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Teaching Methodologies and Learning Methods

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Abstract

Teaching methodologies and learning methods are crucial for the teacher in the classroom. This paper will start by looking at the evolution of teaching methods across the years. This is how the methods changed depending on a certain period of history. Then we shall look at the different teaching methods which a teacher can use in class. The teacher will have to choose a particular method according to his or her needs. After that we shall look at the different learning methods as individuals learn in different ways and we shall explore the advantages and disadvantages of these methods. Lastly, we shall explore various issues that can arise within the classroom as a result of disabilities. It is important that teachers recognize such learning problems within their classroom and adjust their teaching strategies accordingly. In this way, incidents of waves of students' misbehaviors will be reduced.

Keywords: Evolution, Teaching methods, Learning disabilities, Teachers, Learners, Classroom, Misbehavior

INTRODUCTION

It is important that teachers learn to use a variety of teaching methodologies in order to cater for the range of learning needs and requirements that are present within most class environments. Within this paper we shall look at the evolution of teaching methods, a variety of teaching methodologies, learning methods and learning disabilities and the participants will be in a position to sum up advantages and disadvantages of the teaching methodologies which will be explored. The work in this article is from a research that was conducted through the perusal of several works which have made observations on this subject. The objective of this paper is to help teachers know the evolution of various teaching methods from the ancient days to the present time so that they can be able to adjust and use modern ways of teaching. This objective is also based on the need to know what ails our education sector there is a public outcry whenever students start going on rampage burning their dormitories in boarding schools and doing all sorts of negative behavior. The different types of teaching and learning will also help the teachers choose better methods of teaching in their current teaching environment. In this way, they will be able to handle well these unfortunate incidents of misbehavior.

PART ONE: EVOLUTION OF TEACHING METHODS

1. Ancient education

About 3000 BC, with the advent of writing, education became more conscious or self-reflecting, with specialized occupations such as scribe and astronomer requiring particular skills and knowledge. Philosophy in ancient Greece led to questions of educational method entering national discourse.

In his literary work *The Republic*, Plato described a system of instruction that he felt would lead to an ideal state. In his dialogues, Plato described the Socratic Method, a form of inquiry and debate intended to stimulate critical thinking and illuminate ideas.

It has been the intent of many educators since, such as the Roman educator Quintilian, to find specific, interesting ways to encourage students to use their intelligence and to help them to learn.

2. Medieval education

Comenius, in Bohemia, wanted all children to learn. In his *The World in Pictures*, he created an illustrated textbook of things children would be familiar with in everyday life and used it to teach children. Rabelais described how the student Gargantua learned about the world, and what is in it.

Much later, Jean-Jacques Rousseau in his *Emile*, presented methodology to teach children the elements of science and other subjects. During Napoleonic warfare, the teaching methodology of Johann Heinrich Pestalozzi of Switzerland enabled refugee children, of a class believed to be unteachable, to learn. He described this in his account of an educational experiment at Stanz. He felt the key to have children learn is for them to be loved.

3. 19th century - compulsory education

The Prussian education system was a system of mandatory education dating to the early 19th century. Parts of the Prussian education system have served as models for the education systems in a number of other countries, including Japan and the United States. The Prussian model required classroom management skills to be incorporated into the teaching process. (NB. Prussia was abolished after the 2nd World War in 1947, through an Allied Declaration.)

4. 20th century

Newer teaching methods may incorporate television, radio, internet, multimedia and other modern devices. Some educators believe that the use of technology, while facilitating learning to some degree, is not a substitute for educational methods that encourage critical thinking and a desire to learn. Inquiry learning is another modern teaching method. A popular teaching method that is being used by a vast majority of teachers is hands on activities. Hands-on activities are activities that require movement, talking, and listening, it activates multiple areas of the brain. "The more parts of your brain you use, the more likely you are to retain information," says Judy Dodge, author of *25 Quick Formative Assessments for a Differentiated Classroom* (Scholastic, 2009).

5. 21st century

This century has seen the integration of technology in teaching. This is because we now live in a changing society and now this change affects how we teach nowadays. According to Tsisana Palmer (June, 2015), she lists 15 characteristics of a 21st century teacher such as we now have learner-centred classroom and personalized instruction where students make their own choices and own their learning, then they are treated as producers of their own learning since they can use their smart phones to communicate through chatting, texting and calling. Furthermore, the students learn new technologies such as Skype through which they can communicate with their teachers and they are

also global because they can communicate with people in other countries in the world. In addition, the teacher and the student can use blogging and also go digital to share learning links and organize teaching on a website. This gives them access to authentic learning resources on the web. All in all, in the 21st century new technologies for learning will keep emerging and this experience will make teaching and learning to be quite interesting.

PART TWO: TYPES OF TEACHING METHODS

1. EXPLICIT TEACHING

Explicit teaching is important within the classroom and therefore should not be pushed aside when addressing a range of learning strategies. To help students progress in a particular area, specific knowledge and skills may need to be taught to the students. This often provides tools that students can use to assist them in their learning and can be evident in all areas of the curriculum. It is important that teachers are explicit within all teaching practices in order to further develop student learning. (NB: Explicit means to state clearly and in detail, leaving no room for confusion or doubt.)

2. COMMAND STYLE

The underlying principle of the 'command style' is that teachers should be the sole authoritarian figure within their classroom. Within such approaches the teacher is required to maintain absolute control over the class and therefore must execute a strict and highly regulated lesson structure. The students within the class are required to comply with the commands of the teacher and therefore execute all activities to a required standard and within a given time limit. Mosston and Ashworth state that the command style of teaching occurs when 'the teacher makes the maximum number of choices, while the learner makes only minimal decisions' (Mosston & Ashworth, 2002: p.79). Within this methodology it is the role of the teacher to initiate all learning sequences, while students are required to follow and adhere to all rules and restrictions implemented throughout the lesson (Mosston, 1966: p.21). Mosston describes the defining characteristic of the command style as 'precision performance - reproducing a predicted response or performance on cue' (2002: p.76). This particular methodology therefore places students within a 'closed' environment, which incorporates pre-determined or predictable cues followed by a standard response.

3. TEACHING BY TASK

The 'teaching by task' methodology was developed upon notions of personal practice, independent learning and individual development. The task style of teaching allows students to develop at their own rate and in their own direction. This particular methodology empowers students to take responsibility for their own learning and therefore fosters the possibility of 'deeper' learning across a range of different areas. Mosston describes the nine decisions that are transferred from the teacher to the learner within this style. These are: "Location, Order of tasks, Starting time per task, Pace and rhythm, stopping time per task, Interval, Initiating questions for clarification, Attire and appearance, and Posture" (Mosston & Ashworth, 2002: p.96) As a result of such student empowerment a deeper appreciation for education can be fostered, thus making ongoing participation within all subject areas more likely.

4. INDIVIDUAL PROGRESSION

According to Mosston and Ashworth, the defining characteristic of the 'individual progression' methodology is that "learners with varying degrees of knowledge and skill can participate in the same task by selecting a level of difficulty at which they can perform" (2002: p.156). This particular methodology is therefore "a design of subject matter manipulated in such a manner as to provide the learner with full opportunity for self motivated learning, self-assessment, and decision making over a relatively prolonged period of time" (Mosston, 1966:p. 97).

The 'individual progression' methodology allows students to participate within activities regardless of their individual skill levels, understanding and levels of motivation (Harrison & Blakemore, 1983: p.327). Due to the nature of the methodology students are able to participate within a non-threatening environment, therefore gaining subsequent experiences of success. The structure of activities utilizing this methodology incorporate only minimal competition and therefore allow students to remain unthreatened, thus further fostering the development of positive attitudes towards all areas of the curriculum. This particular style of teaching allows students to challenge their own knowledge and skill levels and therefore set their own goals with regard to their future development.

5. GUIDED DISCOVERY

Mosston states that each of the previous methodologies discussed within this paper do not engage students within operations and class functioning. Mosston further states that within these approaches students are 'not required or induced; neither do they develop spontaneously' (1966: p.143). In contrast, allowing individuals to discover the solutions to their own problems allows them to develop the skills and abilities needed to enquire, compare, invent, discover, reflect and draw subsequent conclusions regarding a variety of issues pertinent to that particular individual within that particular environment (Mosston, 1966).

The intention of the guided discovery method is for teachers to formulate the underlying structure and content of their lessons in a manner that forces students to discover the answers to a range of problems for themselves (Mosston & Ashworth, 2002: p.212). Within this particular methodology it is the role of the teacher to guide and facilitate student learning in order to allow student discovery as well as promote ongoing experimentation and participation.

6. PROBLEM SOLVING

Problem solving is the most independent of learning methods studied within this unit and therefore completely empowers the students to initiate their own learning. This particular methodology is similar to the 'guided discovery' methodology, as the teacher makes all decisions about the content of the questions and therefore the correct answers; however the role of arranging sequences that lead to the correct solutions are placed in the hands of the learner (Mosston & Ashworth, 2002: p.237). The teacher therefore must assume the role of the facilitator, and be prepared to provide students with feedback rather than solutions (Harrison & Blakemore, 1983: p.329). Positive reinforcement is a very important element of the problem solving process, as it will further promote students to provide their ideas, thus further developing individual motivation levels and personal confidence (Mosston, 1966).

7. EXPLAINING

Explaining, or lecturing, is the process of teaching by giving spoken explanations of the subject that is to be learned. Lecturing is often accompanied by visual aids to help students visualize an object or problem. Explaining may meet the needs of auditory or visual learning preferences but often fails to meet the needs of individuals with other learning preferences, such as kinesthetic or social learners.

NB.

A lecture (from the French 'lecture', meaning 'reading' [process]) is an oral presentation intended to present information or teach people about a particular subject, for example by a university or college teacher. Lectures are used to convey critical information, history, background, theories and equations. A politician's speech, a minister's sermon, or even a businessman's sales presentation may be similar in form to a lecture. Usually the lecturer will stand at the front of the room and recite information relevant to the lecture's content.

Though lectures are much criticized as a teaching method, universities have not yet found practical alternative teaching methods for the large majority of their courses. Critics point out that lecturing is mainly a one-way method of communication that does not involve significant audience participation. Therefore, lecturing is often contrasted to active learning. Lectures delivered by talented speakers can be highly stimulating; at the very least, lectures have survived in academia as a quick, cheap and efficient way of introducing large numbers of students to a particular field of study.

The criticisms of lectures are often summarized by a quote generally misattributed to Mark Twain (an American author and humorist): "*College is a place where a professor's lecture notes go straight to the students' lecture notes, without passing through the brains of either.*"

8. DEMONSTRATING

Demonstrating is the process of teaching through examples or experiments. For example, a science teacher may teach an idea by performing an experiment for students. A demonstration may be used to prove a fact through a combination of visual evidence and associated reasoning.

Demonstrations are similar to written storytelling and examples in that they allow students to personally relate to the presented information. Memorization of a list of facts is a detached and impersonal experience, whereas the same information, conveyed through demonstration, becomes personally relatable. Demonstrations help to raise student interest and reinforce memory retention because they provide connections between facts and real-world applications of those facts. Lectures, on the other hand, are often geared more towards factual presentation than connective learning.

9. COLLABORATING

Collaboration allows students to actively participate in the learning process by talking with each other and listening to other points of view. Collaboration establishes a personal connection between students and the topic of study and it helps students think in a less personally biased way. Group projects and discussions are examples of this teaching method. Teachers may employ collaboration to assess student's abilities to work as a team, leadership skills, or presentation abilities.

Collaborative discussions can take a variety of forms, such as *fishbowl discussions* (conversations). After some preparation and with clearly defined roles, a discussion may constitute most of a lesson, with the teacher only giving short feedback at the end or in the following lesson.

10. ELICITATION

"The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." William Arthur Ward (Pertinent Proverbs)

At the heart of the project lies a principle derived from the origin of the word 'education' itself. Generally agreed to stem from the Latin root *educere* meaning 'to draw out', the course utilizes this as a metaphor to place the learner at the center of the educational process.

The teacher's role is that of a facilitator, rather than a lecturer, with their task focused on drawing out the knowledge and response from the learner. This is also known as eliciting and has a number of advantages over merely telling learners the answer:

- It involves the learners more in the classroom
- It can help to engage in an in-depth processing of language. Generally speaking, if a learner has to think through or supply a definition, they are more likely to retain the definition in their long-term memory.
- It allows us to diagnose what the learners know. If we simply supply a definition, we may actually be telling the learners something they already know. If we elicit, we can gauge what they know and what they don't, and hopefully create a need for the language.

PART THREE: TYPES OF LEARNING METHODS

Individuals learn in different ways. Within this section a variety of learning methods will be explored and their various advantages and disadvantages outlined. This section includes an analysis of De Bono's problem solving method and explores its usefulness within the classroom. A multiple intelligence survey is included and an analysis of each type of intelligence can be viewed.

1. PROBLEM BASED LEARNING (PBL)

Problem based learning allows students more responsibility for their own education and not solely dependent on their teachers. This strategy requires that the teacher is responsible to provide the educational materials and guidance that assist learning. In the PBL learning process students often, in small groups, encounter a problem and apply previous knowledge on the topic as well as researching a range of information resources relevant to help solve the problem at hand. During this process students are encouraged to self and peer assess their progress, which helps to develop their collaborative or team learning skills.

PBL is a fun and motivating approach to learning and is most effective when students are working with real life problems. This proves more interesting for the students and links some relevance between their school study and their own lives. When students are working with a problem they can identify what they need to learn and what resources to use to accomplish that learning. This allows the student to design their learning to meet individual needs as all students have differing knowledge and experience. Often students are given choice to the way they approach a particular activity and in some cases the topic area or problem to be solved, often referred to as 'student lead learning'.

2. ACTIVE LEARNING

Active learning involves students not only doing things but thinking about the things they are doing. Positive strategies include students working on activities in pairs where they are encouraged to share and think together. Individual think and write exercises involve students in linking a writing activity to their thinking. Another effective strategy is involving students in structured question and answer sessions which require a critical thinking process as well as a discussion which involves understanding, previous knowledge and prediction of the topic. A more complex strategy may involve students in individual or group project based assignments that require significant research into the topic. A critical element relating to all active learning teaching strategies is the link between the activity, assignment or discussion session and a relevant topic. Case studies are an effective way of utilizing the above strategies in a current or relevant topic.

3. MULTIPLE INTELLIGENCES

**“IT'S NOT HOW SMART YOU ARE –
IT'S HOW YOU ARE SMART!”**

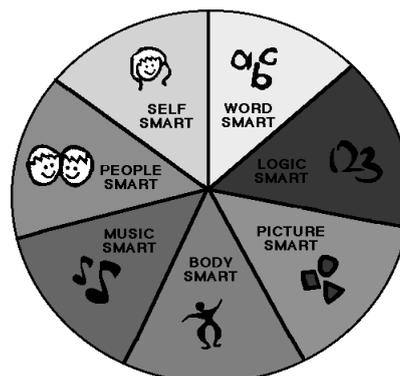


Figure 1: Howard Gardner's Theory of Multiple Intelligences

Howard Gardner's Theory of Multiple Intelligences

NB

Howard Gardner of Harvard has identified seven distinct intelligences. Where individuals differ is in the strength of these intelligences - the so-called profile of intelligences -and in the ways in which such intelligences are invoked and combined to carry out different tasks, solve diverse problems, and progress in various domains."

They are as follows;

1. VISUAL/SPATIAL - children who learn best visually and organizing things spatially. They like to see what you are talking about in order to understand. They enjoy charts, graphs, maps, tables, illustrations, art, puzzles, costumes - anything eye catching.
2. VERBAL/LINGUISTIC - children who demonstrate strength in the language arts: speaking, writing, reading, and listening. These students have always been successful in traditional classrooms because their intelligence lends itself to traditional teaching.
3. MATHEMATICAL/LOGICAL - children who display an aptitude for numbers, reasoning and problem solving. This is the other half of the children who typically do well in traditional classrooms where teaching is logically sequenced and students are asked to conform.
4. BODILY/KINESTHETIC - children who experience learning best through activity: games, movement, hands-on tasks, building. These children were often labeled "overly active" in traditional classrooms where they were told to sit and be still!
5. MUSICAL/RHYTHMIC - children who learn well through songs, patterns, rhythms, instruments and musical expression. It is easy to overlook children with this intelligence in traditional education.
6. INTRAPERSONAL - children who are especially in touch with their own feelings, values and ideas. They may tend to be more reserved, but they are actually quite intuitive about what they learn and how it relates to them.
7. INTERPERSONAL - children who are noticeably people oriented and outgoing, and do their learning cooperatively in groups or with a partner. These children may have typically been identified as "talkative" or "too concerned about being social" in a traditional setting.
 - (a)NATURALIST - children who love the outdoors, animals, field trips. More than this, though, these students love to pick up on subtle differences in meanings. The traditional classroom has not been accommodating to these children.
 - (b)EXISTENTIALIST - children who learn in the context of where humankind stands in the "big picture" of existence. They ask "Why are we here?" and "What is our role in the world?" This intelligence is seen in the discipline of philosophy, which was represented by the works of the French author, Jean-Paul Sartre.

4. DE BONO'S 'THINKING HATS'

De Bono's thinking hats were developed in order to illustrate the various methods of thinking utilized by individuals within problem solving processes. Each of the hats represents a method of thinking commonly used by individuals within problem solving. It is hoped that through such representations more individuals will be able to recognize the various methods of thinking that they utilize and therefore better understand their own thinking processes. It is also hoped that individuals will be able

to better understand the thinking processes of others and therefore even incorporate some of these processes within their own thinking. Included below is a description of each of the hats and the thinking processes that they represent. Their use will be illustrated through the analysis of a simple classroom issue. By doing so the problem can be more easily deconstructed and therefore an answer more easily sought.

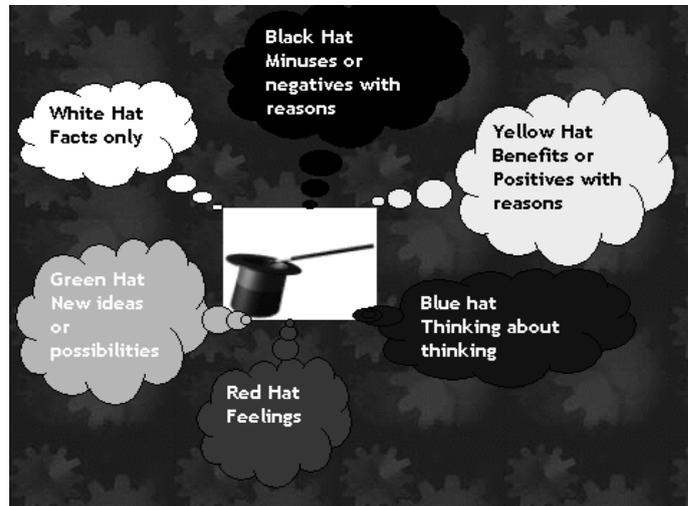


Figure 2: De Bono's thinking hats

NB

The learners assume each hat in turns e.g. the discussion always starts and ends with the blue hat
Issue – Students are talking while their teacher is talking

White Hat – Objective (state the facts)

- Students are talking while the teacher is talking
- There is noise and therefore other students are distracted and can't hear the teacher
- Students don't know what to do once instructions are given
- Many students become distracted and off task resulting in the failure to complete work

Red Hat – Subjective (state the emotions)

- The teacher feels offended
- Students become frustrated because they can't hear directions
- Those talking enjoy joking around and being heard.

Black Hat – negative aspects

- Time is wasted
- Learning is compromised
- Those speaking feel that listeners do not respect them and do not wish to hear what they are saying

Yellow Hat – positive aspects

- Everyone is able to say what is on their minds
- It can be fun
- Not only the 'smart kids' get to speak
- One doesn't have to wait to share their ideas and therefore risk forgetting information

Green Hat – creative ideas that originate as a result of seeing information in a new light

- Teacher will be more aware about the amount of time they spend talking
- Teacher will try to incorporate interaction from a variety of different students rather than just the 'smart kids'

- Students will resist the urge to say whatever is on their mind. They will think about what they have to say and whether it is relevant to the topic

- Students will take into account whether their comment will interfere with other peoples learning

Blue Hat – Sum up learning

- Teacher learns that they need to monitor the amount of time that they spend talking within the

classroom

- Teacher needs to involve all students within discussions
- Teacher needs to recognize that some students need thinking time before responding. Allowing these students time to compute solutions promotes wider participation and increased learning
- Students realize that their talking makes the speaker feel unappreciated and disrespected
- Students realize that their comments are jeopardizing the learning of other individuals
- Students realize that talking out of time demonstrates a lack of self-discipline and that not all comments require sharing

Summary

Utilizing a variety of approaches within thinking and problem solving allows the issue to be addressed from a variety of angles, thus servicing the needs of all individuals concerned. The thinking hats are useful for learners as they illustrate the need for individuals to address problems from a variety of different angles. They also aid learners as they allow the individual to recognize any deficiencies in the way that they approach problem solving, thus allowing them to rectify such issues.

PART FOUR: LEARNING DISABILITIES

This section will explore various issues that can arise within the classroom as a result of learning disabilities. There are many different kinds of learning disabilities and as a result it becomes difficult to investigate them all. It is therefore important that teachers recognize such learning requirements within their classroom and adjust their teaching strategies accordingly. Here we have focused on two of the more common learning difficulties - Dyslexia and ADHD(Attention-deficit/hyperactivity disorder). This section will also analyze some teaching considerations to be taken into account when teaching children with learning disabilities within both primary and secondary school settings.

DYSLEXIA

Patients with dyslexia showed poor thresholds for stimuli with low contrasts, low spatial or high temporal frequencies and poor sensitivity to visual motion. Reading disorder, also known as dyslexia, is one of the learning disabilities many school-aged children suffer. In this disorder, reading achievement is substantially below what would be expected for the person's age, intelligence, and educational level. Many areas of the brain are involved in reading. Abnormalities in processing in these brain areas are associated with having dyslexia. It appears that persons who have dyslexia have difficulty processing sound-based components of language. They have difficulty associating symbols (such as letters) with the sounds that these symbols have. Dyslexia does not affect thinking ability. Persons who have dyslexia are often creative in learning to compensate for their disability. Reading difficulties may also arise from poor vision, decreased hearing ability, emotional problems, or behavioral disorders. Behavioral disorders, such as attention deficit/hyperactivity disorder (ADHD), may also coexist with learning disorders.

Early identification of learning disabilities can help children to achieve success in learning environments. Some strategies that can help individuals with reading disorder include:

- * Approaches to teaching that include audio-based instruction (audiotapes, audio texts), computer-assisted instruction, structured teaching including repetition and small-unit instruction, flashcards, and optimum position of the child in the classroom.

- * Identification, evaluation, and treatment of behavioral or psychiatric problems that can coexist with learning disabilities.

- * Alternative assessment measures (using different types of testing than traditional written tests).

- * Assistance with emotional issues (such as self-esteem) that may accompany learning disabilities.

* Special education, if needed, though some experts advocate keeping children with dyslexia in the regular classroom.

* A strong support system for the child and family, possibly including referral to appropriate resources within the community.

ATTENTION DEFICIT/HYPERACTIVE DISORDER (ADHD)

Attention-deficit/hyperactivity disorder (ADHD) is a pattern of behaviors appearing in childhood that is manifested by developmentally inappropriate levels of inattention, impulsivity, or hyperactivity. In the past, a majority of mental health professionals assumed that ADHD disappeared in adolescence. However, between 30% and 70% of children classified as having ADHD continue to experience symptoms and to meet the DSM-IV diagnostic criteria as adolescents and adults.

Although researchers have not found that all students classified as having ADHD exhibit low achievement (i.e., reading, writing, mathematics, spelling), some studies have shown that these students may exhibit deficits in a specific academic skill. For example, a recent study found that approximately 15% of children and adolescents classified as having ADHD presented with profiles similar to students classified as having reading disorders.

In addition to developmentally inappropriate patterns of behavior, some students classified as having ADHD also exhibit academic difficulties. Researchers who have examined the educational performance of students classified as having ADHD have suggested that they may be more likely than students without disabilities to achieve lower grades in academic subjects and lower scores on standardized tests of reading and math.

In spelling, some studies that have controlled for IQ differences have found that students classified as having ADHD score lower on standardized measures of spelling than their nondisabled peers. In math, studies have shown that students classified as having ADHD performed significantly lower than their peers without ADHD on timed tasks of math calculation, even when differences in IQ were controlled.

In addition to specific problems with one academic area such as reading, spelling, or math, researchers have reported that students classified as having ADHD exhibit handwriting difficulties; however, the reasons for these difficulties may be confounded by other factors. When controlling for visual-motor skill, for example, differences in handwriting errors between students classified as having ADHD and non-ADHD students were not significant.

CONCLUSION

It is important that all teachers within all environments are aware of the positive and negative effects of all methodologies currently being utilized within their classroom. This awareness will then enable teachers to structure learning experiences to meet the needs of all individuals while fulfilling the requirements of the curriculum and maintaining student safety. It is important that teachers are able to utilize a variety of methodologies within their teaching in order to cater for individual learning preferences and further develop all individuals within all aspects of their lives. It is important that teachers are able to utilize the correct methodology at the appropriate time in order to enhance student development, maintain student discipline and student safety while meeting the needs and requirements of the curriculum.

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