

Preschool Teacher's Misconceptions about Games

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Abstract: A teacher's knowledge about games is important in making sure that the games cause a positive impact on preschool children. Previous studies have proven that teachers know games as effectual learning tools for preschool children. However, little is known about the teachers' knowledge on the types and features of the games which can give impact to preschool children. As such, this case study is conducted to find out preschool teachers' knowledge on the types and features of the games. This study consists of quantitative and interview data. A questionnaire was used to gather responses from 30 preschool teachers all over Malaysia. Also, an interview protocol was used on three preschool teachers from different schools from Batu Pahat area. Correspondingly, a peer review was carried out for the purpose of trustworthiness of the data. The findings showed that the preschool teachers had the knowledge on the types and features of digital and non-digital games. Nevertheless, the teachers had a misconception about the games that they used. This implicates the needs to clearly rectify the preschool teachers' misconception about the definition of games even though they have the knowledge on the types and features of digital and non-digital games.

Keywords: Games, Non-Digital Games, Preschool, Quantitative Data, Preschool Teachers.

1. Introduction

Teachers are the driving force to empower learning through games for preschool children as emphasised in the **National Standard of Preschool Curriculum (2010)**. Games are learning tools that have been widely used in the education field. There are two types of games which are used the learning and teaching process i.e. digital games and non-digital games which have its own discrete definitions and features (Naik, 2014; Naik 2017; Peirce, 2013). Nevertheless, regardless of its own differences in terms of definitions and features, both type of games should serve for a purpose of learning, contain learning content, clear learning outcome and in accordance with the curriculum (Prapajit, 2014; Sierra, 2013). Notwithstanding whether a digital game or non-digital game, the use of game must be based on content and learning outcome as indicated in the **National Standard of Preschool Curriculum (2010)**.

Games that have contents and learning outcomes, as well as in accordance with the established preschool curriculum able to give positive effects to preschool children in terms of their level of development (Peirce, 2013), motivation (Jenkins, 2012; Prapajit, 2014), attention (Prapajit, 2014) and skills (Chuang & Chen, 2009; Wastiau, Keaney&Berghe, 2009). The positive effects can be intensified with the correct used of games. Hence, to cause the positive effects on preschool children, teachers need to have knowledge about the games that can they use throughout the teaching and learning process particularly children aged between four to six years old (Peirce, 2013).

Apparently, teachers' knowledge about the games that have been used throughout the process is crucial to ensure its effectiveness inside classroom. Matching on the type of the games with children's age, background and learning content, it will give positive effects to the children. (Prapajit, 2014). Therefore, a specific attention should be given to the type of game that is suitable for preschool children. Teachers should understand and learn the type of game that are appropriate for preschool children so that the game can cause positive effects towards their academic achievement as well as to provide fun while learning (Peirce, 2013).

Peirce (2013) and Wastiau et al. (2009) assert that though the use of games as learning tools among teachers have been known to affect preschool children, there has been yet holistic discussion conducted on preschool teachers' knowledge on the type of game and its features. Therefore, this study aims to identify preschool teachers' knowledge on the type of and features of the games used in learning and teaching process so that the teachers know whether the game is specifically appropriate or inappropriate for preschool children.

2. Literature Review

2.1. Teachers' Knowledge about Digital and Non-Digital Games

Learning using games is one of the appropriate approaches for preschool children aged between four to six years old level of development (Peirce, 2013). Using this approach, games are the teachers' chosen learning tools so that the learning and teaching can be effectively conducted. The matter is supported by Institute of Play (2010) in which games become a specific learning tool, interesting and convenient to be used by teachers and provide a clear learning outcome. For that, teachers need to be exposed on how to use the game and have the general knowledge about the game in teaching.

Teachers' knowledge about games can be proven through the use of the games while teaching. Teachers will know the purpose of using certain games based on their frequency of conducting the game in the learning and teaching process (Wastiau et al. 2009). Nonetheless, the choice of appropriate games for preschool children should be emphasised on its positive impact on the children's cognitive (Piaget, 1952), psychomotor (Gallahue & Ozmun, 2006) dan socio-emotional development (Erikson, 1980). With reference to the prescriptive age of preschool children in Malaysia by the National Standard of Preschool Curriculum (2010), children aged between four to six years old have the same level of cognitive, psychomotor and socio-emotional development (Peirce, 2013).

Since preschool children aged between four and six years old have similar level of development, teachers need to play their role in selecting appropriate games for the children. Naik (2017) states that teachers are aware on the digital and non-digital types of game to use as their learning tools. The choice between digital and non-digital games does not make much different, but the emphasis is on the essential elements of using games in fulfilling the purpose of learning, its content, having clear learning outcome and in accordance with the intended curriculum (Prapajit, 2014; Sierra, 2013). This definitely shows that it is not about whether the game is digital or not, it is the vital elements of the games that need to be emphasised in the learning and teaching process.

Apart from the required elements in using digital and non-digital games, teachers need to possess clear knowledge about the features of digital and non-digital games. Naik (2014) identifies digital games as the popular game type and have been chosen by teachers to be used in their learning and teaching process. Based on digital games frequency of use or popularity, it simultaneously indicates teachers' knowledge on features of digital games. Peirce (2013), Naik (2014) and Wastiau et al. (2009) characterise digital games to feature the use of technology and digital equipment, specific software and display virtual and interesting visual.

On the other hand, teachers should also be knowledgeable on features of non-digital games. Non-digital games are noticeable due its physical features and have become the main choice among teachers to be used in teaching preschool children (Naik, 2017; Peirce 2013). Additionally, non-digital games have becoming teachers' choice because the games can be prepared according to the teachers' creativity using materials available in classrooms like coloured papers, cards, boards, sponges, small balls, pictures, cubes, blocks, clays, coloured pencils, beads and natural resources (Early Children Development Kit, 2009).

2.2. The Application of Games at Preschool Level

Wastiau et al. (2009) assert that most teachers use games in learning at their preschools. The study found that preschool teachers most often use games in learning. Based on the frequency of the games exploited at schools, these teachers have used games to the maximum. It significantly highlights the application of games approach among the teachers in teaching preschool children. Nevertheless, teachers need to have knowledge on what type of game that is appropriate for preschool children.

The use of appropriate games for preschool children must be taken seriously by teachers when using the games in learning and teaching process. Prapajit (2014); Godfrey & Waddingham (2013); McCall (2011) and Kee (2011) emphasise on the appropriateness of the games based on subject taught, children's background and age level as it will can a positive impact to the children academic performance. In addition, teachers must have the knowledge in choosing appropriate games for their students because the right type of games will affect positively on students' motivation, attention and skills (Chuang & Chen, 2009; Jenkins, 2012; Prapajit, 2014; Wastiau et al., 2009).

There are two types of appropriate games for learning and teaching preschool children that must be considered by teachers. However, it is the effectiveness of the games that should be accentuated by preschool teachers. Marco, Cerezo, Baldassarri, Mazzone and Read (2009) and Peirce (2013) claim that children aged four to six

years old are not suitable to be taught using digital games as learning tools because the children at that ages are still unable to skilfully control their hands and fingers movement to use the mouse and touch screen. Hence, **Peirce (2013)**underscores the appropriateness of non-digital games to preschool children because the games affect positively on the children’s cognitive, psychomotor and socio-emotional level of development.

3.Methodology

This is a case study using quantitative and interview approaches. As for the sampling, 30 preschool teachers from all over Malaysia were chosen to be the respondents for the study. A questionnaire with reliability value of = 0.757 was used as an instrument for the study and the data were analysed descriptively. Furthermore, using an interview protocol, the interviews were conducted on three preschool teachers from three different preschools in Batu Pahat, in the state of Johor, Malaysia. The interview data went through peer review for its reliability verification.

4.Findings and Results

4.1.Preschool Teachers’ Knowledge about Digital Games and Non-Digital Games

The 30 teachers’ knowledge about digital and non-digital games is presented in Table 1. The results show a majority of respondent which was 80% (24 teachers) has the knowledge about both games. There was only 20% (6 teachers) who has no knowledge about digital and non-digital games.

Table 1. Preschool Teachers’ Knowledge about Digital Games and Non-Digital Games

	Frequency	Percentage
Yes	24	80
No	6	20
Total	30	100

4.2.Preschool Teachers’ Knowledge about Digital Games

The teachers’ knowledge about features of digital and non-digital games is as observed in Table 2. The results show all the respondents knew that digital games would not enable children to feel, hold and touch the games. Moreover, majority of the teachers (80%) knew features of digital games entailed virtual visual display, and not using materials such as coloured papers, cards, sponges, small balls, coloured pencils, cube blocks etc. 53.3% of the respondents knew features of digital games which involved the use of electronic devices and ICT equipment, as well specific software. in, majority of the respondents had the knowelwedge about features of digital games.

Table 2. Preschool Teachers’ Knowledge about Digital Games

Features of Digital Games	Yes	No
Using materials like coloured papers, cards, sponges, small balls, coloured pencils, cube blocks etc	20.0%	80.0%
Displaying virtual visuals	80.0%	20.0%
Utilising electronic devices and ICT equipment	53.3%	46.7%
Using specific software	53.3%	46.7%
Pupils cannot feel, hold and touch the games	100.0%	0.0%

4.3.Preschool Teachers’ Knowledge about Non-Digital Games

Table 3 presents the teachers’ knowledge about features of non-digital games. Expectedly, 100% of the respondents knew that non-digital games had no virtual visual display. Further, majority of the respondents (73.3%) knew that non-digital games allowed children to feel, hold and touch the games. 66.7% identified non-digital games to feature the use of materials like coloured papers, cards, sponges, small balls, coloured pencils, cube blocks etc., and not using electronic devices and ICT equipment. There was only 53.3% of the respondents who realised that non-digital games did not feature specific software. In general, majority of the respondents knew features of non-digital games.

Table 3.Preschool Teachers' Knowledge about Non-Digital Games

Features of Non-Digital Games	Yes	No
Using materials like coloured papers, cards, sponges, small balls, coloured pencils, cube blocks etc.	66.7%	33.3%
Utilising electronic devices and ICT equipment	66.7%	33.3%
Pupils can feel, hold and touch the games	73.3%	26.7%
Using specific software	46.7%	53.3%
Displaying non-virtual visuals	100.0%	0.0%

4.4.The Preschool Teachers' Perception about the Games used in Teaching and Learning Process

The responses from the interviews indicated unclear type of games which were used by the participants in their learning and teaching process. The responses gathered from the interviews revealed that the participants used games shared at the social media platforms like Telegram, Youtube and Facebook or bought via Instagram. Among the games that were obtained from the social media platforms were softcopy forms of colouring, cut and paste activities.

Apart from that, the participants creatively designed their own games and matched the games with the preschool children they were teaching. There were also games developed from used sources or materials. The followings (T1 to T3) are three translated responses taken from the transcripts of the three interviews.

- T1:** *Umm... for the time being there's still no game provided by any party for the preschool children at this kindergarten. But what I can say is that I've used games that I obtained, to these children, from the Telegram and Facebook groups that I've joined. The Telegram group has a lot suitable materials that I can use shared by many preschool teachers. Games such as colouring, cutting and pasting to create masks ... in which most of it, from my observation, are designed based on creativity of the teachers who shared the ideas.*
- T2:** *Ok, at our kindergarten we've never prepared games that can be used in teaching the children. What we did was we viewed it in the Internet. Sometimes, I watched youtube to find interesting activities that can be used in my teaching. But I've never used specific games in any subject that I taught*
- T3:** *At this moment, the kindergarten has not provided any games. Most of [the games] that are available or the one that I'm using now was bought from a shop. Since there's IG, I sometimes bought from the platform, but so far there's only two games. Other than that, I made it myself...just use whatever materials that are available. Occasionally I just recycle the used materials.*

5.Discussion

5.1.The Preschool Teachers' Knowledge about the Type of Digital and Non-Digital Games

The findings from this study revealed that most of the preschool teachers had the knowledge about the type of games i.e. the digital and non-digital games. The findings concurred with studies by **Naik (2014); Prapajit (2014)** and **Wastiau et al. (2009)** in which most preschool teachers know the type of games that are using to match with the purpose of their learning and teaching activities. Digital and non-digital games have been widely used in education particularly at the preschools. **Naik (2017)** agrees that digital and non-digital games are used by preschool teachers as learning tools because both type of the games produce positive impact to preschool children.

Eventually, based on the preschool teachers' knowledge about the type of games, the teachers must seriously consider the appropriacy of the chosen game in their learning and teaching process. **Prapajit (2014); Godfrey and Waddinhams (2013); McCall (2011)** and **Kee (2011)** highlight the importance of choosing the appropriate type of games to correspond it the subject taught, children's background, and age level so that it can give positive impact the children academic achievement. Moreover, preschool teachers must possess the knowledge to choose the appropriate type of game for their preschool children. The use of appropriate games will positively affect the

children's motivation, attention and skill (Chuang & Chen, 2009; Jenkins, 2012; Prapajit, 2014; Wastiau et al., 2009).

5.2.The Preschool Teachers' Knowledge about Digital Games

The findings from the study indicated that most of the preschool teachers had the knowledge about digital games which corresponded with Naik's (2017). Evidently, Wastiau et al. (2009) substantiate with the findings by highlighting the high frequency of the teachers using digital games in teaching the children. The frequent use of digital games consequently has facilitated the teachers to recognise features of digital games.

The use of digital games in teaching has assisted teachers to recognise features of digital games. Naik (2014) claims digital games as a well-liked choice among preschool teachers to be used in their learning and teaching process. Digital games are one of the conveniently used games at school due to its complete devices and equipment prepared by the schools. Peirce (2013), Naik (2014) and Wastiau et al. (2009) assert that digital games feature the use of technology and digital equipment, specific software, and have interesting virtual visual display. Knowing the features of digital games clearly has certainly contributed to the knowledge about digital games for the teachers to be skilfully use digital games in their learning and teaching process.

5.3.The Preschool Teachers' Knowledge about Non-Digital Games

The findings also demonstrated the preschool teachers' knowledge about non-digital games. Similarly, studies by Peirce (2013) and Institute of Play (2010) discovered that non-digital games have become the preschool teachers' choice to teach children aged between four to six years old. Peirce (2013) assert non-digital games are more appropriate for preschool children because this type of game gives positive effects to the children's cognitive, psychomotor, and socio-emotional level of development. The effects consequently generate well-developed children in terms of physical, emotional, spiritual and intellectual as dictated in the National Standard of Preschool Curriculum (2010).

Naik (2017) and Peirce (2013) identify non-digital games as physical games to be selected as a preschool teachers' choice. Hence, it becomes a factor that drives the preschool teachers to know clearly the features of non-digital games. In addition, the games are favoured by the preschool teachers because the preschool teachers can prepare the games based on their creativity using materials like coloured papers, cards, boards, sponges, small balls, pictures, coloured pencils, cubes, blocks, clays, coloured pencils, beads and natural resources (Early Children Development Kit, 2009). By using these materials in games, preschool children can gather real experience and give specific positive effects on the preschool children level of development (Peirce, 2013).

5.4.The Preschool Teachers' Perception about the Games Used in the Teaching and Learning Process

Apparently, the findings revealed that most of the respondents were not capable to explain precisely about the type of games used in teaching preschool children. This shows that the preschool teachers have some misconceptions about the games that they have been using in teaching the children. Prapajit (2014) emphasises the need for preschool teachers to use games to obtain the pedagogical objective, and deliver the content of the lesson clearly. It was found in the study that the preschool teachers used softcopy materials that were shared by other preschool teachers at the social media platforms to aid them with their teaching. This study recognised the use of the materials were considered as games by the preschool teachers. Nevertheless, Institute of Play (2010) and Whitton (2012) contend that games are specific learning tools, relaxing in nature, able to draw learners' interest, easy to be used and have clear learning outcomes.

Apart from the misconception, interestingly, the findings detected an opposite definition of non-digital games from what are itemised by Naik's (2017) and Peirce (2013). The literature identified non-digital games as physical activities, without the use computer and digital equipment, and electronic devices and ICT. The definition connotes clear features of non-digital games for learning and teaching process. On top of that, Early Children Development Kit Manual (2009) describes non-digital games as activities creatively prepared by preschool teachers using materials available in the classrooms such as coloured papers, cards, boards, sponges, small balls, pictures, cubes, blocks, clays, coloured pencils, beads and natural resources.

6.Conclusion

The learning approach using games is one of the best approaches for preschool children. Preschool teachers who practices learning though games use learning and teaching aids in a form of games. The use of games for teaching is beneficial in generating preschool teachers' comprehensible knowledge about the type of games and features of each game. The knowledge is built through frequent exercises of games during the learning and

teaching process. Additionally, preschool teachers need to have extensive knowledge about the use of games to ensure the games appropriacy with the children's age and the positive impact on the children's cognitive, psychomotor and emotional level of development.

Hence, misconceptions about the use of games by preschool teachers in learning and teaching process can be one of the reasons of the unattained learning objectives and ineffectual delivery of curriculum content at preschool level. First, the misconception was the use of teaching aids obtained from social media platforms like Telegram, Facebook and Youtube were regarded as games by some of the preschool teachers. Secondly, the preschool teachers considered the materials used as a non-digital game which was contradictory with the definition of non-digital games specified in the literature. The preschool teachers clearly knew about the features of non-digital games but were still unable to distinguish between the used materials as games or merely as teaching aids. These misconceptions evidently present most of the preschool teachers' unclear knowledge about non-digital games though they possess knowledge about features of this type of games.

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