SIRT 2.0: SMART INTERACTIVE REVISION TOOL

Muhammad Ashrul Hardy Bin Mazrul[1], Muhammad Aiman Bin Safien[2], Muhammd Faiz Bin Zainal[3], Azlina Binti Mohd Mydin[4], Wan Anisha Wan Mohammad[5],

[1,2,3]*Program Pra Pendidikan Tinggi (PPT), Universiti Teknologi MARA, Cawangan Pulau Pinang, Malaysia*
[4,5]*Jabatan Sains Komputer & Matematik (JSKM), Universiti Teknologi MARA, Cawangan Pulau Pinang, Malaysia*

Corresponding author e-mail: inovasiprojek@gmail.com

ABSTRACT

Smart Interactive Revision Tool (SIRT 2.0) is a new approach to perform revision in an interesting up to current situation that align to STEM education. This approach allows the student from all levels of education either from school or university student to enjoy their revision duration. Students face problems while doing revision such as they will feel bored to do revision. SIRT 2.0 allows the student to create their own revision notes and example interestingly in video form using TikTok. This SIRT 2.0 is the upgrade version from the 1st edition with additional features. SIRT 2.0 is designed especially for Pre-Comm students for subject MAT 037. Student can create short video notes on the topic from the syllabus according to their understanding. A survey has been done to know the satisfaction about SIRT 2.0 among the Pre-Comm students from UiTM Cawangan Pulau Pinang. Around 60 students were involved in the survey. From the survey, almost everyone satisfied and enjoy doing revision using SIRT 2.0. They also liked the style of the videos in SIRT 2.0 that could help them in doing revision through notes and examples for the MAT 037 subject. SIRT 2.0 has been the best approach to perform revision as an easy and interactive way in engaging STEM education.

Keywords: interactive, online education, Tik Tok, education videos, style of study

1. INTRODUCTION

In March 2020, the world was attacked by COVID-19 pandemic. The education system has changed their traditional face to face (f2f) to online education. Nowadays all levels of education from preschool until university are in the online education system. Smartphone, laptop, tab and desktop will be the main medium for this education style. To make the revision process align to the education style, SIRT is introduced. Students usually face problems and feel bored in doing the traditional way of revision. Besides that, students also have problems in sharing revision notes to their friends.

SIRT is a new approach that aligns to STEM education that can be used for the students' revision process. It allows students from all levels to do revision in an interesting and attractive way. The main reason why the idea for SIRT is to create simple, attractive, and easy-to-understand content. SIRT 2.0 also provides animated and interactive content which can be accessed easily, anywhere at any time. Initially, SIRT was developed for secondary school students so that they can do short notes videos for reading subjects like science. SIRT got a good response from the secondary school student. Therefore, SIRT 2.0 was introduced to Pre-Comm students in Mathematics. In SIRT 2.0 there are new features and styles introduced as compared to previous SIRT. The uniqueness of SIRT 2.0 are the videos in it are interactive, and fast learning up to trend of online learning. Besides that, SIRT 2.0 videos are interesting and easy to understand with creative video notes.

Previous study mentioned that videos have become an important part of higher education teaching and learning during online classes. Several analyses have shown that technology can enhance learning and multiple studies showed that video, specifically, can be a highly effective educational tool [4], [5]and [6].

The effective use of video as an educational tool can be enhanced once instructors consider three elements: how to manage cognitive load of the video; how to maximize student engagement with the video; and how to promote active learning from the video [3]and [7]. To maximize the benefit from educational videos, there are three important key components used which are cognitive load, impact engagement, and the video should promote active learning [1]. A survey has been done to TikTok users, and the findings discovered that content quality, task technology fit, and vividness have significant influences on overall effectiveness on learning [2].

2. MATERIAL AND METHOD

SIRT 2.0 has been developed based on Program Development Life Cycle (PDLC) steps as shown in Figure 1. There are five main steps in PDLC that start with analysis, design, implementation, testing and documentation.
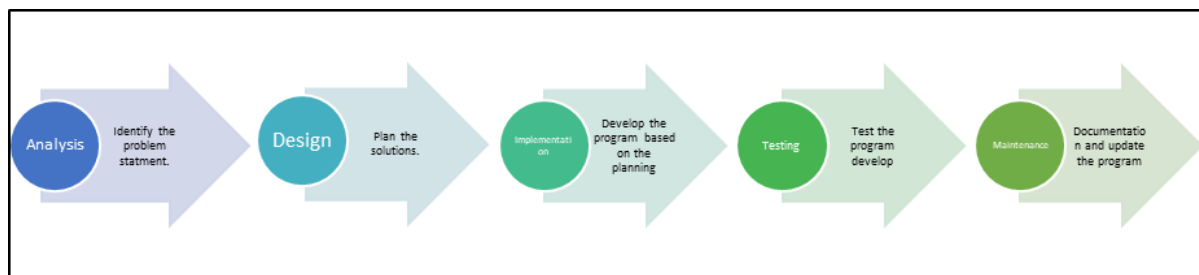
Figure 1: PDLC design

Firstly, the problem statement was identified. The problem was students felt bored to perform revision in the traditional way. Besides that, students once clearly understood the requirements to solve the problem, the solution was defined as SIRT. Next, the scratch design interface for video style and content that could be delivered interestingly was planned. Then, the video was developed and created using TikTok. After developing the video, the video was shared to a few students to test on their satisfaction.

3. PRODUCT DESCRIPTION

In the SIRT 2.0 approach, there are videos developed using the TikTok application. TikTok application is selected to create revision videos because, nowadays TikTok has been one of the easiest applications that could be used and shared in social media. Besides that, TikTok could be easily installed in users' smartphones. The social media application TikTok is very potential as an educational tool since it enables the delivery of small learning units in a short time period or duration [2].

SIRT 2.0 is developed especially for Pre-Comm students for mathematics subject named MAT 037. The videos were developed based on notes and examples. This method was selected for this subject due to the fact that mathematics students need to know how to apply the concepts in the solutions. In SIRT 2.0, there are also audio explanations given in the videos. Figure 2 is the sample of design interface for the video in SIRT 2.0.
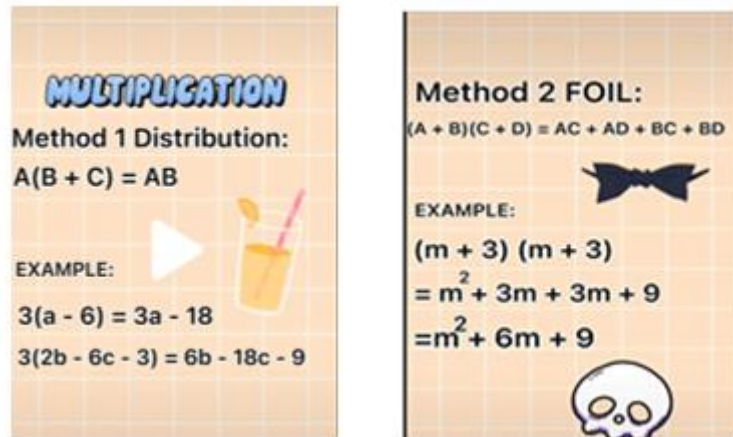
Figure 2: Sample of SIRT 2.0 video interface

4. RESULTS AND DISCUSSION

A survey has been conducted among Pre-Commerce (PBA002/PBA003) students from UiTM Cawangan Pulau Pinang who are currenlty taking Intensive Mathematics 1 (MAT037) course. The questionnaire was distributed among students in the current semester, October 2021-February 2022. The main purpose of the questionnaire was to identify the student's opinion and satisfaction while using SIRT 2.0 as their revision tool in learning MAT037. The questions were divided in two parts which were:

      a) Demographic
      b) SIRT 2.0 satisfaction

Below are the results and findings from the questionnaire distributed among the students. The table above shows the demographic information about the respondent. There are 60 students involved in this study. 32 of them were female students while 28 of them were male students. A total number of 33 of them were staying on campus and the remaining 27 were staying in their own hometown. This is based on the situation of Covid 19 pandemic and online learning environment.

Table 1: Respondent Demographic

	Male	Female
Gender	32	28
Stay In Campus	15	18
Stay in Hometown	17	10

Figure 3 illustrates the respondent's satisfaction in using SIRT 2.0. 83% of the respondents were satisfied with SIRT 2.0 as it could help them during their revision time especially for MAT 037. They were also happy that they did not have to carry the textbook around for their revision. They also realized that by using SIRT 2.0, they could communicate and share their video notes easily with their friends.
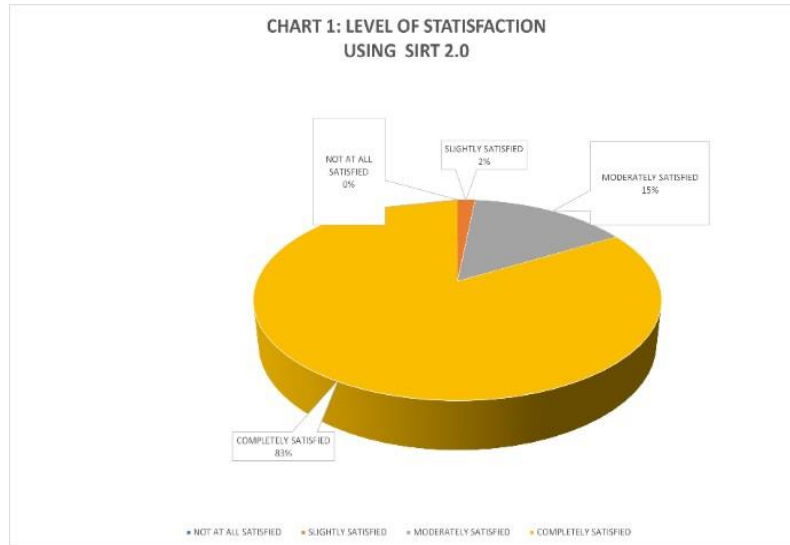
Figure 3: Student's level of satisfaction using SIRT 2.0

Figure 4 below shows that 96.67% respondent likes the video style in SIRT 2.0. The video in SIRT 2.0 has the notes with the explanation given. Only 5% of the respondents dislike the style of SIRT 2.0 video. This is due to the fact that a colorful effect was applied in the video.
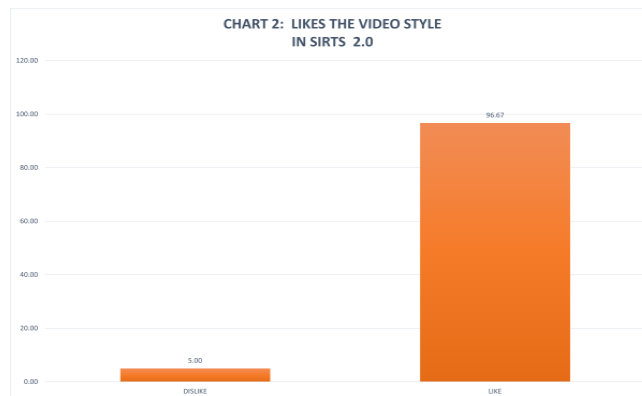
Figure 4: Student's likes on the SIRT 2.0 video style

5. CONCLUSION

SIRT 2.0 is an approach in trend to the STEM educational system. With the existing SIRT 2.0 approach, this method allows the students from all levels of education to enjoy their revision time. SIRT 2.0 allows students to foster self-regulated learning and enjoy their revision time in an interactive and interesting way. Besides that, SIRT 2.0 also allows students to share their video revision notes easily with friends. In future, SIRT 2.0 can be upgraded as a courseware and can be charged with minimal fee.

REFERENCES

[1] Zuheir N Khlaif, Using TikTok in Education: A Form of Micro-learning or Nano-learning? Interdisciplinary Journal Of Virtual Learning, V12(3) (2021), https://ijvlms.sums.ac.ir/article_47678.html

[2] Bachar Kahil, Social Media Apps as a Tool for Procedural Learning During COVID-19: Analysis of Tiktok Users, Journal of Digitovation and Information System,V1(1) (2021), https://jdiis.de/index.php/jdiis/article/view/43

[3] Cynthia J. Brame,Kathryn E. Perez, Effective Educational Videos: Principles and Guidelines for Maximizing Student Learning from Video Content. CBE—Life Sciences Education • 15:es6, Winter 2016.

[4] Stockwell BR, Stockwell MS, Cennamo M, Jiang E Blended learning improves science education. Cell 162, 933–936. (2015).

[5] Allen WA, Smith AR, Effects of video podcasting on psychomotor and cognitive performance, attitudes and study behaviour of student physical therapists. Innov Educ Teach Int 49, 401–414. (2012).

[6] Kay RH, Exploring the use of video podcasts in education: a comprehensive review of the literature. Comput Human Behave 28, 820–831(2012).

[7] Means B, Toyama Y, Murphy R, Bakia M, Jones K, Evaluation of Evidence-Based Practices in Online Learning: Meta-Analysis and Review of Online Learning Studies, Washington, DC: US Department of Education. (2010)