

Usage of teaching aids in increasing cognition among slow learners through art lessons

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This study was conducted to determine the effectiveness of using electronic and non-electronic teaching aids in improving the cognitive levels among slow learners through art lessons. The research method used was the Hermeneutic method in which the daily lesson plans and the observations of students' artworks were analyzed. This research was carried out in a school in Kuala Kangsar district and about nine slow-learners were involved in the study as the sample. The students' cognitive level could be improved through the subject of Art and the development of their psychomotor skills could be improved through making handicrafts. From this research, the results obtained showed that the use of electronic and non-electronic teaching aids positively affected the improvisation of a student's cognitive level and psychomotor skills among slow learners.

Keywords: Teaching aids, cognitive development, Art subject, slow learners

Introduction

According to Sharifah Nor Puteh & Kamarul Azman Abd Salam (2011), the usage or application of ICT or Information Technology and Communication helps in achieving the objectives of the Education Development Master Plan (PIPP) 2006-2010. The application of ICT is due to the government effort to create smart schools nationwide.

The changes undergone by information behaviour, particularly in the advancing progress of Information and Communication Technology in the teaching and learning process plays a crucial role in highlighting the influence it exerts over students' cognition skills. Hassan, Mailok & Johan (2015) emphasizes on the importance of ICT in education by stating that ICT is a major teaching and learning component which caters to the development and implementation of progressive teaching and learning educational environment. In keeping up with the challenges posed by a pro-technological learning environment, it is imperative that students acquire the capacity to gain information and skills to make use of ICT as an inevitable

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mode of learning. The advantages that come with the mastery of ICT skills include active engagement in the teaching and learning process, consequently producing students who are highly motivated.

A subsequent change in student motivation is found to affect students' perception on the implementation of ICT, hence bringing improved results in students' knowledge constructs which involves ethical technological use, communication skills and personal management skills. Therefore, it is vital to acknowledge the fact that ICT serves to enhance the teaching and learning experience in the Malaysian education system, ranging from pre-school to tertiary level. This is to ensure that students are able to acquire the necessary knowledge and skills that may enable them to better involve themselves in the learning process (Gulbahar & Guven, 2007 as cited in Hassan, Mailok and Johan, 2015).

The Malaysian Education Ministry (2006) has executed the quality education plan through efforts such as encouraging the application of ICT in teaching to increase ICT literacy. The objectives of this plan are to ensure that all students are ICT literate, to create awareness among teachers about the importance of ICT application as a teaching and learning aid besides increasing productivity, competence and efficiency of the management system. According to Abdul Halim (2008), the computer does not only function as a high-capacity information storage but also a tool to measure a child's development in a fast and efficient manner. Furthermore, computers are equipped with a variety of software that can be used to help with the knowledge growth of children. In addition, computers are able to assist children in obtaining new information, new experiences and increase their skills possessed.

In accommodating the technological needs relevant in the classroom environment, students' cognitive skills and development contribute to the thinking capacity and recovery recognition needed in order to aid students in making logical sense of what is being taught and learned in school. Nachiappan, Vijayan, Andi, Veeran & Zulkafaly (2015) in a study conducted to identify the influence of play-based activities as a teaching aid among students with remedial needs, found a significant relationship between play-based learning as a teaching aid and its impact on recovery cognition. Nachiappan et al., (2015) further elaborate on the fact that students in need of remedial or special attention possess a low level of intellectual capacity, hence posing a challenge for them to actively participate in a normal educational environment. Due to the fact that students with remedial needs are less capable of performing cognitive processes such as the generation of inferences and a low level of confidence in confronting issues that are related to the teaching and learning process.

The due need for effective and appropriate teaching aids, be it technological or non-technological, for learners who are incapable of merging into and profiting from a regular classroom environment is further stressed on by Mohd Sharani (2006, as cited in Nachiappan et al., 2015) by the fact that students in need of special attention differ from the average classroom student in terms of their emotional, spiritual and intellectual capacity. He elaborates that in a normal classroom setting that implements whole-class methods as its primary means of teaching and learning, it proves a challenge for teachers to single out students who are in need of special attention, as much as it is difficult for low-ability students to fully comprehend the syllable, thus leading to students being left behind academically.

The main indicators identifying student learning difficulties lie in their ability or capacity to learn, as the learning rate for these students are slow and weak. In this regard, the cognitive development of slow learners identify with those who are a few years younger than themselves. In other words, the abilities of students who are slow learners result in a diminished level of students' language level, academic progress, social interaction skills as well as vocational skills. Further indications that underline the presence of slow learners include a low ability in reading, writing and arithmetics, such as confusion with numbers and

letters of the alphabet. Examples of situations that are problematic for slow learners are difficulty in following instructions, occurrences of emotional distress, a sense of demotivation, shyness and timidity, as well as underachievement in test-based and problem-solving activities.

Chauhan (2011) further explains on the concept of slow learners by stating that students who fall under this category face physical as well as emotional limitations in their environmental development, thus impeding their academic and social progress in school. Apart from facing difficulties in intellectual abilities such as reading, writing and numerics, they face challenges in terms of their ability to tackle complex game-based activities as well as routine school activities. This calls for much external stimulation and motivation for even simple tasks, on the part of the teacher, in order to ensure that slow learners are not left behind academically. Apart from the challenges that are already existent, slow learners also face emotional distress through incidents related to absence from school, unfortunate personal circumstances or environmental settings that are not conducive. In addition to their issues on limited cognitive abilities, these students tend to be susceptible to failures, academically and emotionally.

In order to curb or minimize these students' exposure to failure, Chauhan (2011) states that an elastic or flexible curriculum coupled with remedial instruction is evidently necessary in order to support these students' cognitive development. A knowledge centered curriculum prioritizing on subject matter and content and a needs centered curriculum narrowing down to human needs is vital in ensuring that they meet the short and long term needs of slow learners. Rastogi and Rao (1987, as cited in Chauhan, 2011) have come up with a list of remedial teaching methods that may enable slow learners to have an understanding of abstract notions in the reaching and learning process. One of the suggestions listed down include the implementation of art in the teaching and learning process, which includes ICT components such as audio and visual instructions, as well as computer assisted instruction.

The implementation of activities that are arts-based, in this context, not only allows the incorporation of technology and creativity in a primarily textbook-based learning process, but also reflects on the application of the theory of Multiple Intelligence by Howard Gardner. The application of this theory supports the notion that children should be given the opportunity to participate in a range of activities that make use of different aspects of their intelligence, such as kinesthetic, visual-spatial and auditory intelligence. Giving slow learners the space to explore other alternative areas that may improve their cognitive development and skills serves to elevate students' confidence level and allows them to excel in an area they are intellectually and emotionally comfortable with. In this context, the usage of arts-based activities can be implemented to teach students subjects involving math and even sports (Nachiappan, 2012; Muppudathi, 2014).

The role of a teacher in this context, as a trained individual imparting knowledge through the means of a supportive educational environment, involves a great deal of responsibility in ensuring that all students are able to engage in the teaching and learning process through the stimulation of their cognitive processes. Perlman (2015) in a study related to investigating the influence of supportive classroom settings on students' level of motivation, engagement and effort, found that students who are given the opportunity to engage in educational environments that are supportive tend to be more inclined to experience an increase in their motivation, engagement and effort level. This comes to show that a supportive educational environment has the ability to influence and affect students with a low level of motivation.

In the same vein, it is also important to acknowledge the capacity of teachers are imparters of critical thinking skills. Mohd Salleh, Eng and Mohamad Taib (2015) indicate that

the practices of teachers in the classroom setting have the ability to promote critical thinking skills among their students. The ability to think critically is a crucial component in students' cognitive processes, and a myriad of approaches exist in order to develop students' cognitive skills through critical thinking. The success of the teaching and learning process, in other words, highly depend on the teacher, and the practices, specifically teaching aids that is used by the teacher. The implementation of appropriate practices and teaching aids that reflect these practices serves to support the notion that the ability to think critically does not only base itself solely on the content of the subject matter, but also on the way in which the content itself is taught.

Mohd Salleh et al., (2015) further emphasizes on the fact that the teaching of a content or subject matter does not occur as a solitary occasion, as the usage of teacher practices and aids depends on the natural personality of the teacher, the educational background of the teacher, as well as the experiences of the teacher from the beginning of his or her profession. The usage and implementation of teaching aids is ranged over the course of three teaching phases, which are known as the pre teaching phase, during teaching phase, and post teaching phase. The pre teaching phase serves to introduce teaching practices and aids that infuse critical thinking skills in the teaching process upon its commencement, touching on areas on knowledge construct, content and pedagogy. The preparation of teaching aids ensures the suitability of the teaching content, thus generating different types of perspectives and an active teaching and learning session.

This statement is supported by Masnan and Hashim (2014), who elaborate that teaching skills, which is important in implementing teaching aids successfully, depends on a teacher's ability to know how to plan and impart the teaching aids with concrete representation and symbols in the classroom in order to enable students' level of comprehension. Cruickshank (1996, as cited in Masnan and Hashim, 2014), stresses on the significance of teaching aids and activities as possessing artistic qualities which involves skills that are capable of promoting and encouraging a creative and interesting learning environment.

Problem statement

According to Liaw Huang & Chen (2007), application of ICT in teaching and learning is able to exponentially increase the potential of ICT application as a teaching aid. As students' have a deep-set interest in ICT, this advantage must be put into good use by teachers and parents in order to ensure that their interest in ICT is used appropriately. According to Parker (2008), it is discovered that the application of ICT in the teaching and learning process can attract the interest of students' in order for them to give full attention as well as increasing the level of focus given by them in class. By using ICT-based teaching aids, there will be a two-way interaction between teachers and students besides stimulating the intellectual growth of students.

According to Kamarul Azmi Jasmi, Mohd Faez Ilias, Ab. Halim Tamuri & Mohd Izham Mohd Hamzah (2011), a tool is considered as a teaching aid based on the level of practice and usage frequency in a teaching and learning scenario. In order to create a teaching aid that is able to give the best effects during teaching and learning (T&L), it must have features that make it appropriate to be used in the desired surroundings. The usage of teaching aids ensures the flow of the T&L process for teachers. Teaching aids are introduced to explain difficult lessons and parts of lessons that are difficult to be understood besides attracting the students' attention in order to ensure full attention is given in class.

Among the desired features of teaching aids (TA) are sustainable, impactful, cheap, attractive, of appropriate size, big and clear enough to explain parts of the lesson that are

difficult to be understood. The application of TA is crucial since they can be used to solve existing problems during the T&L process. Besides, it can be used to attract students' attention and increase their motivation to pay full attention in class.

Research objectives

The objectives of this research are as follows:

- To identify the types of teaching aids that is appropriate in increasing the cognition level of slow-learners.
- To identify the effects of using teaching aids in lessons for slow-learners.
- To identify the difficulties faced by teachers when using teaching aids during T&L for slow-learners.

Research scope

This research is conducted by identifying the effectiveness of the usage of electronic and non-electronic teaching aids in Art lessons for slow-learners. This research is conducted in a school in Kuala Kangsar district. The subject for this research is slow-learners while the instruments used are the daily lesson plan (DLP) and the artwork created by the students.

Research methodology

Research design

The Hermeneutic method is used to obtain information by observing the DLP and the students' artwork at the research location. This method is used to explain text. The text must be analyzed, as a whole, in order to obtain information regarding the cognitive performance of the students after using the electronic and non-electronic teaching aids. This method prioritizes the qualitative interpretive task in explaining meaning through the ability of the teaching and learning process in expanding the cognitive level of slow-learners. Through it, all pragmatic and connotative meaning in the text can be understood. Suppiah (2014) stated that the Hermeneutic method can be equated to human behavior in understanding the interaction that occurs between humans.

Research instrument

In this study, the DLP and observation of students' artwork are used to obtain feedback to ascertain if electronic teaching aids are more effective compared to the non-electronic teaching aid or that non-electronic teaching aids are more effective compared to the electronic or if the simultaneous use of both electronic and non-electronic teaching aids gives a more effective effect in increasing the cognitive level of slow-learners.

Findings

The study findings showed that the usage of electronic and non-electronic teaching aids help to increase the cognitive level of slow-learners in Art lessons. During the process of creating a flower collage, bookmark and greeting card, both electronic and non-electronic teaching aids are used during said T&L.

The effect of using both electronic and non-electronic teaching aids on the cognitive

level of slow-learners is positive whereby there is growth in the question and answer session held with the students. Furthermore, the cognitive level of slow-learners can be evaluated based on the products created according to their creativity.

This finding is in line with Hassan, Mailok & Johan's assertion that ICT plays an important role in the developing and implementing of ways (teaching aids) that enables students to acquire the knowledge and skills that is necessary for them in order to produce an outcome that is at par with their cognitive level of development. The active engagement involved in the teaching and learning process also serves to motivate the learner to come up with products that make use of their creativity.

This finding is also supported by Chauhan (2011) who claims that an educational environment which includes a needs-based curriculum provides slow learners with the space and opportunity needed to explore their sense of creativity through technological and non-technological teaching aids.

In addition, non-electronic teaching aids are used during lessons where students were creating paper fans and rabbit origami. The findings showed that non-electronic teaching aids are able to increase the cognitive level of slow-learners where in their cognitive level is measured based on the products created and their knowledge of the projects during the question and answer session held.

This finding is in agreement with Mohd Salleh, et. al (2015) who states that a teaching and learning environment that supports and encourages critical thinking skills through teacher practices and aids enables students to be exposed to an appropriate level of subject matter and content, thus enabling students to engage in question and answer sessions held after the product is created.

This finding is also in line with the study by Nachiappan et al., (2015) which claims that play-based activities making use of the theory of Multiple Intelligence such as visual intelligence, provides slow learners the capacity to identify forms, space, colour and lines which are necessary for artistic elements involving the arts, creativity and imagination.

It can be concluded that the usage of electronic and non-electronic teaching aids are able to help slow-learners to expand and increase their cognitive levels. This brings a positive effect to their learning process.

Discussion

Usage of different types of teaching aids

Based on the findings, the type of teaching aids that is more effective and is to be used by teachers in Art lessons is identified. Two types of teaching aids are used in this study which are the electronic and non-electronic teaching aids. The findings showed that the usage of electronic teaching aids is able to attract the interest of students to participate in the activities conducted. Electronic teaching aids in Art lessons help to increase the cognitive skills of slow-learners. Besides that, non-electronic teaching aids are able to help students to better understand the concept being taught.

Lesson based on real experience or the usage of concrete materials brings a bigger impact and influence to students compared to visuals or audio, language, symbols, static or moving pictures. If a student studies by using his or her own experience, it can help him or her to remember and understand all the activities participated in. According to Hussain Othman et al. (2008), real-time experience learning can be divided into two types, a learning scenario that involves the student applying the knowledge, skills and emotions in a real situation appropriately and learning through direct participation of the personal experience

possessed by the student.

What are the effects of using teaching aids on slow-learners?

The usage of teaching aids in teaching and learning process in Art lessons bring a positive impact to students. The research findings showed that the usage of electronic teaching aids attract the interest of students to pay attention in class by using videos as a means to capture the interest of students. This proved to be a successful method to be used since the students gave full attention to the lesson taught in class. Students used their cognitive skills every time they watched the video shown to them in class. This can be proved when the students are able to ask and answer questions with the teacher of the lesson taught to them. The usage of power point slides to explain and demonstrate the steps of every activity conducted brings a positive effect to the students because it helps to stimulate the minds of the students and increase the cognitive level of the students.

However, slow-learners require help or guidance in completing every activity prepared for them. Without the help or guidance of their teachers, they will face difficulties in understanding every step as shown on the computer screen. At first, picture cards or concrete materials are shown to the students so that they can feel the texture with their own hands. Next, the steps are shown one by one during the process of producing an artwork or product. The usage of electronic and non-electronic teaching aids is indeed effective. Even though non-electronic teaching aids is the more effective way of presenting the lesson more clearly, the cognitive skills of the students were well-expanded.

What is the difficulties faced by teachers when using teaching aids on slow-learners?

The difficulty faced when using electronic and non-electronic teaching aids is that every planned activity could not be carried out if an electronic teaching aid is used. This is because the students are very active and this makes it impossible for an electronic teaching aid to be used. Besides, the lack of equipment in class posed a big problem, too if an electronic teaching aid is used because there is no LCD screen set up in the class.

Therefore, students were unable to look at the pictures shown using a computer due to its small screen. If a LCD screen is provided, the teaching and learning session that occurs would be successful because the students are able to see the items projected on the screen clearly. In addition, the lack of concrete non-electronic teaching aids is also another problem faced in conducting this research and this problem has caused a glitch in the teaching and learning process.

Conclusion

This research is conducted to verify that the usage of teaching aids can increase the cognitive level of slow-learners in Art lessons and it is discovered that further research is required. There are many advantages in increasing the cognitive level of slow-learners by using teaching aids. A teacher must have the knowledge and literacy to operate the teaching aids. Besides, the teacher must know the cognitive level of students first so that he or she can plan his or her lessons more carefully in order to give maximum results to his or her students.

Teaching aids are a crucial medium in the teaching and learning process. Teaching aids help teachers to explain the concepts related to the lesson taught while ensuring the students are able to better understand the lesson taught by the teacher. The effectiveness of teaching aids can help to increase the cognitive level of students. Therefore, it is important for

these teaching aids to be used in the teaching and learning process in order to ensure the expansion of the students' cognitive skills.

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