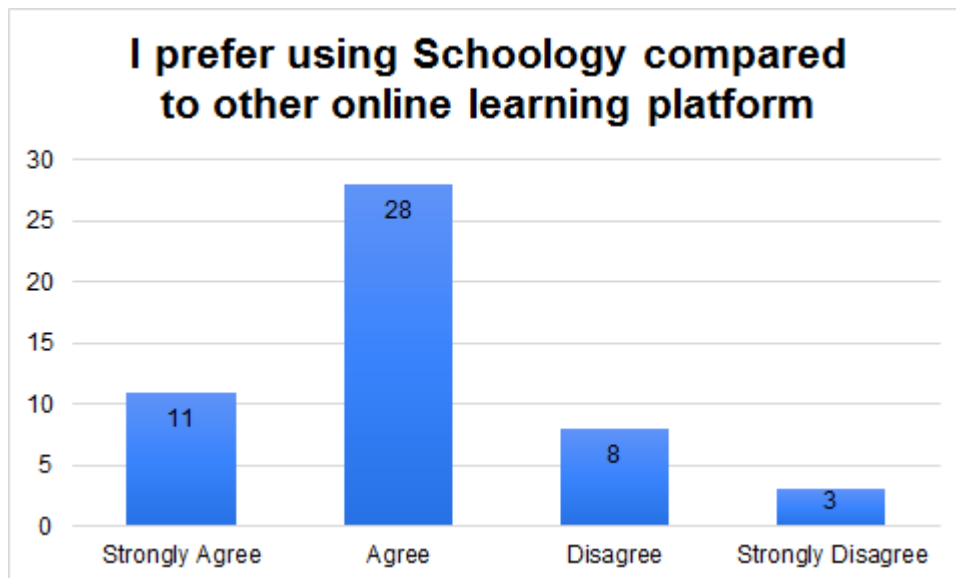## 4.3 Viable Improvements in the Schoology's Features

Figure 6: *Preference in Using Schoology Compared to Other Platforms*

Based on the results of the survey conducted to Sampoerna University students, Schoology is still a preferable online learning platform. 22% of respondents strongly agree, and 56% agree to keep using Schoology instead of other platforms. However, improvement should be carried out to optimize the learning experience of Sampoerna University students. It includes the need for online chat, feedback on individual questions for Quiz, integration with other platforms, the procedure to join courses, and navigation.

The existence of the Discussion Board in the Schoology enables students and lecturers to engage with one another online, discuss specific issues, and collaborate to solve problems together. However, the flow of discussion through the discussion board doesn't let the students to promptly follow up their classmates' opinions since ideas are conveyed in the form of posts. It also makes it hard for lecturers to moderate the discussion. Conversely, discussion through online chatting enables users to exchange ideas on specific issues synchronously to bolster collaboration among the students and lecturers. Students feel reassured that their lecturer is online and can give them constructive feedback and insight throughout the discussion, while lecturers think that it "cultivates desired camaraderie among students(Vesely, Bloom, & Sherlock, 2007). Therefore, it is recommended for Schoology developers to add the online chat feature to their platform, which offers a more seamless and interactive discussion between classmates and lecturers. The idea to create this feature itself is supported by 28 respondents based on the survey results.

Feedback feature is available on Schoology, which allows the lecturers to provide some comments and suggestions on the course work submitted by the students. Eraut (2006) suggests that "When students enter higher education . . . the type of feedback they then receive, intentionally or unintentionally, will play an important part in shaping their learning futures"(Eraut, 2006). Thus, this feature is essential to enforce students' improvement and progress in learning. Lecturers can give general feedback on the Quiz for each student. However, the feedback feature for an individual question is not on hand yet. Lecturers are not able to leave any comments on each answer their students are giving on the quiz. On the grounds, it is recommended for Schoology developers to create the feedback feature for the individual question as it helps the students to learn from their mistakes. Twenty-seven respondents wish to have this feature on Schoology.

Schoology provides useful features to support students in learning, including learning resource access and work submission. Students can download the academic content and store it to Google Drive. They can also upload a file from Google Drive to be submitted to the lecturer through Schoology. Some respondents said that it is quite a time consuming to download the file from Google Drive and then upload it to Schoology yet vice versa. Furthermore, some respondents are currently using Cengage to administer one of their courses. Thus, they are opening two online learning platforms at the same time. Thirty-seven respondents believe that integration with other platforms significantly helps them to organize their learning resources and keep updated with their grades on a single platform. Therefore, it is recommended for Schoology developers to integrate Schoology with other commonly used platforms such as Google Drive and Cengage for the sake of effectiveness and efficiency.

Schoology facilitates the arrangement of learning resources by courses. Lecturers create the course on the platform beforehand and share the access code to the students. The access code is used to enroll the learning course to gain access to all contents provided by the lecturer. However, 20 respondents suggest that access code makes the process of course enrollment uneasy since they have to input the number to the system and sometimes find it invalid. It leads to a decreasing level of satisfaction towards the Schoology's ease of use as students should give extra time to complete the enrollment. For this reason, it is recommended for Schoology developers to add a new option for course enrollment. Quick Response (QR) code could become one of the best options since it is "cost-effective, user-friendly, innovative, very fast and readable codes"(Maleriado & Carreon, 2018).

Problem with navigation happened to 7 respondents of the survey, who found it challenging to navigate the platform in the beginning. The most common problem is that they couldn't easily find the location of certain features and resources, which requires them to search for minutes on end. Hence, it is recommended for the Schoology developers to keep improving the user interface so that the first-timer can simply locate and use this platform.
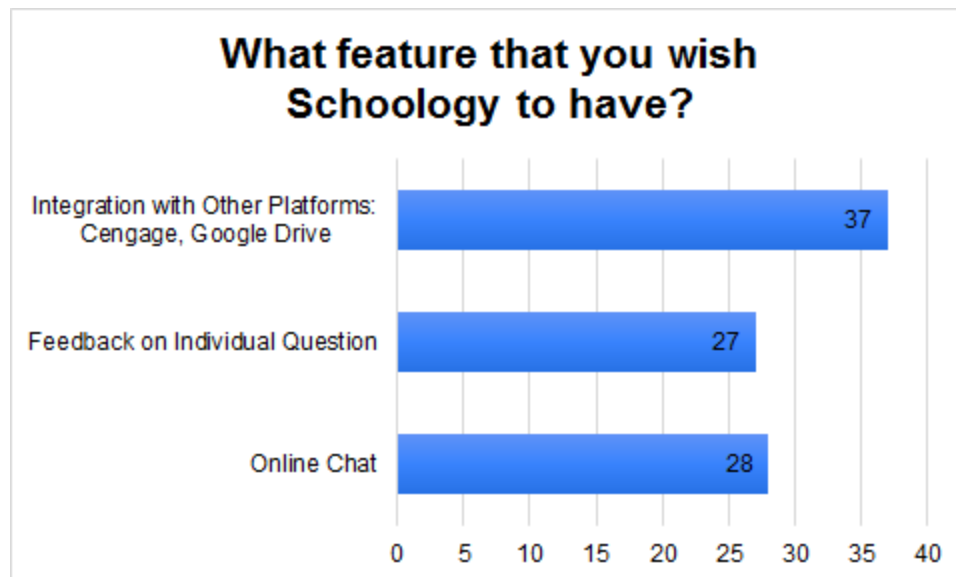
Figure 7: *Features that Sampoerna University Students Wish Schoology to Have*

5. Recommendations for Future Study

This research fundamentally discusses the existence of Schoology as an online learning platform that helps students in their learning process. It examines the functions and features that play significant roles in promoting collaboration and e-learning. It also investigates the loophole of Schoology's features

yet offers some feasible suggestions and recommendations for Schoology's further improvements. This study is expected tofill a gap and providea viable referencefor the development of educational technology. Even though this research mainly focuses on the Sampoerna University students' opinions and perspectives towards the utilization of Schoology, future studies can substantially extend the scope of the study to get a broader understanding of the effectiveness of Schoologyas an online learning platform. It is recommended that future studies carry out comprehensive research on this topic in other educational institutions that adopt the platform as their Learning Management System, be it schools, academies, and universities. Researchers can acquire a more extensive base of respondents and gain a wide-ranging perspective from other learners. Researchers can also comprehend opinions and viewpoints from other stakeholders, such as educators, administrators, and institutions, to enrich the substance of the study. As a result, future studies can evaluate different elements of the platform and provide exceptional recommendations for the enhancement of the system.

6. Conclusion

As an online learning platform that serves as the Learning Management System, Schoology helps Sampoerna University to achieve their learning goals by managing their learning resources, encouraging students to discuss and collaborate with classmates and lecturers, and tracking their learning progress and results. Those functions are supported by key characteristics and features embedded in the system. Schoology is accessible anytime and anywhere, user-friendly, and provides integrated features. Some significant features of this platform include Learning Resource Access, Work Submission, Discussion Board, Quiz, and Calendar.

Based on the results of the survey conducted to Sampoerna University students, Schoology is still a preferable online learning platform. However, the Schoology developer should inevitably carry out continuous improvements to provide the optimum learning experience for Sampoerna University students. It is recommended for Schoology developer to create Online Chat feature that enables users to seamlessly discuss and collaborate with others; to adjust the feedback feature so that the lecturers can provide meaningful feedback on individual question for the sake of learning improvements; to integrate Schoology with other platforms such as Google Drive and Cengage to put the users at ease in enforcing the learning process; to add a new option for courses enrollment including QR Code; to keep improving the users interface so that the users can easily navigate the platform.

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