

# Specific Gaming Features in an Interactive Powerpoint on the enhancement of Grammar Skill

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Received: February 9, 2023

Accepted: March 10, 2023

Online Published: March 17, 2023

doi:10.5430/wjel.v13n5p76

URL: <https://doi.org/10.5430/wjel.v13n5p76>

## Abstract

Information and Communication Technology (ICT) education becomes more prevalent in the 21st century, more emphasis been placed on developing teachers' competence in English language teaching, particularly in grammar terms. Teaching and learning in the 21st century have advanced and shifted from pen and paper to use of Information Communication and Technology (ICT) to help in the process of imparting knowledge and skills to the learners. Use of the information Communication Technology tools like computers, laptops, printers, scanners, software programs, data projectors, and interactive teaching box has made teaching and learning efficient and interesting. This study sought to determine the influence of selected gaming features in interactive PowerPoint in teaching of grammar skills among primary school students. The study adopted design of a narrative research model as it offers the respondents to give in-depth information about their experiences and allow the researcher to make independent observations. The study used observation schedule and interviews to collect data from a sample of 12 respondents teaching primary level English subject in a sub urban school in Pulau Tikus district, Penang, Malaysia. The study used thematic data analysis whereby the use of interactive PowerPoint gaming features in teaching primary school students significantly promoted good learning skills like lettering pronunciation, reading, spacing of words, coloring and joining of letters. Despite the positive outcomes of ICT utilization, teachers cited inadequate teaching resources and limited teacher training. The study recommends that teachers to be supported by adequate teaching and learning resources for efficient ICT utilization.

**Keywords:** Information Communication and Technology (ICT), gaming features, interactive PowerPoint, grammar skills, primary school students

## 1. Introduction

### 1.1 Introduction

The use of the Information Communication Technology (ICT) tools like computers, laptops, printers, scanners, software programs, data projectors, and interactive teaching box has made teaching and learning efficient and interesting in the 21st Century (Nantwi and Adjei, 2018). Use of laptops and computers enables utilization of various software in learning. Examples of software in Microsoft office suit are Outlook, OneDrive, Word, Excel, PowerPoint, OneNote, SharePoint, Teams and Yammer. The use of ICT software's like PowerPoint have been found to make explanations, illustrations, descriptions, enable use of multiple teaching styles, increasing spontaneous and instructiveness and simplification of complex topics.

Teaching and learning English subject will not be complete if the grammar aspect is ignored. Proper teaching of grammar enables effective use of language, provision of knowledge of the underlying rules, creates a platform for students to get an insight in structuring English language and help students to assimilate and accommodate correct patterns of language (Kaharuddin, 2018) and (Idris et al., 2020). Teaching primary school students, the basics of English language a teacher requires a diversified grammar learning areas. Some of the activities in grammar class lesson for lower grades are, playing parts of speech, sorting adjective, verbs, and nouns, play capitalization games, character adjective accordion and build a sentence card game. An interactive PowerPoint developed in a number of ways. However, the most ways are; use of ice breaker, use of video clips on the power point slides, making of the power point presentations nonlinear, develop question and answer session, create an interactive quiz add in audio narrative (also known as voice over) (Mohapatra and Zayapragassarazan, 2021). Other power point gaming features are automatic animation, use of hyperlink, use of pen tool and use of images.

A study by (Kayan and Aydin, 2020) cited that gaming affects used before teaching grammar, during of the lesson or after teaching. The study further indicated that the teachers have a right to decide when to use the interactive power point to teach the use of gaming features makes teaching and learning effective than the traditional methods of teaching. The 21st century students spend much of their

times on digital devices thus making it a challenge to draw their attention by teaching by use of textbooks and chalkboards. In addition, in the digital world, the use of PowerPoint software limits the tedious work a teacher experiences in teaching process (Ledbetter and Finn, 2018). The use of power point to teach creates an easier way of maintaining a clean environment since the teacher does not need the duster, chalks and paper work to convey the message to students. Effective use of proper point enables students to learn effective speaking, learn good listening and communication skills, grammar, good vocabulary building, proper pronunciation of terms, reading and writing.

Grammar lessons for young lower classes because negative psychological effects when there is limited teaching and teach (Richards, 2022). Learners at lower grades have different learning abilities since they come from different socio-economic backgrounds. Therefore, the school makes the ideal and critical point of interaction that builds the students' life outside their homes. Therefore, the use of power point gamming effects reduces the student's tension and fear as the teaching and learning process gets fun and interactive (Erdogdu and Çakiroğlu, 2021). For instance, the use of hyperlinks generate or direct learners towards certain features, places and objects that are abstract thus making the teaching more concrete. The voice over for instance can present tales to students that aims at teaching learners how to pronounce various terminologies

The Gen Alpha children are more involved with digital devices at home right from the infancy. When such children attend primary level schools, the major aspects they are supposed to learn is reading simple English words, writing simple words where they are supposed to learn how to capitalize letters, drawing shapes, names shapes, identifying shapes, sounds identification, lettering and coloring. Therefore, teaching such concepts on pen and paper is a challenge. However, studies have shown that use of PowerPoint gamming aspects like animations and transitions, voice over, use of hyperlinks, use of interactive question and answer have positive effects on teaching and learning. Limited literature exists on how gamming aspects in relation to power points influences primary level students. Therefore, this study aims to bridge this gap based on the study findings.

### *1.2 Automated Animation and Transition Gamming Features for Interactive PowerPoint on Use of Quiz*

A slide transition is gamming feature that allows the slide to remove from the screen and allows the new slide displayed during a presentation. The application PowerPoint creates a number of fascinating offers on different slide transition schemes and animations. The transitions and animations when used efficiently offers a teacher a chance to play quiz games while teaching spellings, pronunciations, coloring of letters and capitalization of letters (Kasa and Ates, 2021). The significant aspect of the animations and transitions in classroom instruction is that a teacher expected to know at what point to apply them in presenting the specific aspects of learning. For instance, a teacher is supposed to avoid using too many different schemes in one presentation, as they will change from being attractive to distractors among the students. Prior preparations of the slides for instruction been observed to offer an opportunity to evaluate effectiveness of the presentations (Lapitan et al., 2021).

The use of quiz game allows the teacher to get immediate feedback and observations on what students perceive and understand in their learning process (Licorish et al., 2018). Quiz games create an interactive classroom, as students are actively involved in the teaching and learning process. The transitions make the teaching and learning process for primary school learner's teacher centered design where learners take much involvement in the learning exercise. Animation effect makes a quiz game student friendly as it limits the number of statements to display on the screen at a time. For instance, the fly-in-animation allows display of a single word, single letter or figure on the screen thus reducing students' from being distracted (Snell et al., 2018). The use of the quiz can function as reinforcement for students as they mostly observe motion slides and the attached statements. In addition, the quiz game allows a balanced classroom participation from for both teacher, slow learners and quick learners.

### *1.3 Use of Hyperlink Effects in Enhancing Grammar Skills*

Hyperlinks are the components of the World Wide Web. They play a major role in making the classroom lively and interactive especially when the teacher applies them effectively (Ciortea et al., 2019). Hyperlinks normally require a teacher to apply the use of internet. In the teaching and learning process, learners in kindergarten students have different experiences, exposure and understanding of objects, places, sounds and features. Therefore, the teaching process with the use of hyperlink effect, it makes the students conceptualize what the teacher expects them to do. In the preschool, the major aspect of teaching students is to ensure proper articulation of words, effective lettering, how to do coloring, how to do the numbering and shading (Hong, Broderick and McAuliffe, 2021). Therefore, when a teacher uses the hyperlink aspect, it shifts the student's attention from what they used to see to something new of which they put more interest in learning out of curiosity (Tan, P. Q. & Tan, K. H., 2020).

### *1.4 Use of Video Clips or Voice Over*

The teaching and learning process may become ineffective especially for young students if their attention is not well directed towards lesson objectives an specifically learning areas and this cause students to ignore the learning outcomes as they feel less interested to learn (Anwar et al., 2020). One approach to overcome this problem is to use blended learning media. Learning media in learning activities function as information presenters, stimulate attitudes, and increase the effectiveness in receiving material. Studies have shown that there is a high connection between the use of videos, images and audios in increasing student's knowledge and skills acquisition. In addition, the instructional media has a positive influence on the student's outcomes when used effectively. Therefore, students will get a significant advantage when using media that is appropriate to their characteristics in the learning process (Tan, K.H., Chan P.P, Mohd Said Nur Ehsan, 2021). Teachers who develop learning materials relevant to the students' cognitive level improves the quality of learning among students and learning level increases. At preschool level, the students' interest to learn is can be stimulated by the use of videos and audio plays

since the students will take it as part of their playing games (Bali *et al.*, 2021). In addition, the video aspects increase the content retention since much of the learning (coloring, lettering, pronunciation) based on the visuals.

### 1.5 Frameworks

This study premised on Technology Acceptance Model (TAM) of Davis 1989. Based on his model on the psychological model known as Theory of Reasoned Action (TRA). The assumption made is that individual's attitude has an important role in determining the behavior towards adopting a certain technology (Olowo *et al.*, 2022). Technology Acceptance Model considered a flexible method since it allows understanding important psychological elements that influence teachers accepting or not accepting the technology and ICT for teaching. Davis had further postulates both short-term (acceptance and adoption) and behaviors long term which influence usage (Mohr and Kühl, 2021). The basis of TAM is that individuals will not accept a technology effectively if it does not help perform better in their jobs. The model allows demonstrating the simultaneous effects of technology adoption (TA) by users' perceptions of the usefulness (PU) and ease of use (PEOU) on both the intention to adopt the technology and the actual use of technology.

In TAM, context attitude towards using a technology is an individual's positive or negative feeling about performing the target behavior. According to (Davis, 1989), PU is directly proportional to the user's behavioral intentions to use teaching skills and knowledge. The PEOU has an effect on the end users' attitude and behavioral intention. (Mohr and Kühl, 2021) state that the more the technology perceived to be by users to be positive, the more likely that the users will adopt it. As summarized in figure 1 (in Appendix), PU and PEOU are seen as fundamental determinants of teachers to adopt or not adopt the technology. This model is in tandem with this study since the focus is on the use of specific gaming features in interactive PowerPoint among primary school teachers.

In this study, the external variables will be school learning environment and the associated availability of ICT tools. Before teachers decide on uptake of ICT in their teaching, there are associated perceptions (PU and PEOU). Teaching of grammar skills perceived to be useful in terms of the returns that is performance that the teachers will get after ICT integration and utilization. In addition, the primary teachers will apply the PEOU in terms of how easy the teaching grammar skills be observed and the associated comparison when a teacher is doing classroom instruction with pen, paper can be compared to the ease, and performance recorded when an issue of PowerPoint interactive learning approach is. After the two perceptions, the teachers will develop an attitude towards acceptance of ICT and associated tools in teaching (positive or negative). If the attitude is positive, the teachers will automatically develop the intention to accept technology after which they will make it part of teaching grammar skills.

Figure 2 (in Appendix) presents the variables of the study. The independent variable is the specific gaming features in interactive PowerPoint teaching. The independent variable characterized by the teacher's ability to play quiz game by the use of transitions and animated slides, the use of hyperlinks in teaching and the use of voice over and video clips.

The dependent variable is the teaching of grammar skills which major focus is on learner's ability to write simple words, identify simple shapes and figures and practice spacing of letters. The implication is that when a teacher effectively uses the quiz game with proper animations the students easily attracted to the teaching and learning process. For instance, the preceding literature has indicated that display of single word on the screen is rather meaningful than teaching a class with several words written on the slide, (Tan, K. H., Farashaiyan, A., Sahragard, R., & Faryabi, R, 2020) The main reason is that the learners are not able to differentiate what to learn and what to avoid. Additionally, teaching with animation greatly improves the learner curiosity, as they will want to see what displays next after a certain work, letter, image or object. At the same time, the animation aspect can help a teacher to display an image or object and ask the students to name it or identify it. This greatly helps as opposed to just the teachers taking time and try to sketch the image or the object the teacher intended to draw and connect it to teaching.

In addition, the framework connects the use of the videos and the dependent variable. This is a great way to make your presentation more engaging for the learning process. Given that students have a different perception images and objects, if a teacher makes a display of an animal for example, the students will easily recall the animal and connect to the sound they produce. Alternatively if the students are aware of the sound produced, they can easily understand the associated animal once displayed. Additionally, the use of voice over used to clarify issues related to pronunciation and punctuation. The other aspect of teaching grammar is by using a short story. Therefore. A teacher may use the voice over that addresses specific learning feature. In addition, one can use videos that show and illustrate the sound and word articulation. The use of hyperlinks is that it uses external links to expose students what is outside the PowerPoint presentations. This is ideal in making abstract objects, images appear concrete. Therefore, the combination of the quiz games with animation, the videos and the hyperlinks will greatly inform the dependent variable as it focuses on grammar skills acquisition.

### 1.6 Research Objectives and Research Questions

The following research objectives and research questions guided this study:

RO1: To determine the influence of automatic transitions and animations in teaching grammar skills.

RO2: To determine the influence of video clip slides on teaching grammar skills.

RO3: To determine the influence of hyperlinks usage on teaching grammar skills

RQ1: How does automatic transitions and animations influence teaching of grammar skills?

RQ2: How does video clips slides influence teaching of grammar skills?

RQ3: How does use of hyperlinks influence the teaching of grammar skills?

## 2. Method

This research will adopt narrative model research design. The research design selected is ideal since it allows the researcher to make observations about the variables of study and analyze the data based on their experiences. The research design will be informed by the observation schedules and the interview guides. The design is appropriate for this study since it seeks primary data from the primary school English teachers. The design chosen is easy in getting people to tell their story based on experiences, it gives a detailed data, which is in-depth, participants are willing to reveal self and account reflection, the revelation of truth, and the provision of a voice for participants (De Vries, 2018). The study carried out in a sub urban school as well as targets 12 primary school English teacher in a sub urban school situated in Pulau Tikus district at Penang town of Malaysia.

The population spread a sub urban school situated at Penang town of Malaysia. Therefore, the study will use a non-probability sampling technique specifically convenience sampling in selecting 12 respondents. The respondents requested to participate in the interview schedules, after data collection, recommendations been made and the instrument will have three parts A, Band C (in Appendix 3).

The study will use a fan interview guide and observation schedules in order to give the researcher an in-depth information regarding the phenomenon under study. The research tools will capture the dependent and independent variables of the study with regard to research objectives and research questions. The interview guide used will be as indicated.

Aspects of the face and content validity of the research instrument estimated by the supervisors. Content validity will be determined by checking if the research tools are in line with the research objectives. In addition, with relation to content validity, the interview schedule will be checked by the supervisors in terms language simplicity, clarity and ensure well-structured statements. This will reduce ambiguity during the interview process of data collection. The reliability of the items will be determined by conducting a pretest with a sample of 12 respondents to ensure that the respondents well articulate and respond to the research objectives and research questions appropriately. An introductory letter obtained from the university. The researcher will seek authorization from the selected school in order to get access for data collection from the teachers. The questionnaires administered and collected the same day from the respondents. The data were transcribed where narrative analysis and thematic analysis done. The narrative analysis will be appropriate since based on the stories given by individual respondents in their experiences with relation to the phenomena under study. Thematic analysis will be necessary by focusing on the themes of the study. This method been used to best understand the overall stories and patterns across various qualitative data. In addition, themes are also not necessarily prominent in the entire dataset but might be more relevant in some data items more than others might; it is more about whether related to the research question.

The findings of this study will be important to the teachers as it give an insight on influence of automatic animations and transitions, use video clip slides and use of hyperlinks in teaching grammar skills. Doing thematic analysis is an active process in which the researcher's values and beliefs relate to the patterns or themes they identify. The findings will also enable the educational stakeholders to understand and relate how use of ICT can make easier teaching and learning among the kindergarten students. For the students, the findings will be significant towards their reading and writing assessments. For instance, if the teacher gets the findings worthwhile and apply the concepts of gamming aspects in their lessons the learners will get easy concept mapping. For the curriculum developers, the results may significantly inform their designs that can supplement the textbooks in teaching.

## 3. Results and Discussion

The study sought to establish the gender of respondents. Out of the 12 respondents, eight of them were females and the rest were males. That translated to about 67% female teachers while the 33% were males. The findings of this study are in tandem with a study by (Liu *et al.*, 2018), who cited that in most primary level schools, the teachers are women. Women are the suitable for caregivers and it has been established that women they easily detect primary level students' learning programs.

The researcher observed that the teaching of basic grammar skills with only utilization of books was as challenge for a number of teachers. In an interview with a grammar teacher, the teacher cited that, "In my class I have students from different localities. When it comes to teaching, the students respond differently based on their experiences. Therefore, pronunciation gets a challenge since the books have pictures but the students has never seen some of them". As study done by (Androusou and Tsafos Postulates, 2018) that teaching students requires diverse teaching approaches in order to balance the learning all the learner's studying abilities regardless of their family backgrounds and their preconceived information. In addition, the level of concept, knowledge and skills acquisition among students based on textbooks was low since they are of interactive was slightly limited.

"While using ICT in teaching, student's concentration was more on the projections than the books". One teacher narrated the teacher further said, "When using pictorials, images and books content to teach kindergarten students, they tend to have less interest because they happen to have seen all pictures in a page thus there is nothing new to see. However, while using PowerPoint features, their attention is fully drawn towards the teaching and learning process out of curiosity as the students wish to observe what is going to be projected next". The findings of this study are in tandem with results obtained by a survey conducted by (Odinokaya *et al.*, 2019) the findings indicated that, the 21<sup>st</sup> century students are more active in learning when subject to use of information communication and technology as opposed to focus on paper work. "I started using PowerPoint interactive features after I noted that some students of the same level with my kindergarten group from the neighboring schools were learning and performing better as compared to my students. Therefore, as I was

interacting with my colleagues, I noted that the teachers in that school they applied blended learning whereby the students interacted with books when doing homework. In addition, upon trying the use of the power point in my first class I noted that the students who were inactive in some lessons they had changed as their interest was more geared towards the sounds that were being played by the video clips in a topic that featured specific sounds and their respective animals.” Another teacher cited that during using of PowerPoint interactive gaming features, there was less learning since the teacher was not efficient in navigating with hyperlinks and operating animated slides since at some points the slides moved first than the presentations.

The findings of this study are in tandem with the results recorded by (Falloon, 2020) who cited that digital literacy is a challenge to a number of teachers due to a number of lessons. The study indicated that some teachers had ideas about use of ICT but the resources viable in school were not adequate to support the teaching with ICT. Digital competency clearly involves more than knowing how to use devices and applications which intricately connected with skills to communicate with ICT, as well as information skills. Sensible and healthy use of ICT requires particular knowledge and attitudes regarding legal and ethical aspects, privacy and security, as well as understanding the role of ICT in society and a balanced attitude towards technology. (Falloon, 2020).

Students developed a transition before and after use of PowerPoint features in the grammar aspects. The student’s communication skills greatly improved as the use of the animations helped me to teach effectively on letter capitalization and doing spacing of letters. In addition, the use of voice over and video clips advanced the student’s pronunciation skills as most of their time they tried to imitate what the projections on the power point was shoeing” a teacher responded. The study observed that despite the positive results of ICT usage, there was some associated negatives. One of the teachers indicated that, “Use of the interactive power point makes learning lively and easier; however, the number of students and the teaching resources were few thus making learning difficult. For instance, application of PowerPoint and associated features requires power supply. If there is power outage in the middle of the lesson, the learning process had to halt until the power supply restored. This affects the lessons, as we do not have alternative power source at school level. The most commonly reported purposes for ICT usage in pre-school classes were searching for information, as a supplementary-supportive tool and for displaying educational video/pictures. The learning activities carried out in early language learning via ICT included displaying of pictures/drawings, writing a word/name/date, practicing letters, connecting words to their sound or image and phonological awareness, (Nikolopoulou, 2020). However, the study findings also cited that the major challenge in teaching and utilization of ICT was inadequate or lack of (or limited) resources/equipment, the limited teacher training opportunities thus compromising the integration of various software in teaching.

#### 4. Conclusion

From the foregoing literature, the use of ICT in the teaching of primary classes is enormous and it cannot have been assumed. For instance, in the 21<sup>st</sup> century majority of the children they are “digitalized” and familiar with much of the internet, use of electronic devices and playing of various games in the phones and computers at their homes. Therefore, the exposure of children to social media has made them shift their experience from book based to virtual world. However, there are some associated challenges that face the use of various software in teaching. Inadequate resources, teacher training and the limited time in setting up ICT infrastructure before teaching starts. Despite the fact that the ICT makes teaching easier, it does not guarantee that books should not been used; the teachers should adopt blended learning such that students can learn using books when the teacher is not around or when there is no ICT related resources.

#### Acknowledgements

We wish to thank Universiti Kebangsaan Malaysia and the Research Grant Coded PP-CITRA-2023 for partially funding this publication.

I would like to say a big thank you to all the M.Ed TESL 1 UKM research group members for their energy, understanding and help throughout my project, especially to Assoc. Prof Dr. Tan Kim Hua for her guidance throughout the research journey, Mr. Mohd Fahmy Mustafa for the help with research location as well as Miss Vinoothini Mannogaran, Mrs. Hemalatha Sivalingam and Mrs.Syamala Durairaj for their advice during the observations and interview process.

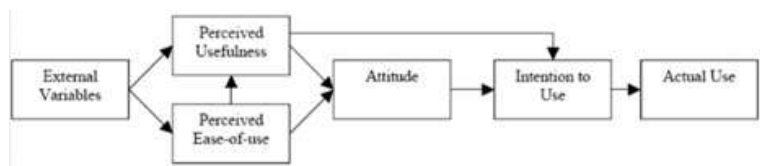
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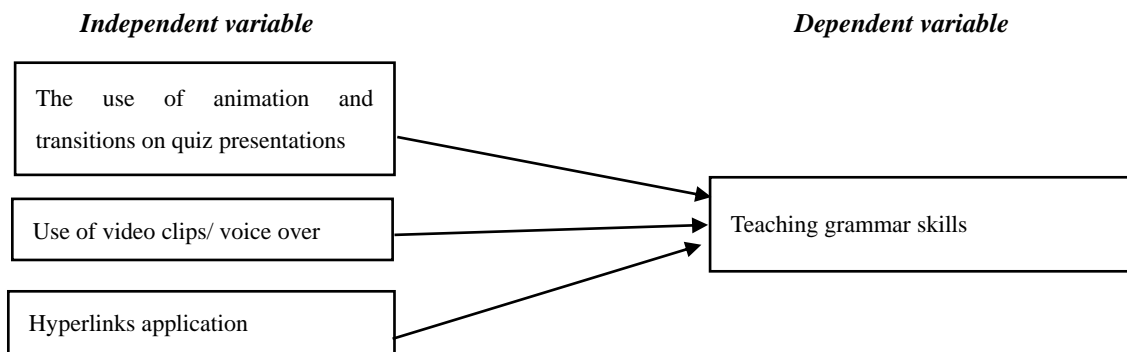
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**Appendixes**

Appendix 1. Technology Acceptance Model (TAM)



Appendix 2. Relationship among the variables of the study



Appendix 3. PART A will capture items of pre, PART B, while and PART C after.

**PART A: Prior**

- i. What is your gender
- ii. What can you comment about the efficiency of teaching grammar based on textbooks only?
- iii. What was your experience in teaching English without use of gamming effects like animations, video clips and hyperlinks in teaching grammar?

**PART B: During**

- i. What made you to start using ICT in grammar teaching?
- ii. What can you say you liked most while using:
  - *Animations and transitions*
  - *Video clips*
  - *Hyperlinks*

**PART C: After**

- i. After adopting and applying ICT gamming effects in teaching grammar skills, what can you say about the use of:
  - *Animations and transitions*
  - *Video clips*
  - *Hyperlinks*
- ii. When you compare before you using gamming effects and after adopting them in teaching what was your assessment observation on students’ grammar skills.

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