

Research Article

The Adventure of Mat Kilau: Enhancing Listening Comprehension through an Interactive Computer Game

Munira Abd Rahman¹, Siti Hanisah Abdul Rahman², Noraini Md Said³, Melor Md Yunus⁴

¹ Faculty of Education, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia; p118622@siswa.ukm.edu.my;  0000-0002-7535-1820

² Faculty of Education, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia; p118854@siswa.ukm.edu.my;  0000-0002-6600-0535

³ Faculty of Education, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia; p116542@siswa.ukm.edu.my;  0000-0002-1772-5126

⁴ Faculty of Education, Universiti Kebangsaan Malaysia, 43600 UKM, Bangi Selangor, Malaysia; melor@ukm.edu.my;  0000-0001-7504-7143

* Correspondence: p118622@siswa.ukm.edu.my

Abstract: Globalisation and fast-growing information technology have strikingly changed the approaches to ESL teaching and learning in the past few decades. On account of the increasing demands of the 21st century, the awareness on the importance of listening skills, especially listening comprehension, has grown tremendously. This is due to the realisation that excellent listening comprehension enables learners to communicate effectively and meaningfully. However, in the Malaysian context, studies found that listening skills are still perceived as less important than other language skills. Therefore, this paper aims to fill the gap by developing 'The Adventure of Mat Kilau', an interactive computer game to enhance ESL learners' listening comprehension. The game features a Malay hero 'Mat Kilau' as the main character and different tasks which need the players to listen to verbal instructions. This paper also describes the stages of the research which include the needs analysis, design, development, implementation, and evaluation. Based on the findings, it is concluded that this interactive game works as a fun, challenging, and motivating tool for lower primary ESL listening comprehension.

Keywords: Listening comprehension; ESL; Interactive game; Authentic teaching and learning material; Listening skills.



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1. INTRODUCTION

The teaching of ESL listening skills in recent decades has transformed rapidly due to the numerous demands of the 21st century. As communicative and interactive approaches are considered the ideal ways to teach languages, various researchers have proposed refreshing ideas and tools to approach current trends. As a rule of thumb, language educators teach various languages based on the four skills, namely the listening skills, speaking skills, reading skills, and writing skills; the cycle usually starts with listening skills (Kosimov, 2022). This is due to the nature of language acquisition, where children are exposed to new language inputs through listening. In the ESL teaching context, one of the most important facets of listening skills is listening comprehension. As stated by Krashen (1989), listening comprehension is vital for language learning as it promotes language acquisition and the advancement of other language abilities in an ideal environment.

With excellent listening comprehension, ESL learners can develop other language skills for effective communication. UNICEF (2022) has highlighted the importance of listening comprehension in promoting effective communication skills among learners. In their recent publication, UNICEF suggested that “the development of a wide range of communication skills involves interactive and participatory learning, allowing for active listening and questioning” (p. 25). In many countries, the advancement of technology has prominently upgraded ESL learners’ listening comprehension (Tilwani, et Al., 2022; Akdamar, 2021; Hamdy, 2017). The utilisation of podcasts, games, mobile applications, websites, and various other digital resources in listening activities, for instance, have been studied and analysed to prove the extent of their contribution towards ESL listening activities. Hence, it is evident that the interests in ESL listening comprehension have been positively growing along with the advancement of technology.

In the Malaysian context, the adaptation of Common European Framework of Reference (CEFR) aligned teaching textbooks and materials since 2017 has brought many changes to ESL teaching and learning, especially in primary and secondary schools. As stated in the educational reform roadmap, the Ministry of Education would purchase books and materials which have either already been used with a CEFR curriculum, or can be written specifically for the Malaysian CEFR-aligned curriculum (The Ministry of Education Malaysia, 2017). These materials give equal attention to the four language skills, with textbook-aligned audio files to facilitate listening activities during ESL lessons. However, despite the provided skills-based scheme of works and materials, several researchers found that ESL listening skills in Malaysia are relatively overlooked (Kumar & Sandaran, 2018; Ghee, et al., 2019; Ismail & Aziz, 2020). According to Ismail (2020), many teachers failed to emphasise the skill enough as compared to the other skills, although CEFR itself stresses on improving students’ both receptive and productive skills. Apart from that, fun learning materials for vital listening activities, such as listening comprehension, are also still limited. Eventually, this could be the answer to why many primary pupils are having difficulties in understanding verbal instructions and information (Gilakjani & Sabouri, 2016).

Due to this concern, this paper aims to develop ‘The Adventure of Mat Kilau’, an interactive computer game to enhance listening skills, specifically listening comprehension. Through this creation, it is hoped that primary ESL learners are able to enhance their listening comprehension in a fun and engaging way. Apart from that, this paper hopes to contribute to more teaching and learning materials for listening comprehension in Malaysian primary schools.

2. METHOD & MATERIAL

The Adventure of Mat Kilau is developed by incorporating the ADDIE model. ADDIE is an instructional design model which is widely used in the creation of learning materials (Drljača et al., 2017). The name is an acronym of Analyse, Design, Develop, Implement, and Evaluate. This section will describe the methods and materials adapted in the game’s development using the five stages of the ADDIE model.

2.1 Needs Analysis

The game development began with a needs analysis. During this phase, the researchers carried out a survey to collect the teacher and Year 3 pupils’ opinion and reflection on how listening comprehension activities were conducted in their class. To collect the data, the researchers conducted an interview with three teachers and ten Year 3 pupils. In the interview, the respondents provided information on how they perceived listening comprehension lessons and their experiences of teaching and learning the skill in the classroom setting. The pupils also shared about their personal preferences

in learning and which approaches spark their interest in learning ESL. At the end of this phase, the researchers concluded that:

- a. The teachers sometimes skipped listening lessons or conducted it briefly to focus more on reading and writing activities.
- b. The teachers faced difficulty to find interesting materials for listening comprehension and were not to build their own materials because of workloads and time constraints.
- c. The pupils could not recall any impactful or memorable listening comprehension activities during the class. They did, however, state that their teacher utilised the listening materials provided in the textbook.
- d. The pupils enjoyed interactive activities, which are fun and motivating.

2.2 Design

Based on the needs analysis, the researchers moved on to design an intervention. Adapting Bloom's taxonomy (1956) and Piaget's Theory of Cognitivism (1962) as the foundation of the design, the researchers found that the best approach to address the issues and needs of both teachers and pupils in listening comprehension is by developing an interactive computer game. This game, unlike other computer or language games found ubiquitously, is designed to suit the local context. The characters and settings in the game should be familiar to the pupils to attract their interest. Therefore, the researchers decided to adapt the characters from the popular Malaysian historical movie 'Mat Kilau' into the game. Additionally, since the focus of the game is listening comprehension, the game will only provide inputs through verbal instructions. Minimal texts will be displayed on the screen. Consequently, the pupils had to demonstrate their understanding to complete the missions by only listening to the instructions. While designing the game, the researchers also consulted a School Improvement Specialist Coach (SISC+) in PPD Melaka Tengah for validation.

2.3 Development

To build the game, the researchers recruited a professional game programmer into the team. The game was developed using a 2D role-playing game (RPG) platform, allowing players to indulge in the animated visuals and interactive actions of the characters in the game. After each instruction is given, players would move the characters using the keyboard or cursor to complete the missions. Three stages were built, highlighting different vocabularies, actions, and difficulties. Figures 1, 2, 3, and 4 below show the stages of the game.



Figure 1: Mat Kilau needs to pick the correct sword by listening to the instruction



Figure 2: Mat Kilau needs to open the correct chest and choose the correct key by listening to the instruction

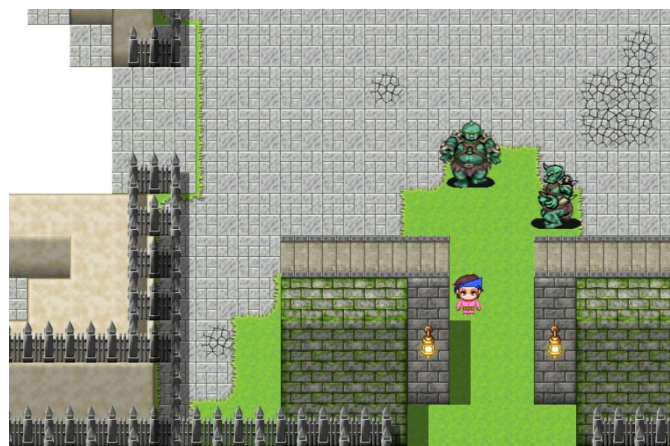


Figure 3: Mat Kilau needs to find and save Rokiah by listening to the instruction

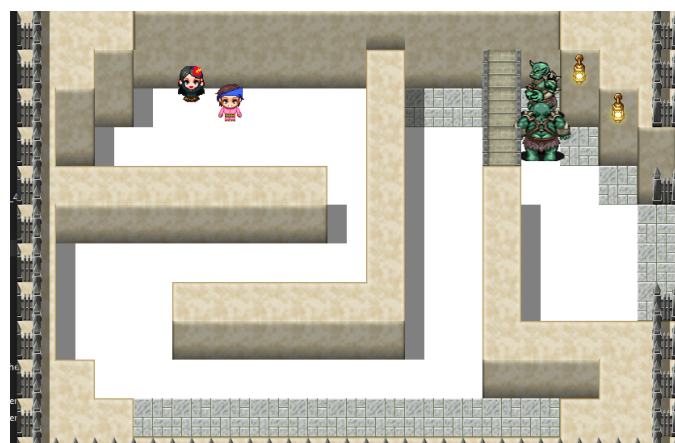


Figure 4: The interface displayed when the mission is accomplished

2.4 Implementation

The game could be implemented in or out of the class, as long as the pupils had access to computers. As the game is played offline, the players do not need an internet connection. It could be played individually, in pairs or groups, and as a class. For this research purpose, the researchers had implemented the game in three primary schools in Melaka and Selangor. A total of 124 lower primary pupils and 6 teachers were chosen for the implementation and evaluation. Figure 5 shows the implementation of this game in the schools.



Figure 5: The implementation of the game in three schools

2.5 Evaluation

The evaluation of the game is done in two methods. First, the researchers collected data from a survey questionnaire given to 10 pupils from each school involved in the implementation stage. A set of 4 questions was given to the pupils, which then were analysed through descriptive analysis. The second method was an interview. Three teachers from the schools involved were called for a short interview session. The results from both evaluation procedures are discussed in the next section.

3. FINDINGS

The findings of this research is crucial as it evaluates and validates the game's potentials and provides the researchers with data for further improvements. It would also contribute to the innovations of more enjoyable and effective learning tools in the future. As mentioned previously, the researchers had conducted a survey and interviews on a group of pupils and teachers from the three participating schools. For the survey, a total of 30 responses were received from three different schools, while three teachers were interviewed for feedback on the game.

3.1 Post-game Questionnaire

Table 1 shows the list of questions given to pupils after they played the game. A total of 30 respondents are selected and the data is tabulated as shown above. 83.3% (25) strongly agree, 6.7 % (2) agree and 10% (3) neutral that the game is fun. Next, 36.7% (11) strongly agree and 63.3 % (19) agree that they were able to follow all the instructions given. Following with 100% (30) strongly agree that they felt happy when they completed the mission and 100% (30) strongly agree that they would like to play the game again.

Table 1: Post-game Questionnaire

Item	Questions	SD	D	N	A	SA
1	Is the game fun?	0.0% (0)	0.0% (0)	10.0% (3)	6.7% (2)	83.3% (25)
2	Were you able to follow all the instructions given?	0.0% (0)	0.0% (0)	0.0% (0)	63.3% (19)	36.7% (11)
3	Did you feel happy when you completed the mission?	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	100% (30)
4	Would you like to play the game again?	0.0% (0)	0.0% (0)	0.0% (0)	0.0% (0)	100% (30)

Note: Strongly Disagree SD, Disagree D, Neutral N, Agree A, Strongly Agree SA

3.2 Interview

One teacher each is chosen from three different schools respectively. The teachers are given time to watch the tutorial video and explore the game on their own. Later, they are given a few questions regarding the product and asked how they felt about it being used as teaching material for listening comprehension. The answers are listed below.

Interview Questions	Answer from Teacher A	Answer from Teacher B	Answer from Teacher C
How do you usually practise listening skills in your lesson?	Listen to audio and answer questions.	Answer questions based on audio.	Pupils do action based on the teacher's instructions.
Can you find many listening materials to use?	Not really.	Sadly, no.	It's hard. Most of the time I need to create my own.
Do you think pupils will enjoy the game while improving their listening comprehension?	Yes, the game is exciting. They need to listen carefully before making any move.	Yes. The game is fun, interactive and interesting. I think it is a very good practice for listening comprehension skills	Absolutely! Pupils need to listen carefully before deciding their next move which will enhance their listening comprehension skills.
Is it interesting? Why?	Yes! Mat Kilau is a famous character that surely will excite the children. The sound	Yes. The sound effect makes the game interesting.	Yes of course! I'm eager to play looking at the graphics and imagery used. I'm sure

	effect also plays an important role.		the pupils will do too.
Is the game suitable for lower primary?	The game is engaging and suitable for lower primary pupils and I find it super fun.	Yes. Kids love video games. I'm sure they will learn while playing this game.	Yes, indeed. The instructions and layout are suitable for young kids. The listening tasks given are simple and appropriate for their level.

Upon viewing the game, the three teachers believed that 'The Adventure of Mat Kilau' is a 2D interactive game. Not only that, all the three teachers believe that their pupils will enjoy the game which could also help improve their listening comprehension. Teacher A and Teacher B highlighted that the game requires the students to listen attentively prior to making their next move or before giving their answers.

On an encouraging note, all three teachers find that the game is interesting. Given the blockbuster status the film 'Mat Kilau' has recently garnered, Teacher A believed that the infamous character will excite the pupils. All three participating teachers agree that the interesting audio-visual in the game would definitely get the students to give their engagement in the tasks of the games.

Significantly, the teachers agree that 'The Adventure of Mat Kilau' is suitable for the lower primary level. Teacher A is of the opinion that the game is engaging for the students and that she finds herself to enjoy the game, too. Teacher B is sure that the pupils would love the game since the present generation are already into the digital environment. Meanwhile, Teacher C highlighted that the instructions and layout of the game suits young learners while the listening tasks presented are appropriately designed for the target users.

4. DISCUSSION

To summarise the findings, 'The Adventure of Mat Kilau' definitely had brought positive impacts on both teachers and pupils. Most survey respondents and interviewees agreed that the game contributed significantly to a fun and engaging listening comprehension activity, a fresh experience as compared to the usual textbook-based listening activities. With attractive audio-visual and exciting missions, pupils could indulge in the game actively, simultaneously learning the language. Finally, the game could be easily enjoyed by pupils in schools where internet connectivity is usually an issue. Once the teachers have the game installed and run it on the computer, the pupils could navigate their way through the game independently.

With the positive feedback from the teachers and pupils, the researchers also suggested that this innovation is novel in four aspects. Pedagogically, the game adds to the existing supplementary materials for listening comprehension activities and assessments. In the primary school context, adopting listening materials from the internet could be challenging, as there are many selection criteria to be taken into consideration. With this innovative tool, the teachers not only have an alternative for listening lessons but also listening assessments. Pupils' progress and achievement in this game could be evaluated for a fun classroom formative assessment.

Theoretically, this innovation is novel, as it is developed by incorporating multiple underpinning learning theories adapted in KSSR. In KSSR, Bloom's Taxonomy (1956) and Piaget's Theory of Cognitivism (1962) are among the adapted learning theories in the curriculum. Taking these

theories into account while developing this game indicates the researchers' earnest intention to contribute to ESL teaching and learning in Malaysia. This leads to the third aspect of novelty, the policy. With the implementation of CEFR and CEFR-aligned textbooks, ESL teachers are equipped with a daily Scheme of Work. This Scheme of Work guides teachers on the lesson cycles and the use of textbook and non-textbook lessons. Therefore, this game could help to fill the gaps in the non-textbook lessons where no materials and activities are suggested.

Finally, this innovation contributes to the design and development area. 'The Adventure of Mat Kilau' is an example of successful ESL material developed to suit Malaysian context. With Malaysian society becoming more aware of their roots and history, various efforts by different people in different industries make learning history more interesting, but most prominently—thought-provoking and stimulating. Thus, the researchers aimed to play their part in celebrating a national hero and introducing historical settings to the players, the young citizens of Malaysia.

5. CONCLUSION

'The Adventure of Mat Kilau' offers an innovative offline computer game which is advantageous for schools, especially those with limited connectivity to the internet, thus providing more learning opportunities in a more entertaining manner. Since the game can be played in groups and collaboratively, students at school with limited computer units could play and learn together. Most importantly, the game could also improve students' listening–hand–eye coordination while playing the game. This game could be further developed not only for learning English but for other subjects, including Bahasa Malaysia and History Education, either at the primary or secondary school level. Such development would be valuable in generating income opportunities for different stakeholders, including education and gaming developers with educational institutions.

References

- Akdamar, Nebahat Seren, and Sütçü, Selim Soner. (2021). Effects of Digital Stories on the Development of EFL Learners' Listening Skill. In: *Education Quarterly Reviews*, Vol.4, No.4, 271-279.
- Drljača, D., Latinović, B., Stanković, Ž., & Cvetković, D. (2017). ADDIE model for development of e-courses. In *Documento procedente de la International Scientific Conference on Information Technology and Data Related Research SINTEZA [Internet]* (pp. 242-247).
- Ghee, T. T., Terng, H. F., & Chui, H. C. (2019). Students' Perception of WhatsApp as an Effective Medium for Enhancing Listening Skill in Foreign Language Learning. *Pertanika Journal of Social Sciences & Humanities*, 27(2).
- Hamdy, M. (2017). The Effect of Using Digital Storytelling on Students' Reading Comprehension and Listening Comprehension. *Journal of English and Arabic Language Teaching*, 8(2).
- Ismail, N. S. C., & Aziz, A. A. (2020). The teaching of listening strategies in ESL classrooms. *International Journal of Academic Research in Business and Social Sciences*, 10(6), 197-209.
- Kosimov, A. (2022). The Significance Of Modern Teaching Methods In Efl Classroom And Second Language Acquisition.(In The Example Of Focus On Form And Focus On Forms In Primary Schools). *Involta Scientific Journal*, 1(4), 157-164.
- Kumar, S., U., & S. C., S. (2018). Use of Action Songs and Total Physical Response to Promote the Development of Listening Skills among Year 4, Low Enrolment-Tamil Vernacular Primary School Students in Malaysia. *LSP International Journal*, 5(2).
- Ministry of Education Malaysia. (2015). English language education reform in Malaysia: The roadmap 2015-2025. (M. Orey, Ed.). Putrajaya: English Language Standards and Quality Council, Ministry of Education Malaysia.

Pourhosein Gilakjani, Abbas & Sabouri, Narjes. (2016). Learners' Listening Comprehension Difficulties in English Language Learning: A Literature Review. *English Language Teaching*. 9. 123. 10.5539.

Samchik, N. N., & Chirkova, V. M. (2022). Listening Comprehension: Is It as Hard as It Seems?. ББК 81.2 я43, 292.

S. D. Krashen. (1989), *The Input Hypothesis*. Longman, London.

Tilwani, S. A., Vadivel, B., Uribe-Hernández, Y. C., Wekke, I. S., & Haidari, M. M. F. (2022). The Impact of Using TED Talks as a Learning Instrument on Enhancing Indonesian EFL Learners' Listening Skill. *Education Research International*, 2022.

United Nations Children's Fund. (2022). *The 12 Transferable Skills from UNICEF's Conceptual and Pragmatic Framework*, UNICEF, Panama City, 2021.