

Research Article

Courseware for Private Body Safety Education using Multiple Intelligence Theory

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Abstract: Courseware for Private Body Safety Education is a teaching tool for Pendidikan Jasmani dan Pendidikan Kesihatan (PJPK) Year 3 students and teachers. In Malaysia, 15,504 incidences of child sexual abuse were reported between 2018 and September 2020. Considering the facts, serious consideration must be given to teaching kids about personal body safety. The students need to learn about their rights as children, safe and risky situations, and self-defense techniques. Therefore, the Malaysian Ministry of Education started to include private safety education lessons for Year 3 Primary School students. Since there are currently few educational resources available, it's found that most students pronounce their private body parts improperly. Additionally, the existing method of textbook learning causes issues like lack of concentration because students rapidly become bored during sessions. Private Body Safety Education courseware has been developed as a solution to the issues. The curriculum consists of three lessons: Sentuhan Selamat dan Tidak Selamat, which teaches about safe and unsafe scenarios, and Tips Keselamatan, which provides safety advice in dangerous circumstances. Kenali Tubuh Peribadi will assist students in pronouncing the correct private body parts, particularly when self-learning. The implementation of these lessons includes text, videos, audio, animations, and interactive activities for the exercises. This courseware is developed using the ADDIE Model development method and adapted four elements (linguistic, spatial, musical, and bodily-kinesthetic) from Multiple Intelligence Theory by Howard Gardner. Functionality testing is conducted to ensure the navigation, functionality, and acceptance of users. Based on the results, The Private Body Safety Education courseware has encouraged students in learning and improved the teaching and delivering lessons in and outside of the classroom.

Keywords: Private Body Safety Education; courseware; Multiple Intelligence Theory; ADDIE Model.



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1. INTRODUCTION

According to research, 15,504 child sexual abuse cases in Malaysia have been recorded between 2018 until September 2020 (Hairom, 2020). Based on the facts, a serious attention must be made towards educating students about private body safety. The students must be exposed to their rights as a child, learn about safe and unsafe situations and how to protect themselves. Therefore, Malaysian Ministry of Education started to include private safety education lesson for Year 3 primary school students. However, the current practice of text book are unable to attract students' attention during lessons.

Limited teaching source from textbook also lead to inability to provide an interactive lesson for these primary school students. As for self-learning, students often use incorrect word when pronouncing the private body parts as there is no teachers to guide them during that period.

Due to this reason, there is a need for interactive courseware that focus on delivering private body safety education for Year 3 primary school students. The courseware aims to help the primary student understand body safety and learn to protect themselves from sexual abuse. It also acts as a teaching aid in delivering interesting and interactive lessons in class as the courseware combines the use of text, graphics, sound, animation, and videos in the lessons (Vaughan, 2014). These elements will help the teachers to improve their teaching efficiency and class interaction compared to textbooks

2. METHOD & MATERIAL

2.1 Courseware Organization and Development

ADDIE Model is used to organize and develop the courseware. ADDIE Model is a technique in instructional design that helps to arrange and standardize the development of this courseware Quigley (2019). Through this ADDIE model, the learning can be imposed under a learner-centered approach, allowing students to engage in more interactive sessions and better grasp the material being taught (Rosmin et al, 2022). ADDIE stand for Analysis, Design, Development, Implementation, and Evaluation. 'Analysis' is a preliminary stage before starting to develop the contents of a project (Kurt, 2018). During this phase, problems will be defined and potential solutions are identified. In the 'Design' stage, storyboard or prototype are developed to identify the necessary output or input in the contents. 'Development' is the process of creating the instruction materials that will be included in the courseware. The 'Implementation' stage is the stage to deliver the courseware. Lastly, 'Evaluation' is the stage to test the courseware using test cases. Test cases can determine the effectiveness and functionality of the courseware Private Body Safety Education.

2.2 Application of Multiple Intelligence Theory

The Multiple Intelligence Theory established by Howard Gardner, from Harvard University, is used in this study. The use of Multiple Intelligences in education has two significant benefits. The ability to design educational programs that encourage student participation is the first advantage, and the ability to reach more students who are attempting to acquire disciplines and theories is the second (Lumei & Turda, 2022). There are eight elements of intelligence are included in the Multiple Intelligence Theory (Amstrong, 2018). However, only four of them are used for the courseware development which are: linguistic, spatial, musical, and bodily-kinaesthetic intelligence.

The use of Multiple Intelligence Theory could help to address the problems including a lack of learning resources, an easy tendency to get bored during learning sessions, and a lack of focus. This issue uses video, pictures, and the right words to support visual learning through the utilisation of linguistic, spatial, and bodily-kinaesthetic aspects. Students also commonly pronounce the term for private parts of the body incorrectly, which is a concern. The musical intelligence strategy, which uses song and sound to draw students in and help them remember the proper terms for using with private body parts, is employed to resolve this issue. Table 1 illustrates the applicability of the Multiple Intelligence Theory.

Table 1. Application of Multiple Intelligence Theory (Amstrong, 2018)

Elements	Description	How/Where to Implement
Linguistic	Allows people to use words accurately, whether verbally or in writing style.	The courseware is using Malay language to deliver the information.
Spatial	Allow creating the visual image, express the imagination with picture and enhance understanding between images and meanings.	The image is used in the lesson to deliver information about <i>Kenali Tubuh Peribadi</i> , <i>Sentuhan Selamat dan Tidak Selamat</i> and <i>Tips Keselamatan</i> .
Musical	Allow to interpret, convert, communicate and differentiate through music.	This element will incorporate music with the sound of text about <i>Kenali Tubuh Peribadi</i> , as well as a video song.
Bodily-kinesthetic	Allow people skilful at body movements, performing actions and physical ability control.	The video that will used in the courseware will introduce the information using body movement. The contents of <i>Koleksi Video</i> .

3. FINDINGS

3.1 Courseware Development and Testing

The Private Body Safety Education courseware has been developed and evaluated based on the courseware testing. The evaluations are divided into six test cases. The test cases are the home page, lesson one: *Kenali Tubuh Peribadi Diri*, lesson two: *Sentuhan Selamat dan Tidak Selamat*, and lesson three: *Tips Keselamatan*, *Koleksi Video* and also *Aktiviti*. The purpose of conducting the test case is to evaluate the functionality of the courseware and to ensure the courseware contains no errors and ensure the courseware will run smoothly. The result of the testing, whether pass or fail in terms of functionality, is also derived from the test case. Figure 1 shows an example of the test case – the lesson two: *Sentuhan Selamat dan Tidak Selamat*. Overall, all of the actual results are compromised with the expected results and the testing is successfully done, and described as ‘Pass’.

Table 4.5 Test case for lesson two *Sentuhan Selamat dan Tidak Selamat*

Developer		Norazian bin Ahmad		
Date		3/1/2021		
Test case description		Test for the <i>Sentuhan Selamat dan Tidak Selamat</i> page to navigate the user in each element in the content		
Pre - requisite		The user need to click at “ <i>Sentuhan Selamat dan Tidak Selamat</i> ” button at menu page		
No	Activity	Expected Results	Actual Results	Pass/Fail
1	Navigate to <i>Sentuhan Selamat dan Tidak Selamat</i> page of the courseware	It should display the button of home, exit and <i>Sentuhan Selamat dan Tidak Selamat</i>	Expected	Pass
2	Click on <i>Sentuhan Selamat</i> button	It will navigate into <i>Sentuhan selamat</i> page include animation, picture, text and sound	Expected	Pass
3	Click on <i>Sentuhan Tidak Selamat</i> button	It will navigate into <i>Sentuhan Tidak Selamat</i> page include animation, picture, text and sound	Expected	Pass
4	Click on Home button	It will navigate into menu page	Expected	Pass
5	Click on Kembali button	It will navigate into <i>Sentuhan Selamat dan Tidak Selamat</i> page	Expected	Pass
6	Click on X button	It will navigate into exit (<i>Keluar</i>) page	Expected	Pass

Figure 1. Test Case for Lesson Two: *Sentuhan Selamat dan Tidak Selamat*.

In whole, the components of Multiple Intelligence improve how the courseware is delivered. The Multiple Intelligences approaches to learning have an effect on learning that reaches all students and promotes them to be able to think about the subjects from several viewpoints, boosting their grasp of the subject. Additionally, the testing, which is intended to show the functionality of the courseware, is the foundation for the functionality evaluation. The purpose of the test case is to evaluate the functionality, with the results appearing after the test. It will indicate whether the courseware is a failure or success. Overall, the Private Body Safety Education courseware's functionality satisfies all of the goals. This guarantees that the courseware will enhance both teachers' and students' learning and productivity.

4. CONCLUSION

In conclusion, Private Body Safety Education courseware has been successfully developed using ADDIE Model development method and adapted four elements of intelligence (linguistics, spatial, musical and bodily-kinaesthetic) from Multiple Intelligence Theory. However, the courseware still has several limitations during the development process. For better outcomes and future development, the courseware should be improved to include additional animation, sound, and quizzes. On the other hand, real testing with a group of target users should be carried out in order to obtain accurate results.

References

- Armstrong, T. (2018). *Multiple Intelligence in the classroom*. 4th Edition. Alexandria, Virginia, USA, 1-8.
- Chapman, A. (2014). *Howard Gardner's Multiple Intelligences*. Retrieved from <https://www.businessballs.com/self-awareness/howard-gardners-multiple-intelligences/>
- Hairom N., (2020). Sinar Harian. *Kes penderaan kanak-kanak sehingga september 2020*.
- Kurt S. (2018). *ADDIE Model: Instructional Design*. Retrieved from <https://educationaltechnology.net/the-addie-model-instructional-design/>
- Lumei, C. & Turda, S. (2022). The role of Theory Multiple Intelligences in primary education process. *9th International Conference Education, Reflection, Development*.
- Quigley E. (2019) *ADDIE 5 steps to effective training course*. Retrieved from <https://www.learnupon.com/blog/addie-5-steps/>
- Rosmin, N., Tsai K. S., Mustaamal A. H., Mat Said D., Hussin S. M., Aripriharta, Abdullah M. P., Abd Malik N. N. (2022), Adaptation of ADDIE Instructional Model in developing My Green App for renewable energy learning at primary schools in Malaysia. *Proceeding of Sciences and Mathematics*, 14, pp. 119-124
- Vaughan T. (2014). *Multimedia making it work*. Mc Graw Hill Education, 9th edition.