

MyMobileSLT: Mobile Apps for Student Time Management Skills

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ABSTRACT

Empirical studies have reported that some university students had experienced problems in meeting their deadlines for given study tasks, indicating that they might be having poor time management. Thus, a tool that can guide students in time management, and act as a preventive measure to the problems of procrastination, disorganization, interruptions and workload pressure, is needed to help reduce the time management problem. This study proposes MyMobileSLT (Student Learning Time), a mobile application, which can help university students control their time for academic activities effectively. This application has been created to replace the previous MySLT which was the hard copy, conventional version of the present application. This paper examines users' perception on the perceived ease of use and perceived usefulness of this innovation. Using Davies' Technology Acceptance Model for predicting user acceptance and usage of new information systems, MyMobileSLT is evaluated based on the constructs of perceived ease of use and perceived usefulness. In general, users found MyMobileSLT easier to use and more practical compared to the conventional version. As MyMobileSLT offers methods and techniques to optimize efficiency in time management, users found it useful as a possible tool to be utilized for student time management.

Keywords: *MyMobileSLT, time management, student learning time, self-study, study skills*

INTRODUCTION

Time management comprises of goal setting in order to achieve future needs, planning, reviewing, analyzing spent time, scheduling effective time and prioritizing (Burrus et al., 2013; Jacqueline, 2016). It is a self-management skill with a clear control and focus on effectively completing assigned tasks. In other words, with proper time management, the individual will be more efficient and having a control over the time when he/she wishes to finish he/her tasks. In the same vein, Merccanlioglu (2010) puts forward that time management is a set of skills of self-management with an explicit focus on time in deciding what to do, on how much time to allocate to activities, on how activities can be done more efficiently, and on when the time is right for particular activities.

In the context of learning, time management have direct relationship with the academic performance (Teng and Mustafa Kamil, 2017). At the university level, students are responsible for their own learning and time management. They need to know how to manage their own time to organize and prioritize their studies amidst the competing activities. Such competing demands from other important activities and the freedom of choice on how they spend their time can influence students' time management. If they can manage their time efficiently, they will be able to detach themselves from distractions that may affect their studies. On the contrary, those who cannot manage their time well may not be able to prioritise their activities and easily fall into bad practices like studying at the last minute. This gives rise to the importance of time management skills for students.

Despite the numerous accounts of the importance of effective time management and the significance of time management skills to academic excellence (Merccanlioglu, 2010; Nasrullah & Khan, 2015; Miqdadi et al., 2014; Newbold, Mehta & Forbus, 2010), studies have also reported that college/university level students had experienced problems in meeting deadlines for given study tasks, indicating poor time management on the students' part (Adebayo, 2015). Along the same line, Alias et al. (2008) carried out a needs analysis study on time management skills among university level students. The study found some incongruity in knowledge, awareness and practice on time management. The study suggests that having proper and systematic guidelines to manage their learning time may help them to manage their academic responsibilities better.

To help students manage their time for academic activities effectively, the researchers created a MySLT (Student Learning Time) manual. It offered approaches and strategies on time management that every student should know and apply. It acted as a tool to guide students in time management by projecting the amount of time that should be allocated for studying, socializing and meeting other demands requiring their attention. A manual SLT (Student Learning Time) calculator was used to help them calculate the time for each activity forecast. A pilot study on the use of this manual reported that it was useful in assisting students determine their learning time based on the credit units for a course in university and keep a schedule of priorities. However, users claimed that the hard copy version of the manual was bulky and inconvenient, thus, suggested a more practical platform. Besides, there was a risk of miscalculation for the time allocation using the manual calculator. Taking these suggestions into consideration, a mobile application version of the manual, now named MyMobileSLT was created with improved contents and features. Thus, the objective of this paper is to examine users' perception on the potential usability and applicability of this MyMobileSLT. It is evaluated in terms of its perceived ease of use and perceived usefulness.

LITERATURE REVIEW

Student Learning Time

Student learning time (SLT) is defined as the time required by a student to understand the syllabus or curriculum content, and time that should be allocated to fulfil the requirements to complete the study programme. It is a mechanism used to determine students' learning time based on the credit units for a course in university. For one credit unit, students are expected to spend about 40 hours in a span of 14 weeks inclusive of all face-to-face activities with the instructor(s).

Simple calculation for SLT is as follows: for one credit unit, an instructor(s) is expected to spend 14 hours of face-to-face activities in 14 weeks. The remaining 26 hours is for students' own learning time. The following table shows the SLT calculation of an engineering course at the diploma level with all required activities (Alias, et al., 2018).

Table 1 Sample SLT Calculation for the Basic Fluid Mechanic Course

Activities	Contact hour (s)	Week / frequency	Total contact hours
Lecture	3	14	42
Tutorial	1	11	11
Quiz	0.25	3	0.75
Assignment	0.25	1	0.25
Test	2	1	2
Face-to-face activities			56
Total credit hours (3 credit unit x 40)			120
Student's own learning time (120 – 56)			64

As can be seen from Table 1, the Basic Fluid Mechanics course carries three credit hours with four contact hours a week. For 14 weeks, students will have to spend 120 hours of learning time, including lectures, tutorials, quizzes, assignments and test hours of face-to-face activities with the lecturers. Based on the calculation in Table 1, the remaining 64 hours are for the students' own learning time.

The 64 hours of student learning time is the basis of the MySLT manual and calculation as these SLT hours have never been accounted for. The understanding of SLT is important as it can provide a guideline for effective time management. It can also help students to discipline themselves during the learning process by controlling the balance between the demands of study and other responsibilities. Alias et al. (2018) in their study found that most of the respondents did not realise the significance of credit units of a course and learning time, thus, there was a high possibility they did not calculate the amount of time that should be spent on the subject because they did not know how to do it. The study also suggests that although students might have performed well without having to account for the credit units, having proper and systematic guidelines to manage their learning time may help them to perform better. A well-guided approach, like MySLT, can help them to self-monitor their time by prioritizing tasks, and anticipating conflicts and resolving them.

Mobile Technology in Education

With the popularity of mobile apps, the total number of available applications is rising daily. Google Play and Apple's App Store, for example, recorded 2.8 million and 2.2 million respectively, as of March 2017 (The Statistics Portal, 2018). With the advancement of technology and communication, the education scenario in the 21st century has changed rapidly. Mobile devices, such as smart phones, have enabled the use of computer application for educational purposes. Mobile applications have been abundantly developed to assist students in their learning activities. Applications like electronic bilingual glossary application (AMIT) (Ariffin, Alias, Noor & Hashim, 2016), and RefMe and Duolingo (Heath, 2016) are among those developed to aid learning.

Mobile learning is characterized with the mobility of the user and the informal learning process that happens outside classroom (Sharples, 2006). Hue (2011) found that majority of adult learners prefer mobile learning due to the convenience facilitated by the portability and accessibility of the mobile phones. With most of the respondents from the pilot study of MySLT owning advanced mobile devices of smart phones, all of them suggested a move from the conventional, printed hard copy of the MySLT manual and calculator to the convenience of the mobile application so that they can use it anywhere and at any time.

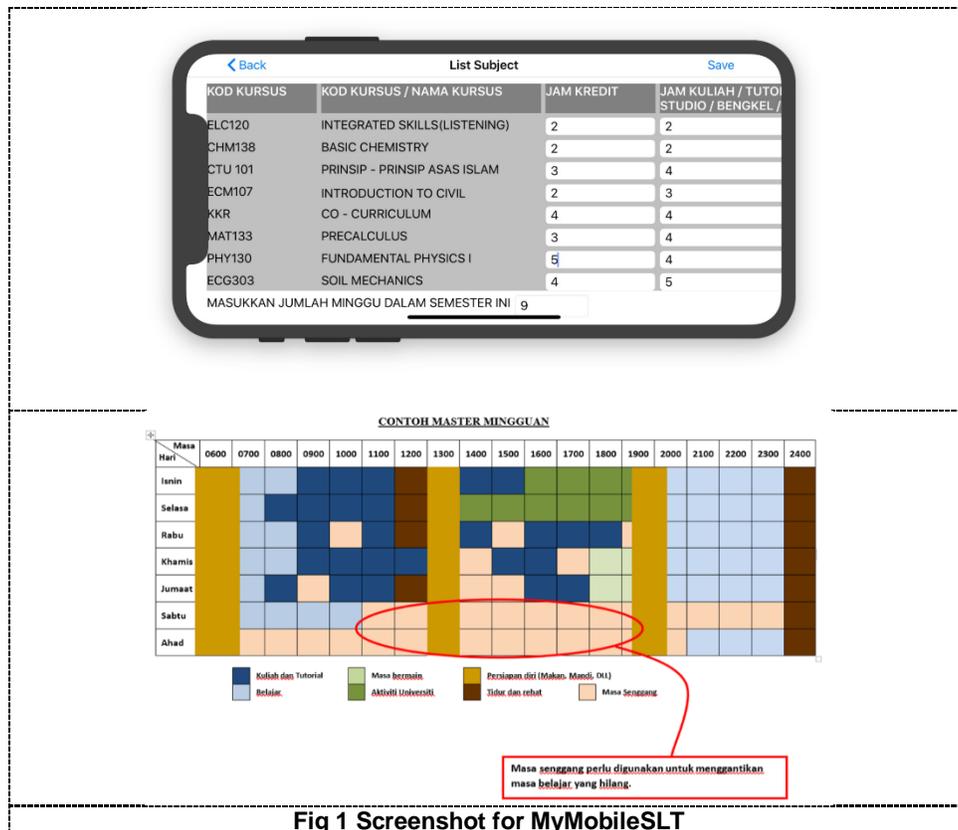
There are various types of mobile application available that can help students manage their time. Application such as iStudiez Pro, for example, assists students around the world to plan their activities (Heath, 2016). In addition, Listastic provides to-do lists application to keep students' life more manageable (Collier, 2015). However, the content of these applications is too generic. The content mostly covers on goal setting, prioritising goals and managing time. MySLT on the other hand, focuses on the needs of time management skills for academic responsibilities among students. It guides students through the learning time allocation for each course against the credit hours and for other activities.

Features of MyMobileSLT

MyMobileSLT has been created to replace the conventional, hardcopy version of MySLT (Hashim et al., in press). The development of MyMobileSLT was based on the information system methodology for mobile, called Mobile Application Development Cycle (MADLC). Hashim et al. (in press), describes the details of the development of this application.

MyMobileSLT is compatible with any type of android android smartphone, thus, the availability and affordability of this application is not an issue. Another advantage of this application is it does not require internet connection once downloaded. Thus, since it does not pose any issue on connectivity and accessibility, it can be operated anywhere and at any time. Figure 1 below shows a screenshot of MyMobileSLT on the smart phone.





RESEARCH METHODOLOGY

Since MyMobileSLT is still at its infant stage, it is imperative that the application be tested to check its usability and viability for students' independent usage. Thus, the main objective of this paper is to find out users' perception on MyMobileSLT as an alternative tool to the conventional manual SLT previously introduced to the users.

In this study, 60 undergraduates of a diploma programme in a public university in Malaysia were chosen to evaluate the MyMobileSLT application for their time management. These respondents were selected as they fulfilled the criteria needed for the evaluation. First, they had had an experience of using the MySLT manual, thus, had prior knowledge of the concept of Student Learning Time (SLT) and the calculation of the learning time needed. Since they had used the conventional version of MySLT, the respondents would also be able to compare the usability of its mobile application version. Second, each of the respondents owned an android smart phone.

The study was divided into two phases. The first phase involved the trial use of the application. The respondents were asked to download the application into their smartphones and were briefed on the objective of the study. They were given time to explore and use the application. While using the application, the respondents were also asked to take notes on what they think of the application in terms of its content, features, usability and practicality.

The second phase involved a survey application. A survey questionnaire was used to gauge information on the respondents' perception on MyMobileSLT on the constructs of: 1) ease of use, and 2) usefulness. The survey was based on Davies' (1985) Technology Acceptance Model for predicting user acceptance and usage of new information systems. The questionnaire used for the survey was adapted from Madison's (2017) framework for evaluating user acceptance of individual system functionalities. The questionnaire contained 14 Lickert scale rating statements (of 1 being 'totally disagree' to 5 being 'fully agree'). There were also two open-ended questions asking for the respondents' comments on the features that they like or dislike about the application, and requesting recommendations of future enhancement of the application. A post hoc group interview session was also conducted to further complement the findings from the survey.

The data from the Lickert scale rating statements were analysed according to their respective construct, i.e perceived ease of use and perceived usefulness. The open-ended response was categorized by the content of the feedback. The data from the interview was also categorized based on the constructs.

FINDINGS AND DISCUSSION

Perceived Ease of Use

Davis (1985) defined perceived ease of use as the degree to which an individual believes that using a particular system would be free of physical and mental effort. In short, it is how a user perceives the system to be easy to use. The questionnaire contained eight items that evaluate this construct. Table 1 below shows the average mean score of these items.

Table 1 Perceived Ease of Use of MyMobileSLT

No	Statement	Average Mean
1	It is easy to use MyMobileSLT compared to MySLT.	4
2	MyMobileSLT is more practical compared to MySLT	5
3	MyMobileSLT is more convenient compared to MySLT.	5
4	MyMobileSLT can save time compared to MySLT.	4
5	I can access MyMobileSLT anywhere and anytime.	5
6	MyMobileSLT lessens the error of SLT calculation.	5
7	I can calculate my own SLT without help from academic advisor.	3
8	MyMobileSLT helps me to calculate learning time quickly.	4
Overall Mean		4.4

On the whole, the respondents' acceptance towards MyMobileSLT was positive with overall average mean score of 4.4 for the perceived ease of use. All the items scored between 4 and 5, except for item no.7 which only received average mean score of 3. As can be seen from the table, most of the respondents felt that MyMobileSLT was easier to use, more practical and more convenient compared to the earlier version (average mean score of 4, 5 and 5 respectively). They also claimed that they could calculate their learning time quickly (average mean score of 5) and the application could lessen the errors of SLT calculation (average mean score of 4). However, it is a lower score for the respondents' ability to calculate their SLT themselves without supervision from their academic advisors (average mean score of 3).

The interview data concur with the findings from the survey. Since the respondents had already had experience of using the conventional version, they found that this application was more convenient and practical as they did not have to carry the MySLT manual around. They were also able to access their MyMobileSLT whenever and wherever they needed to do so. In addition, the respondents felt that MyMobileSLT was simpler and easier to use. They felt that the manual calculation was a bit burdening as they had to do it manually and there was always the risk of calculation. Such findings are in line with Karat's (1997) and Nielsen's (1993) claim regarding positive usability, which is when the product can be used by specified users to achieve specified goals with effectiveness, efficiency, satisfaction in a specified context of use and how easy user interfaces are to use. However, the respondents also claimed that for the application to be used independently, users need to fully understand how the system worked first. In other words, guidance was still needed from the academic advisor. This is probably the reason for the low score for item no. 7 of the questionnaire.

The interview data also reveal the respondents' stand on the use of mobile application. They strongly felt that it was time mobile apps took over the conventional hardcopy version. The respondents claimed this preference based on the convenience and practicality of having 'one-stop centre' information that can be stored in their phone. In addition, they would be able to retrieve information needed, anywhere and at any time. This supports Hue's (2011) study on the learners' preference on mobile learning. In addition, the respondents mostly liked the fact that the application does not need internet connection to run. Thus, it is cost-savvy as they did not have to buy or print the manual as well as save money on data usage.

Perceived Usefulness

According to Davies (1985), perceived usefulness is the degree to which an individual believes that a particular system would enhance his or her job performance. In short, it is how a user perceives the usefulness provided by the system and its functionality. There were six items in the questionnaire for this construct. The findings are reported in Table 2 below.

Table 2 Users' Perception on the Usefulness of MyMobileSLT

No	Statement	Average Mean
1	Using MyMobileSLT can enhance my time management skills.	5
2	I find MyMobileSLT useful in my daily life.	5
3	MyMobileSLT is resourceful to me.	5
4	The functionality of MyMobileSLT meets my needs	4
5	I am satisfied with the functionality of MyMobileSLT	4
6	I will use MyMobileSLT in the future.	5
Overall Mean		4.7

On the whole, the findings indicate that MyMobileSLT has received strong perceived usefulness by prospective users with overall mean score of 4.7. All the respondents agreed that the application would be able to enhance their time management skills, thus, claimed that it was both useful and resourceful (average mean scores of 5 respectively). The respondents were also satisfied with the functionality of the application and would use it in the future.

However, it is important to note that during the interview, the respondents claimed that the usefulness of MyMobileSLT was similar to the conventional SLT. This is because they found the

functionality of the application was not much difference from the original SLT. Yet, they prefer this application to the conventional one because of its convenience and practicality.

Features of MyMobileSLT and Recommendations for Further Enhancement

Data for this element comes from the two open-ended questions in the survey and interview. Having tried MyMobileSLT for the first time, the students responded positively to the features of MyMobileSLT. MyMobileSLT contains upgraded version of the earlier MySLT. In the conventional version of MySLT, the content was static and if printed in black and white, not only the pages would look dull, it would be very difficult to differentiate between the different activities and indication of time required for these activities. MyMobileSLT, on the other hand, is interactive where users can fill in the timetable, modify or delete their responses. The pages and tables will be in colour, thus, they will be attractive and easier to differentiate between the different activities.

Besides, the embedded calculator will assist users to calculate their SLT accurately. With the earlier conventional version, users had to calculate their SLT manually, thus, there was a possibility of miscalculation of the SLT.

They felt that the content of the application is very satisfactory as it covers what they need to know about time management in relation to SLT and the prescribed credit hours of a course. They claimed that the embedded calculator had made the calculation of SLT become simpler, quicker and more accurate. This has become an added value for MyMobileSLT in terms of accuracy and ease to use compared to the earlier MySLT.

Although the respondents were mostly satisfied with the content and features of MyMobileSLT, there are some recommendations that the researchers found useful for the enhancement of the application. The users commented that the application needs a more 'cheerful' outlook like having bright colours and attractive features for the interface. They also requested for a more 'friendly' interface like increase component size for easier browsing.

Along the same line, the respondents felt that MyMobileSLT could be more interesting if the built-in timetable and notification/reminder for every activity that they entered in the timetable were provided. This could be a constant reminder of the scheduled activities. Besides, they also recommended an integration of MyMobileSLT with their university course timetable. With this integration, the courses taken for that certain semester would automatically be filled in their SLT timetable and they can slot in their other activities to the remaining available slots.

CONCLUSION

The findings indicate that both the conventional MySLT and MyMobileSLT have great potentials to be used as a tool in helping students to have a better time management. However, with the ardent availability and the convenience of technological application these days, MyMobileSLT which utilizes mobile application, is the preferred tool in assisting students manage their time effectively. The fact that MyMobileSLT is mobile, compatible and easy to use, students will find it practical for their own, independent time management. With almost everybody owning a smartphone, the application can be made

available for university students to assist them in time control, and enhance their capability for self-learning. This is in line with National Transformation (TN50) which supports the ideas to enhance the higher education system by applying technology in education especially for learning (Mahidin, 2017 in Othman & Alias, 2017, p.2).

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