





Mitigating Reading Plight: Igniting Motivation with Interactive Immersive Reading Module (IIRM)

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Abstract: *With rapid advancement of technology, learners' attitude towards reading materials manifests a declining trend. One of the common grounds is lack of stimuli from the plain pages of books which leads to demotivation to read, encompassing poor reading habits. Previous researchers also found that lack of motivation to read from a young age could be a major factor in sculpting the students in this digital era, where book pages have to compete with vibrant screens. Hence, the aim of developing Interactive Immersive Reading Module (IIRM) is to ignite motivation to read from early stages and to improve the students' learning efficacy by designing, developing, and evaluating the effectiveness of using an immersive digital book. A total of 60 pupils from intermediate level in two primary schools were involved in this research. ADDIE model was used as research methodology in this research and the research design was the quasiexperimental method, employing the pre and post-test. After analysing the data, it is revealed that the participants became more engaged at reading English materials and they showed a positive attitude towards the material. In addition, their memory retention of the given input was also better, as the experimental group's result indicated. The majority agreed that they would be more excited to read digital books and manifested the desire of having their textbook in this digital form. Thus, this study will provide new perspectives in fostering motivation to read autonomously, provided future research continues to explore its boons in a larger sample size.*

Keywords: Animated, Interactive, motivation, PowerPoint, reading.



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1. INTRODUCTION

Possessing a good reading skill is the most basic requirement in comprehending knowledge and to scaffold the newly required information; suffice to say, reading proficiency is paramount for the success of a child (Wang et al., 2020; Toste et al., 2020; Francis et al., 1996). Based on the research conducted by Baker and Wigfield, other than cognitive factors, motivation also plays an indispensable role in affecting a child's reading competence (1999). This further supports the hypothesis proposed by Stavonich that even if the child is capable and skillful at reading but if his motivation declines and he

decided not to read, it will consequently decrease his reading proficiency (1986). This connotes that for almost forty decades, there has been a resonant echo of how students' achievement in reading can be predicted by judging their motivation to read. Their impulse and desire to read will then determine their chance of surviving the school years (Toste et al., 2020).

Nonetheless, the driving factor that encouraged reading forty years ago or twenty years ago might not be the same as it is now. As time transcends, so does the generation that comes with it. Now, more than ever, the world progressively gears towards the assimilation of technology and as digital natives, the students are accustomed to colourful images on the screen and moving animation (Tozlu Kilic, 2018). Just like how the papyrus manuscript evolved into books, that is also how books should turn into; something that is more appealing to learners in this age, and it comes in a digital form (Forero & RamírezCorrea, 2021).

Numerous past studies have proven that by integrating the tools that students are most comfortable with will promote motivation to partake in the lesson (Tozlu Kilic, 2018). See et al (2019) and Klebanov et al (2019) in their studies indicated that e-books were able to attract students' attention and have immensely helped struggling readers which in turn, encourage positive engagement with reading activity. In another study conducted by Larhmaid et al. (2019), it was revealed that students prefer digital reading due to the available buttons and functions like 'home' and 'search' that are being embedded in the e-texts which make it easier for them to keep up with the information. Its conveniences could be the factor that motivates the students to read as they can easily find and extract information from the digital book. Reading engagement also could be fostered when students are able to conduct the activity autonomously; self-selecting the materials, self-assessment activity and personal reflection based on the instant remedials offered (Larhmaid et al., 2019).

Since students' needs and motivation have evolved, more new digital tools are generated in order to cater to these needs (Adnan et al., 2021). Thus, when the reading material is developed to be interactive and immersive, it accelerates students' understanding while simultaneously tackles their attention deficit (Mohd Jais et al., 2022). It can't be denied that the call to utilise technology is widely acknowledged, yet there are still a few aspects that should be considered by the teachers, like the availability of Internet connection and students' gadgets. If the materials are developed via PowerPoint, it is easier for the students to store the materials online (Mohd Jais et al., 2022) and since most students possess smartphones or tablets instead of laptops or computers, the layout and display of the module should be considered to fit the target audience; the students.

Besides, it is also a common understanding that younger generations prefer to play interactive video games than reading as they have so much more to explore compared to the plain old pages of a book that could barely stimulate their interest to engage in a reading activity (Liman Kaban & Karadeniz, 2021). As a result, their mindset will perceive books as boring and they will continue to be discouraged to instil reading habits. In contrast, if digital books are developed to be interactive and immersive, this would not only entice the young readers but would also develop creativity. Books should no longer be restricted to just words and photos (Bahari et al., 2021). There should be sound, where students are modelled with the right pronunciation and there should be moving images where students can see beyond a framed photo, and when they attempt to answer the comprehension questions, the book should offer instant feedback or correction for the students. This will prolong their motivation to carry out reading autonomously as they do not have to wait for their English teacher that can only enter their classroom three times a week. Why would we deny these children their rights to self-motivate to read when there are available technological means, ready at our disposal.

Hence, this study aims to improve intermediate students' learning efficacy by designing, developing, and evaluating the effectiveness of using an interactive immersive digital book while at

the same time, spark students' motivation to read by incorporating vibrant colours and animation in the said module.

2. METHOD & MATERIAL

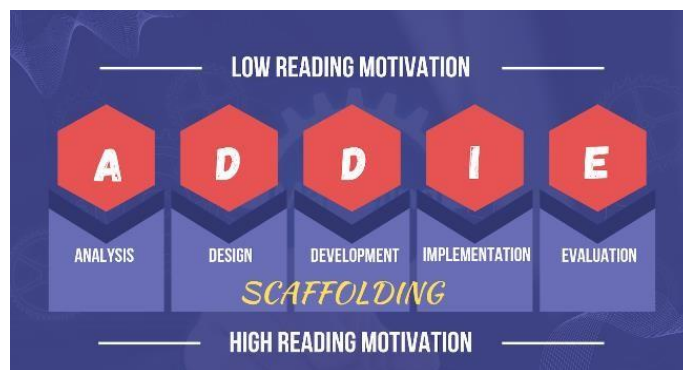


Figure 1. ADDIE Model

2.1 Analysis

This research aims to analyse and design the Interactive Immersive Reading Module (IIRM) based on the ADDIE model. The analysis state is considered as the “Goal-setting stage”. The analysis stage lays the groundwork for later stages of the ADDIE paradigm using an extensive range of questions and methods of investigation. Therefore, the researchers investigated the English Language Learners' (ESL) prerequisite knowledge about reading comprehension and the problem faced. Two schools participated in this research, a city school in Sarawak and an urban school in Melaka. The pupils were given a reading comprehension and no guidance was provided. The output was saved for analysis to identify their reading issues.

2.2 Design

This stage determines all objectives and the effective tools to gauge their reading performance. All the information collected in the analysis phase was used to formulate a strategy aiming to steer their learning performance. Hence, the researchers identified the learning goal by designing the Interactive Immersive Reading Module (IIRM) to enhance their reading comprehension.

2.3 Development

The materials for the module was fully developed by utilising Canva and Microsoft PowerPoint Presentation. In order to achieve the objective of making the module as interactive as possible, it was first designed via Canva where the graphics, animations and videos are royalty free. These elements were incorporated to ensure that the colours and animations will be able to attract young readers and further encourage them to instil a reading habit. Then, the pages were embedded into PowerPoint Presentation, where it was arranged according to the students' levels and followed by a few sets of quizzes. There were three themes incorporated in the module which are World of Myself, Family and Friends, World of Stories and World of Knowledge. Afterwards, the module set was distributed to the two groups of Standard 4 students from 2 similar demography of schools. Attached below is an example of the module and its self-assessment instruments:

Table 1. Module Assessment Instruments

Feature	Aspect	Indicator
Audience	Focus Group	Two groups of students with intermediate level for Standard 4
		Two groups of students from similar demographic background
		Two groups of students that are digital native
Content	Curriculum Mapping	Material is suitable with the learning objective
		Material is suitable with students' competence level
		Material provides background knowledge with supports of media and graphics
		Material can be understood autonomously
Design	Strategy and technical aspect	Material is able to encourage students to read and answer the quizzes
		Material is able to retain student's understanding and knowledge
		Material is delivered based on their cognitive level
	Display	Module incorporates colourful and bright images to attract attention
		Module uses short videos to support learning comprehension
		The font size and space are suitable for children

2.4 Implementation

This stage aims to get pupils involved in the learning process. In this stage, the IIRM was implemented on 60 intermediate pupils. Random samples of selection were used in this stage. They were split into two groups, each of which received a distinct type of instruction: Traditional Reading Method (N=30), comprises of 15 samples for each school and Interactive Immersive Reading Module (N=30), also 15 samples for each school. Both groups were assigned to read and answer the reading comprehension. For the Traditional Reading Method (TRM), the pupils were asked to read and answer the comprehension in the conventional way. However, for the Interactive Immersive Reading Module (IIRM) method, the pupils were asked to complete the task in a guided technology-based learning environment. The captures of IIRM can be seen in Figure 2 and Figure 3.

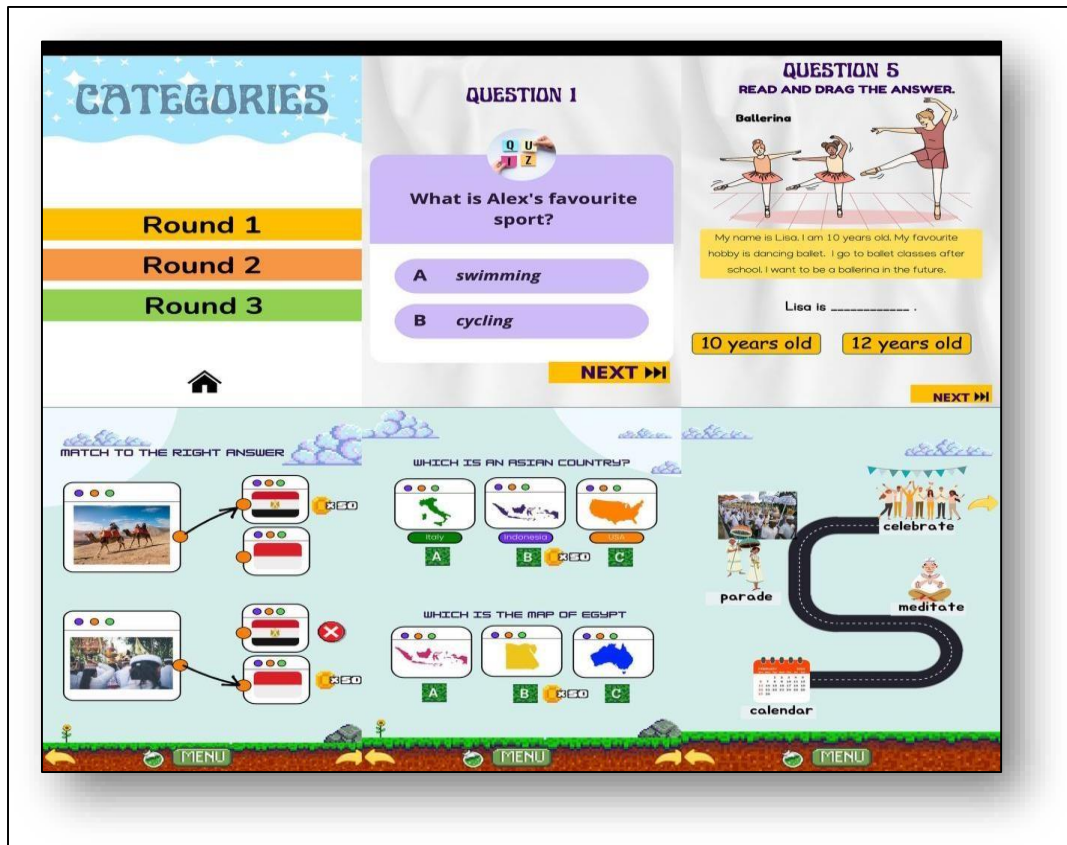


Figure 2. Interactive Immersive Reading Module (IIRM)



Figure 3. Interactive Immersive Reading Module (IIRM) quizzes

2.5 Evaluation

The evaluation was carried out using a 7-item Likert scale questionnaire and pre-test and post-test. A 7-item Likert scale questionnaire was created to examine their understanding of IIRM in terms of use (2 items), perceived usefulness (1 items), satisfaction (1 items), learning (1 items) and enjoyment (2 items). On each item, the respondents were asked to rate how much they agreed with a five-point scale ranging from 1-strongly disagree (angry emoji) to 5-strongly agree (love emoji). Apart from evaluating via Likert scale questionnaire, pre-test and post-test was carried out to validate the usefulness of IIRM. To assess their comprehension, a pre-test reading comprehension with 10 questions was administered. The same 10 reading comprehension questions were provided as a post-test at the end of the lesson to assess the effectiveness of IIRM in igniting their reading motivation. Likert scale uses emojis to denote five different scales Strong Disagree (1), Disagree (2), Neutral (3), Agree (4) and Strong Agree (5) since the respondents are primary schools' pupils. They need the guidance from using emoji so that they can answer the questionnaires.

3. FINDINGS

The aim of this study was to develop and implement an interactive reading module among the pupils. The reading comprehension was presented in an animated PowerPoint and their understanding of the reading comprehension were evaluated via interactive quizzes in the PowerPoint. After the module was developed, it was sent to be validated by 3 experts in English educational field, and the students were exposed to the module.

3.1. IIRM Validity

Table 2. Results of assessment instrument and comments from the experts

Validator	Mark (%)	Comment
Validator 1	75	Usage of <i>Genially</i> is highly recommended. <i>Genially</i> has a ready made template and it is easier for the teacher to develop their own materials. Pupils can access it both online and offline.
Validator 2	83	Employing the same material with Standard 6 Low Proficiency pupils to see how the module affects the low proficiency pupils.
Validator 3	90	Analyse the CEFR level of vocabulary using the English Vocabulary Profile (EVP) as a reference to develop the material.

There was a total of 13 items in the module assessment instruments based on the indicators shown in Table 1. It was given to the experts to evaluate and validate before carrying out with the pupils. Based on the result in Table 2, it can be seen that the marks given by the validators were very positive. Their marks and comments given determined the reliability of IIRM and pinpoint the problems that may arise during the implementation of this interactive immersive module.

3.2 Pre-test and Post-test for IIRM

A total of 60 pupils participated in pre-test and post-test. There are 30 pupils from each school and they were divided into two groups, the control group (TRM) and the treatment group (IIRM). The ability of the students to complete the test demonstrates the effectiveness of the learning media in this study. The pre-test is carried out before learning to use the IIRM. Each school is denoted as School A and School B. The data is presented in tables and graphs to show comparison between the control groups and experimental groups for both schools. For the pre-test stage, 10 questions consisted of three themes; world of self, family and friends, world of knowledge and world of story were given to both groups, control group and experimental group. The scores for both schools for pre-test were tabulated in Table 3 and Table 4 below.

Table 3. Pre-Test and Post Test Score for School X among Control Group and Experimental Group

Participant	Pre-Test	Post-Test	Participants	Pre-Test Score	Post-Test
S1	5	5	S1	6	8
S2	6	6	S2	6	9
S3	6	6	S3	5	8
S4	6	6	S4	5	8
S5	7	7	S5	5	9
S6	7	7	S6	5	8
S7	6	6	S7	6	9
S8	6	6	S8	7	9
S9	5	5	S9	7	10
S10	6	6	S10	6	8
S11	6	6	S11	6	9
S12	7	7	S12	5	8
S13	6	6	S13	5	9
S14	5	5	S14	6	9
S15	5	5	S15	6	9
Control Group			Experimental Group		

For the control group, four participants scored 5 marks, eight participants scored 6 marks and three participants managed to score 7 marks, which is the highest so far. As for the experimental group, six participants obtained 5 marks, seven participants obtained 6 marks and two participants obtained seven marks.

Table 4. Pre-Test and Post-Test Score for School Y among Control Group and Experimental Group

Participant	Pre-Test	Post-Test	Participants	Pre-Test Score	Post-Test
S1	4	4	S1	5	8
S2	4	4	S2	5	7
S3	4	4	S3	6	9
S4	6	6	S4	6	8
S5	6	6	S5	6	9
S6	4	4	S6	7	10
S7	6	6	S7	5	8
S8	6	6	S8	5	7
S9	7	7	S9	6	9
S10	6	6	S10	4	7
S11	5	5	S11	4	8
S12	5	5	S12	5	7
S13	5	5	S13	6	8
S14	7	7	S14	4	7
S15	5	5	S15	5	8
Control Group			Experimental Group		

For School Y for the control group, four participants scored 4 marks, four participants scored 5 marks, five participants scored 6 marks and two participants were able to score 7 marks. As for the other group, three participants successfully scored 4 marks, six participants scored 5 marks, five participants scored 6 marks and only one participant managed to score 7 marks. The scores for the post-test is being analysed in two graphs between the experimental groups; School X and School Y to show comparison between pre-test and post-test after being given the Interactive Immersive Reading Module (IIRM).

The findings in Figure 4 reveals there is a slight increment among the experimental group for school X after the Interactive Immersive Reading Module (IIRM) being given to them. There were six participants who managed to score 8 marks, eight of them managed to score 9 marks and one participant managed to get full marks. Hence, there is a slight increment for their scores as they managed to improve themselves after being introduced with the module.

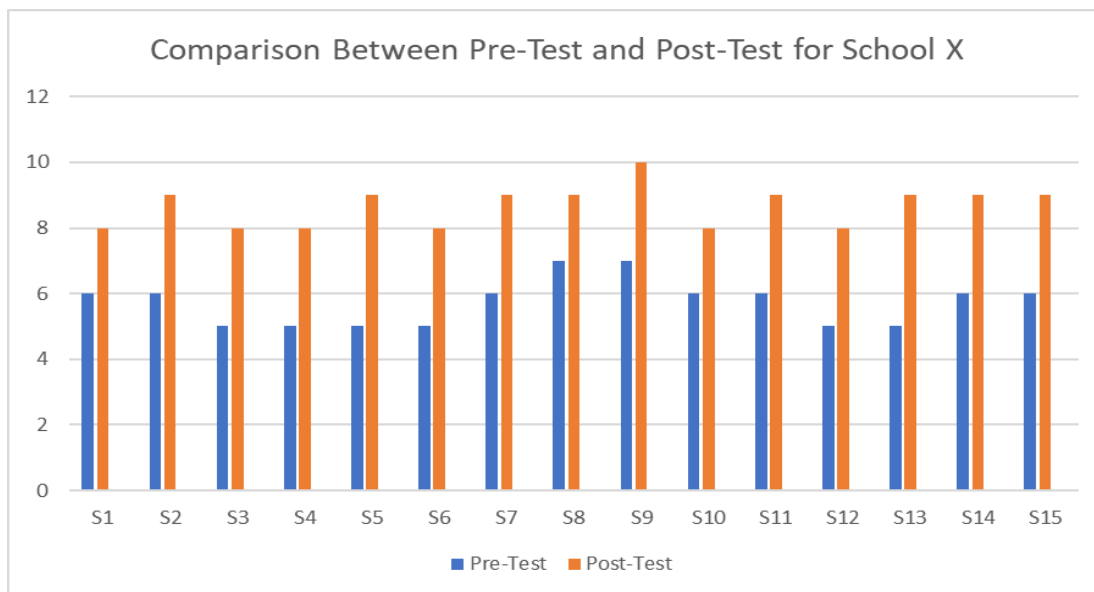


Figure 4. Comparison between Pre-Test and Post-Test for School X Experimental Group.

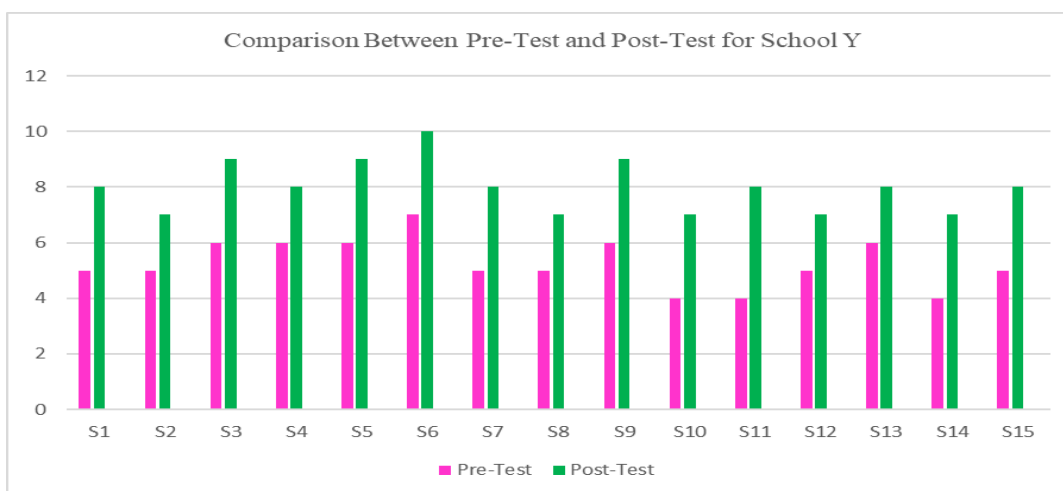


Figure 5. Comparison between Pre-Test and Post-Test for School Y Experimental Group

Figure 5 shows that there is also an increment among experimental group participants after an intervention using Interactive Immersive Reading Module (IIRM) being given to them. As compared to their pre-test, five participants scored 7 marks, six of them scored 8 marks, three of them scored 9 marks and only one participant scored full marks.

3.3 Pupils' perception towards IIRM

A set of questionnaires have been given to the pupils to obtain their feedbacks about the module. The scale 1 to 5 is being replaced with emojis to cater the participants age level. The findings from their feedbacks on the questionnaires are being tabulated in Table 5 below.

Table 5. Data Analysis for the Questionnaire using Likert Scale Emojis among Respondents

Item	Statements	SD (1)	D (2)	N (3)	A (4)	SA (5)
1.	I like this module.	0	0	0	10	50
2.	I like the quizzes.	0	0	0	20	40
3.	I like the colourful pictures in this module.	0	0	0	55	5
4.	I like the videos and sounds from the module.	0	0	0	60	0
5.	I can understand easily about the topic.	0	0	0	45	15
6.	I can use the module easily without any help.	0	0	0	50	10
7.	I want to read more using this module.	0	0	0	40	20

The questionnaires are being constructed to suit with learners’ level, the primary school pupils. Hence, the researchers used simple word choice and the scale is converted into emojis to get their feedbacks about the modules. Other than that, only seven questions are being imposed to them considering their age level. The data is being tabulated in Table 5 above. The data is converted into percentage and being presented in bar chart in Figure 6 below.

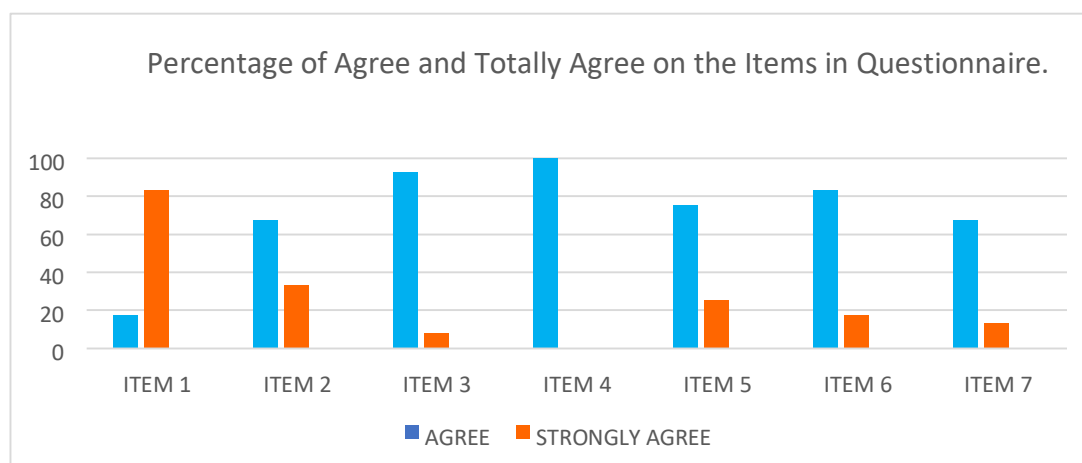


Figure 6. Percentage of Agree and Totally Agree from the Questionnaire

From the bar chart, findings from Item 1 shows there are 50 participants (83%) are strongly agree with the statement, and 10 participants (17%) are agree with the statement. As for the Item 2, there are 20 participants (33%) are agree with the statement, and 40 participants (67%) are strongly agree with the statement. Item 3 reveals the findings with 55 participants (92%) are strongly agree and 5 participants (8%) are agree with the statement in Item 3. There are 60 participants (100%) strongly agree with the statement in Item 4. Other than that, 45 participants (75%) are agree and 15 participants (25%) are strongly agree with the statement for Item 5. Item 6 shows the findings with 50 participants (83%) agree with the statement, and 10 participants (17%) are strongly agree with the statement. While, Item 7 shows 40 participants (67%) are agree and 20 participants (37%) are strongly agree with the statement.

4. DISCUSSION

Interactive Immersive Reading Module (IIRM) utilized both ICT tools and DERs (hyperlink, pictures, video-clip, graph, e-reading and games) to initiate and engage the motivation to learn among pupils, especially on reading comprehension. From the comments given by the validators, this Interactive Immersive Reading Module (IIRM) has a few strengths that can be highlighted in this discussion. According to Freiermuth & Ito (2022), ICT tools have been proven to facilitate learners with personalized reading activity and reading enjoyment, indirectly stimulating students and increase their reading motivation. IIRM comes with colourful graphics and designs with a variety of activities, audios, videos, and quizzes via games. Apart from that, it is easy to navigate, making it easier for the pupils to learn and appropriate to their age level. Most of the digital tools are available online. However, IIRM comes with an offline version considering the demographic factor among Malaysian pupils. It comes with three themes, the world of self, family and friends, world of stories and world of knowledge making this module suitable to be used for all levels of primary school pupils from Year 1 until Year 6 and it follows the CEFR contents. Hence, it is suitable to be used as the supplementary digital tool for pupils to have their self-assess learning to improve their reading comprehension.

In comparison to other available digital books online, IIRM offers spoken text where students can just click on the reading passages to listen to the pronunciation. This does not only reiterate their comprehension by listening to the words they are reading but also enhances knowledge retention. Other extra added value would be the effects and animation that no digital book could offer which would be able to captivate young minds. Thus, it was not surprising when this study was conducted, some participants were able to indulge with the activities in the module and they were able to learn independently without any guidance and help from the teacher. Indirectly, this module is proven to be effective to be used as supplementary learning tools in the term of digital learning since they are accustomed to the technology and they are engaged with games in their daily life. Indirectly, it can ignite their motivation to read while they engage with the quizzes using gamification. Nonetheless, there are few limitations which can be improved in the future. Time constraint is the biggest limitation that affects the development of this module. To gain more reliable data, the pre-test should be conducted at the beginning of the year while the post-test is being conducted at the end of the school year. Other than that, the sample size being used is quite small and the results would be more reliable if it is being conducted in bigger samples. The results could be improved if it is being tested to different levels of pupils; the weak learners, intermediate and advanced learners. If these three limitations can be improved, IIRM can give a better learning impact towards the pupils.

5. CONCLUSION

The advancement of technology serves us with a variety of digital learning tools and materials accustomed to 21st century learning. From the study, it is clearly stated that our module has successfully ignited the learners' motivation and able to mitigate reading plight. However, little emphasis has been given on the immersive reading comprehension that can help to improve learner's motivation towards reading. All in all, this module still has a lot to be improved regardless of its positive feedback and results being drawn from this research. It is hoped that this module can not only ignite pupils' motivation towards reading but it can shed light on reading comprehension as it can improve pupils' motivation to read and consequently, mould them into a competent student.

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