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Vol. 11(1) 2022, Pg. 615 - 630

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Developing the Self-Learning Interactive Module using ADDIE Model for Year 5 Primary School Students

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Abstract

Due to a number of circumstances, learning English as a second language can be difficult. One of the reasons is because grammatical components known as tenses do not exist in one's mother tongue, making it difficult to learn. In order to compose sentences in English utilising tenses, people must play with words and times. Previous research has found that Malaysian students struggle with the usage of tenses, despite the fact that they have been learning them for a long time and that they are widely spoken by Malaysians, whether it is due to the learning process, the effect of mother tongue, or the learning materials. The goal of developing a self-learning interactive module using Microsoft PowerPoint Presentation is to assist students in improving their learning efficacy by applying the ADDIE model approach which was the methodology used in the study. The participants are 10 year five primary school students from a Malaysian public school. This study will provide new perspectives in addressing the tenses issues of year 5 students through the module and schools may prepare other modules or programmes to help students' learning process. The final outcome based on the regression study revealed that all of the participants enjoy learning English tenses in this manner, and that it has increased their knowledge and self-esteem when it comes to applying English tenses. Participants also expressed a desire to be taught via this type of module in the future for other topics which proved that their learning efficacy is boosted. Regardless, future research could continue to explore the learning efficacy in a larger sample size.

Keywords: ADDIE, ESL, PowerPoint Presentation, Module, Tenses

Introduction

Malaysia is an Asian country in Southeast Asia. It is diverse in terms of ethnicity, culture, cuisine, and language. As a heterogeneous post-colonial country comprising 29.7 million Malaysian citizen, Malay is the main language used in the country, uniting all races that make up the estimation of Bumiputera (69.6%), Chinese (22.6%), Indian (6.8%), and several of the smaller minority communities, including the native populations (1.0%) (Department of Statistics Malaysia, 2020). These diversities have automatically brought an introduction to the

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

different languages spoken by Malaysians. According to Don (2014), Malaysian Chinese speak few dialects as their mother tongue like Hokkien, Hakka, Cantonese, Hainan and Mandarin. The Indians use Tamil, Telugu and Malayalam while the majority of Malays speak Malay as their first language, and they begin official schooling in Standard Malay in kindergarten.

However, like many other post – colonial countries, English is extensively spoken and used as a second language (ESL) by Malaysians, as well as people from other countries such as India, the Philippines, and Nigeria (Thirusanku & Yunus, 2014). This proved that English is accepted by Malaysians and that has made the Ministry of Education Malaysia launch a reform of the English language taught at schools in 2019, which aligns with the Malaysia Education Blueprint 2013 – 2015 with the aspiration that every student will have bilingual proficiency. Basically, the reform of the English language launched is a roadmap which portrays the government's determination to see significant improvements in our students' English language competence, by adopting the Common European Framework of Reference for Languages (CEFR). It is the international standard for characterising and measuring language ability at each educational level. Curriculum, teaching and learning, and assessment are all affected by the CEFR's implementation in order to make Malaysians as a global citizen in the 21st century.

On the other side of the coin, this is not an easy task. Many Malaysian students are having problems in learning and acquiring English language particularly in grammar as it is difficult especially for those who only use the language at schools (Jalok et al., 2019) as English grammar is complicated and has too many formulas to be comprehended (Komara & Tiarsiwi, 2021). Basically, grammar could be defined as a systematic structure of language or, more simply, rules that make up a language (Kroeger, 2005; Cowan, 2008) as cited in Komara and Tiarsiwi, 2021. They also found that students are having difficulties in terms of learning tenses which is foreign compared to their first language which could easily be understood, as the concept of tenses do not exist in the Malay language, in line with Singh et al (2017); Mehat and Ismail (2021); Abdullah(2021) who discovered that students were still having issues with grammatical items including tenses, received among the highest score in their studies. This is quite alarming as students have been learning English as a formal education since their kindergarten level which could be totalled up to 13 years of learning, with English being put as a compulsory subject to be learnt at primary and secondary schools (Pillai & Lok, 2018). Yet, they still have these kinds of problems. Aside from not having tenses in their mother tongue, it is also believed that one of the most common errors made by ESL speakers is a lack of understanding of rule restrictions (Maniam & Rajagopal, 2016). They stated that students may have had the necessary knowledge but blundered owing to a lack of understanding. Grammar rules frequently involve exceptions, which can be confusing for pupils, leading to errors such as omission or overgeneralization.

After doing a need analysis remotely since the school is operated online due to the pandemic of COVID-19, the researchers discovered that students were experiencing difficulty with tenses which was the motivation of this research and decided to create a self-learning interactive module using PowerPoint as an enrichment activity for students to perform after learning tenses at school with their ESL teachers since media has become a valuable friend of people in recent years. Thus, the goal of this study was to improve students' learning efficacy by designing, developing, and evaluating the effectiveness of using a PowerPoint-based self-learning interactive module to teach the three basic English tenses: Simple Present, Simple Past, and Simple Future.

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

Literature Review

to learn.

Grammar is very important as ESL students learn the language. Yet there are a lot of problems encountered by the learners as they venture more into the English language. There are a lot of terms in English that are incomprehensible to second language learners such as the concept of Tenses. Thus teaching them about this can be a misery as a result of these foreign concepts. Mehat and Ismail (2021) in their study found that most of the errors made by students in Malaysia, either in their writing or speaking were in terms of subject-verb agreement and verb tenses, which could be caused by first language (L1) influence. Urdaneta (2011) stressed that when learning a second language, the role of the first language must be considered, since L1 can either favourably or negatively influence L2 acquisition. Plus the process can be challenging as it can be hindered by L1 interference (Yang & Yu, 2019). One of the prominent problems in grammar is the difficulty in understanding the three main tenses learnt in primary school which are Simple Present Tense, Simple Past Tense and Future Tense. In regard to Simple Past Tense, learners tend to oversimplify the rules of Past Tense by adding suffixes ed at the end of every verb forgetting the existence of irregular verbs as they think that is how past tense forms of words are created. There are occurrences where errors made by the learners do not imitate the first language structure at all, and the learner tries to oversimplify the target language because of their limited exposure to the language (Harun and Abdullah, 2020). This finding by Harun and Abdullah is also portrayed in a study by Krishnasamy (2015) where she found that Tenses are the most common types of errors that students make. Due to the COVID-19, learners have become more independent in terms of learning as they spend more time at home rather than school. This expectation of learning at any time and in any place is unlikely to diminish in the event of a pandemic. A self-learning interactive module is more appropriate to be used in countering the problems faced by learners. As learners are learning at home, the innovation developed must be able to be accessed by learners within their own time, capability and pace. Zimmerman and Schunk as cited in Nodoushan (2012) defined self-regulated learning as students' becoming "masters of their own learning". The SRL framework (Zimmerman, 2008) has been utilized to help pupils learn to work independently on a consistent basis. The planning, performing, and evaluating phases are highlighted in this framework. Shih et al (2010) stated that self-regulated learning (SRL) is essential in order to achieve the main goal of education which is to shape pupils' personalities and instill in them a natural drive to learn. In order to support learners in regard to their learning, coaching and supportive learning materials that are interactive should be provided. Van Houten-Schat et al (2018) stated in their study that it is necessary to take an individualised strategy to assisting pupils in a self-regulated learning environment. The utilisation of learning planning and goal setting, as well as the help of a mentor or coach, were found to be interventions that had a favourable impact on students' SRL processes. Thus appropriate interventions by online instructors have to concentrate on assisting students in comprehending the differences between studying online and learning in a traditional setting (Rice & Carter Jr, 2016). Through interactive self regulated learning modules, students can learn more effectively and perform better with the help of current technologies. Unlike conventional face-to-face learning, today's students can choose when and where they want

In order to attract pupils' attention for self-regulated learning, interactive teaching materials are needed to achieve the goal. Abadi et al (2017) defined teaching materials as resources and anything that are relevant to classroom learning and enable an acceleration in understanding the topic being taught by educators to pupils. Teaching materials should not

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

only be interactive but also attractive to improve pupils' interest in learning. The utilisation of visual approaches and technology in learning activities is one way to improve the pupils' motivation to engage with the learning materials provided. As a result, teachers are expected to come up with new ideas, both in terms of methods, media, and learning tools that are more appropriate and meaningful. The use of technology when creating teaching materials are very much the norms in recent years. As pupils are born into technology, teachers are required to incorporate them when developing materials for teaching. Escamilla-Fajardo et al (2021) believes that new learning environments that are more diversified, appealing, and motivating are created and facilitated by technology and due to the ability to personalise learning and increased flexibility in terms of time, speed, and location; technology improves and makes learning more manageable. The use of short videos in teaching is a trend among educators nowadays as content from social media platforms like Tiktok are booming in recent years. As pupils are more used to short and simple videos, they are less likely to be able to focus on long videos. Thus implementing this approach when creating interactive self regulated learning modules is a strategy to suit the pupils' needs and preferences. Yet as teachers incorporate technology as they develop their teaching materials, they should also consider the availability of good internet connections and working gadgets like computers and laptops for the pupils. Thus an offline interactive platform like Powerpoint can be integrated to cater this issue. Abadi et al (2017) stated that the interactive instructional material's goal is to help students visualise abstract concepts thus interactive multimedia should be designed to make learning more engaging and may be visualised through examples such as the use of technology and animation media, making it easier for students to learn and gain knowledge.

Methodology

In order to develop the PowerPoint-based self-learning interactive module, researchers had used ADDIE Models as a guide to complete the projects. The acronym ADDIE refers to the primary steps that make up the instructional system design (ISD) process in general: analysis, design, development, implementation, and evaluation (Molenda, 2015). Thus ADDIE model design is often used as an instructional paradigm that guides the development of software and learning materials based on user requirements. Due to its flexibility, the model can be modified to suit the needs of the researchers that planned to integrate this model when developing their innovation. It comprises five phases which are Analysis, Design, Development, Implementation, and Evaluation. It is ideal to use the ADDIE model as it provides an easy-to-follow process for the author or development team to follow while developing an instrument or project. It also ensures that crucial details that are important for the project are not neglected. Cheung (2016) stated in his studies that the ADDIE model has the advantage of being simple to apply and adaptable to any curriculum that teaches knowledge, skills, or attitudes and it could also assist instructors in developing a curriculum in a systematic manner. Figure 1 shows the stages of the ADDIE model.

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

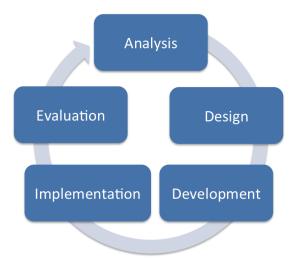


Figure 1: ADDIE Model

Analysis

Firstly, the researchers examined the target pupils' learning demands and issues in this phase. Researchers also collect extra information about the learner's desired knowledge, skills, or attitudes, as well as what needs to be taught in order to achieve these goals. The analysis step can be separated into a needs analysis, task analysis, learner analysis, and performance analysis using various information gathering technologies (Cheung, 2016). As part of the need analysis, the pupils were given a set of questionnaires to complete using Google Form. The questions were written in Malay and English so they could understand them better. In order to collect information on how familiar the pupils are with English language, the first few questions of the questionnaire required the pupils to tell about their liking towards the language, then it moved to the main problem that researchers try to discover which was their views regarding the topic of Tenses. Learners' present knowledge and abilities, motivation for learning the subject, and learning preference must all be established by educators during the analysis stage before moving towards the next stage in the ADDIE model.

Design

Following the analysis phase, researchers established an overall outline for how the instruction will be conveyed in the design phase. This includes determining the best teaching method(s) and developing practical, action-oriented learning objectives to steer the learning process. Secondly, during this phase, the learning materials were designed using the data gathered during the need analysis. Considering all the data gained regarding the students' learning needs and the difficulties they encountered while learning English tenses, researchers developed the self-learning interactive module based on the information gathered. As a result, the materials were created in response to the demands and issues, and the module is also built to reflect their English school curriculum.

Development

Next, during the development phase, a slideshow software called PowerPoint Presentation (PPT) provided by Microsoft was fully utilized in order to develop the materials. The researchers developed a self-learning interactive module that reflected the students' level of proficiency. This module includes bite-sized videos which were fun enough and did not require a long attention span, as well as quizzes that follow the videos. There were three sets

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

of basic tenses used in the modules i.e. simple present, simple past, and simple future. The module was then distributed to individuals who have had expertise via Google form in order to validate it and acquire their feedback on it. The following is an example of the module assessment instruments:

Table 1: Module assessment instruments

Feature	Aspect	Indicator
Content	Curriculum	Material suitability with students' basic competence.
		Material suitability with learning objective
		Material is supported by appropriate media.
		Material is easy to understand.
		Material provides sources to learn something.
Learning design and media	Strategy	Attract students' interest.
		Able to motivate students.
		Material delivery is systematic.
	Technical	Simplicity of the module
		Module able to help students understand lesson
	Display	Videos and pictures are catchy
		Suitable font size and space

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	Balance screen display and fonts
	The usage of videos and pictures to support learning process

Adapted from: Suartama (2016) in Aggraini & Putra (2020)

Implementation

Following that, in this phase, the self-learning interactive module was implemented to 50 Year 5 pupils in one of the primary schools on Peninsular Malaysia's west coast. Initially, the pupils completed the first set of tense modules, i.e. simple present tense, with their teacher in order to provide them with visuals of how the module looked. After they have been taught the grammar items, they accomplish the rest of the module on their own as an enrichment activity.

Evaluation

Finally, the pupils were given another set of questions via Google Form to test their perceptions of the self-learning interactive module using a Likert scale design. The information gathered would be used as a guide for re-designing or improving the module. The first few questions of the questionnaires required pupils to tell whether they managed to watch all the bite-sized videos provided before the quiz parts and whether they finished all the quizzes given. Then researchers move towards pupils' reactions to the interactive self-learning modules. Pupils needed to answer about their understanding regarding the topic of tenses and their liking towards the modules that have been created.

Result and Discussion

The purpose of the study was to develop a self - interactive module for students in year five of primary school. The guidelines were presented in a bite – sized video format, and the exercises were presented as quizzes. It was developed since the researchers discovered that learning tenses was difficult for these students because the elements did not exist in their mother tongue (Singh et al., 2017). The researchers used the ADDIE model, which consists of five stages: analysis, design, development, implementation, and evaluation which was followed in order to develop the self – learning interactive module.

Analysis

During this phase, the researchers looked into the learning demands and issues of the target students. They were given a set of questions to complete using Google Form and were written in Malay and English to help them comprehend the questions better. Only 50 of the approximately 70 year five elementary school students who received the questionnaire responded. The researchers looked at the students' proficiency backgrounds as well as their learning needs in order to build the module. According to the findings, the majority of students did not use English as a medium of communication at home, implying that they only used English at school, which made it difficult to learn the language (Jalok et al., 2019). They were also not particularly interested in studying English, since more than half of them did not

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

bother to complete the assigned homework. When asked about grammar points, particularly tenses, almost all of them had no idea how to apply them appropriately, and they were hesitant to teach their peers if they were asked to do so. In line with Abdullah (2021), these findings have also shown that targeted ESL learners were indeed having problems in learning the language particularly regarding grammar items such as the tenses.

Design

Researchers constructed an overall framework for how teaching will be delivered throughout the design process. This includes selecting appropriate teaching methods and developing practical, action-oriented learning objectives to lead the learning process (Cheung, 2016). In this step, the researchers created learning materials based on the information gathered during the need analysis. To create the materials, the researchers used Microsoft's PowerPoint Presentation software. The usage of Powerpoint as a teaching material may be considered as "old-fashioned" by some educators. Yet, as researchers were considering the needs and condition of the learners, this software is deemed to be most suitable to be incorporated in creating the self-regulated interactive module. Students' learning was thought to be aided by the use of this software as has been said in various past studies. Wanner (2015) in his studies proved that Powerpoint, a technology that is familiar to both teachers and students could be used to encourage student involvement with course content and make lectures more entertaining, student-centered, and interactive. The researchers created a proper storyboard to design all of the tenses inputs in the form of bite-sized videos, as well as the quizzes that would be included in the materials. The researchers have also looked for any appropriate and interesting visuals or catchy music that were commonly used on social media in order to grab the attention of students at this stage.

Develop

The development phase started with the creation and organisation of the learning materials that will be utilised during instruction after the researchers have chosen the methods of instructional delivery during the design phase and created the learning objectives. Researchers used the blueprint generated during the design phase to think through how to provide each component of the instruction in practice, gradually. This stage comprises the production of a self-learning interactive module based on the storyboard created. Several activities were involved in the module's creation namely:

- 1) Building the learning video contents using Microsoft PowerPoint Presentation based on the design planned.
- 2) The researchers used the appropriate photos and colours sourced from Google images, and also made sure to use the creative common licenses photographs to avoid any future issues. Viral and catchy music were also used in order to grab students' attention.
- 3) Creating the quizzes reflecting the videos using Microsoft PowerPoint and compiling them together based on the tenses.

The products' suitability was then sent to the experts for validation so that they may be used as learning materials by the intended pupils. The data can be presented as follows:

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

Table 2: Result of assessment instrument

Validator	Mark
Validator 1	71%
Validator 2	88%
Validator 3	64%
Validator 4	83%

There were a total of 14 items in the module assessment instruments given to the experts. (Refer Table 1). Each item was worth five points, and the experts evaluated them based on the materials they have seen and tested. Based on the results, it can be seen that two validators gave more than 80%, while the other two gave less than 80%. These were considered plenary marks, and they were highly important because the researchers needed to analyse the contents first before implementing it to the students hence to upgrade the quality of the material (Nazila et al., 2020). The experts' helpful remarks and some appropriate adjustments are listed below (Table 3).

Table 3: Comments from the experts

Validator	Comment	Amendment
Validator 1	Contents were enough for students to learn basic grammar.	-
	Include simple instructions in the quizzes.	Simple instructions included. The researchers have also instructed students verbally in the classroom on how to use the module.
	Include greetings from very cheerful teachers in the videos such as Hello everyone! How are you? Ok today we will learn about bla bla bla instead of just showing the facts.	lengthy hence ruin the

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

Validator 2	The module is interesting and interactive. The choices of font and colours are appropriate.	-
	It can be splendid if the video can be included the voice pronunciation	Pronunciation added
Validator 3	Improvise the materials to be aligned with the curriculum.	Researchers did a double-check, the materials and contents developed were indeed aligned with the curriculum of the target students.
	Module simple enough to be comprehended.	-
	Create the language activities and tasks that authentically allow students to use the grammar item (tenses) in the conversation.	Would love to do this for the next module. This current module was just a basic one, targeting the primary school students.
Validator 4	Examples given are clear, catchy videos. Quizzes reflected the input videos.	-
	Slow down some videos and let the students grasp the alertness that you wanted to inform them.	Videos slowed down.

Due to the obvious timing constraints, the products were developed rapidly. Video editing, photo and song selections took up more time that the researchers did not have time to revise the materials they had already completed several times. As a result, a few constructive remarks from the experts were received, which were later used to improve the product.

Implementation

The researchers used 50 year 5 primary pupils to test the self-learning interactive module at this time. Since the nation was still in the movement control order due to the pandemic, all classes were done online. The pupils were first taught the grammatical elements in the class, such as Simple Present, Simple Past, and Simple Future, and then given this module as an enrichment exercise. Before they began using the first module, the teacher demonstrated

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

and trained them on how to use it so that they could use it independently at home. Only ten (10) students, however, managed to complete all of the modules. Below are the interface of the modules:

Figure 2: Preface of the modules



Pupils were given a folder containing a collection of modules similar to the one depicted in Figure 2. They would need to finish the module one by one based on the items learned whenever they were taught the grammatical topics.



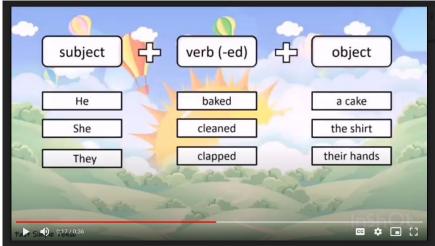


Figure 4: Example of the quizzes

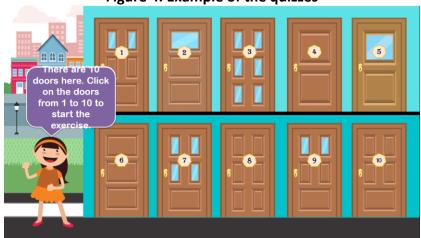
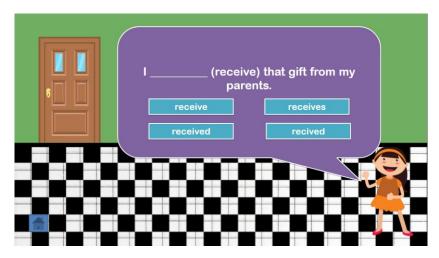


Figure 5: Example of the quizzes

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS



Then, pupils reported the marks they have gotten to the researchers which 9/10 of them got full marks for all the quizzes answered. This demonstrates that the designed interactive self-learning module is an excellent learning tool which supports the previous research that stated that as a learning tool, interactive e-modules are beneficial (Rahmatsyah and Dwiningsih, 2021) as it has the interactive elements such as pictures, videos, animations that are expected to be in interactive learning materials (Pricilia et al., 2020).

Evaluation

Evaluation stage is aimed at getting students' perception and the effectiveness of the self – learning interactive module that they have done previously. The result was determined using Google Forms, and it showed that all of the students had seen the bite-sized video before answering the quizzes. They also thought that this type of learning was enjoyable, as shown by one student in his comment:

"I enjoyed studying English in this way. Thank you." - Student A
The results also showed that they were able to teach their friends about the grammatical items, such as Simple Present, Simple Past, and Simple Future, in the future, and that they had gained more confidence in answering questions about tenses if they were asked in the exam which was considered as a really great impact as having a high self - confidence level would lead to the higher success rate in learning languages (Tuncel, 2015) since they would participate more in term of sharing ideas and experiences in class discussions (Akbari and Sahibzada, 2020). Finally, it depicted that there was a strong correlation between students' affection and their learning materials as all of them wished that their teacher would create something similar to this module in the future to teach other grammar topics. All in all, it could be concluded that the year five students' learning efficacy is definitely enhanced by utilising the PowerPoint self-learning interactive module in leaning the three basic English tenses: Simple Present, Simple Past, and Simple future.

Conclusion

In a nutshell, learning English as a second language (ESL) is challenging. This is because linguistic components such as structures, sound, words, characteristics, and grammatical items differ. As a result, some people, particularly students, may find it difficult to learn it despite the fact that many people around them speak the language and have been learning it since kindergarten. As a result, the goal of this research is to identify a specific problem that students have when learning ESL, create and construct learning materials to address the

Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

problem, then apply the materials with the target students, and finally, assess whether the materials were beneficial to them. Students were found to enjoy the learning resources, namely the self-learning interactive module, as an enrichment activity to be completed by themselves after being taught grammatical items in the class. The impacts that they gained after learning tenses using the module were an increase in confidence and a desire to learn other topics using the same design as this module, even if some revisions were needed based on the experts' recommendations derived when constructing the materials. Based on the study's result, all of the students love the modules done by them. Thus, these kinds of learning materials should be added in the school curriculum and given to the students as their enrichment tasks instead of a plain paper consisting of few exercises. However, this study has only been done in a school and only 10 students participated to the end of the process. To improve this study, students from different schools should be determined and mandating them to participate through the whole process to generalise the data collected. Since the study was fully done online, future research may be done in the hybrid method to acquire the better result for students' perceptions on the self – learning interactive module.

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Vol. 11, No. 1, 2022, E-ISSN: 2226-6348 © 2022 HRMARS

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