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Abstract

Inclusion ensures education is accessible to all students regardless of age, race, gender and abilities. Teachers differentiate the classroom environment along with the content and its delivery, in order to cater for all students' needs at an individual and class level. Gardner's theory of multiple intelligences (MI) can be used as a mediator, to differentiate how students access this content. Using MI-inspired lessons allows students to explore important concepts using a range of domains, and find information based on their own abilities. This paper addresses issues around using multiple intelligences to create an inclusive classroom.



Inclusion through multiple intelligences

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Inclusion ensures education is accessible to all students regardless of age, race, gender and abilities. Teachers differentiate the classroom environment along with the content and its delivery, in order to cater for all students' needs at an individual and class level. Gardner's theory of multiple intelligences (MI) can be used as a mediator, to differentiate how students access this content. Using MI-inspired lessons allows students to explore important concepts using a range of domains, and find information based on their own abilities. This paper addresses issues around using multiple intelligences to create an inclusive classroom.

Keywords: inclusion; differentiation; multiple intelligences; Howard Gardner; teaching style

The theory of multiple intelligences (MI) encompasses the idea that all people have a unique profile of abilities, natural or learned, in which they are proficient and these are rarely the same as other people (Reynolds, 2009). This belief requires the promotion of an inclusive classroom through the use of teaching strategies that will incorporate all students' strengths and needs.

Based on a study of both biological and cultural aspects of intelligence, Howard Gardner (1993) concluded that students should be seen not as a 'stock-standard' child, but rather as a set of abilities, talents or mental skills, which we call intelligences. Further to this idea, he believed students learn, and should be taught, in a variety of ways (Farnan, 2009). Gardner identified eight primary areas of intelligence: linguistic, logical-mathematical, spatial, musical, bodily-kinaesthetic, interpersonal, intrapersonal and naturalistic (Kornhaber, Fierros & Veenema, 2004). A half-intelligence was also put forward by Gardner – spiritual, or existential, intelligence – but this will not be addressed in this paper. The paper does, however, explore how Gardner's MI theory can be used in the classroom as a key teaching tool to cater for the needs of various types of learners.



Inclusion

Inclusion is defined as a set of beliefs and practices indicating that all children should be educated, regardless of differences (Bahn, 2009; Dempsey & Arthur-Kelly, 2007). An inclusive classroom is one that caters for all students' diverse educational needs. The importance of creating an inclusive classroom environment is reinforced through UNESCO (2001), and the Commonwealth *Disability Discrimination Act 1992* (Boyle *et al.*, 2011). In order for there to be social cohesion, it is important that schools and the education system recognise communities' differences and ensure that all students have access to the resources and education they deserve. The *Act*, accompanied by others, promotes education as accessible to all, free from discrimination.

Inclusivity is important as it contributes to eliminating tension, competition and pressure that students may experience, while also being a component of addressing social isolation and upset for those who do not 'fit' in a 'one-size-fits-all' approach (Dempsey & Arthur-Kelly, 2007). This is achieved by creating a classroom environment that caters for all students' needs and is free from discrimination of differences.

It is important for the teacher to promote an inclusive environment, as this will help students further develop, both academically and emotionally. An inclusive classroom promotes a positive emotional environment for students, thus enhancing students' emotional development by making them feel comfortable, happy and more confident. This, in turn, allows students to take risks and achieve their full potential (Leatherman & Niemeyer, 2005).

In most cases, students understand that not all individuals are the same; it is therefore the teacher's role, through differentiation, to ensure that these differences do not create social barriers, such as isolation (Tomlinson, 1999). Tasks should be differentiated to ensure that students feel they are able to accomplish the same tasks without being further disadvantaged due to their ability (Barnes, 2006).

In order to create an inclusive classroom environment the teacher may need to make modifications to their teaching style (Barnes, 2006). Differentiating the way the curriculum is delivered and assessed caters to students' specific needs and strengths, rather than viewing to the class as a single unit. For the purpose of this paper, inclusion will be based on creating a classroom that caters for all students' different ways of learning, linking specifically to how Howard Gardner's theory of MI can be used for differentiation in order to achieve this.

Differentiation for inclusion

Differentiation involves teachers adjusting the learning environment, teaching style and curriculum content "to fulfil our responsibility to reach and teach all of the diverse learners in our classroom" (Rief & Heimburge, 2006, p.3). To differentiate, the teacher must make modifications to the content that is delivered, the process of how it is delivered and the overall product (Tomlinson, 1999). These variations are centred around the key concepts of each topic, to ensure students are able to understand the main focus, however it is communicated and received (Tomlinson, 1999). The learning environment should be differentiated to change the pace of how things are delivered, create activities that are challenging in order to push students, be relevant to students and be flexible and varied (Heacox, 2002). These changes are



made after the students' needs and current abilities have been identified through assessment and observation.

In an inclusive classroom, differentiation is important as it is derived from the belief that schools should: “include students of diverse needs, achievement levels, interests, and learning styles, and instruction should be differentiated to take advantage of the diversity, not ignore it” (Jackson & Davis, 2000, p.23). Taking “advantage of the diversity” is fundamental to an inclusive philosophy, as the advantage lies not in having to deal with differences of students but in encouraging all students to challenge themselves to the best of their ability. The teacher is only able to do this once they have clearly identified the individual students' current abilities and interests (Tomlinson, 1999).

It is important that the classroom curriculum caters to students' individuality, as this can enhance their motivation to learn by providing an environment that is accessible for them and interests them, while building on students' academic and social needs (Ginsberg, 2005). Actively practicing the processes of inclusion ensures that all students feel important and that education is accessible and supports their individuality. Thus, differentiation is essential in the classroom as it allows the teacher to cater for the individual student, rather than adopting a whole-class approach, with consequent improvement of students' access to the curriculum, as they are presented with a curriculum that is catered to their individual needs (Hoover & Patton, 2005).

Importance of using MI theory to create an inclusive classroom

Howard Gardner's theory of MI assists the creation of an inclusive classroom by eliminating the one-size-fits-all approach and allowing students to experiment in a range of styles and 'sizes' (Singal, 2008). Armstrong (2009) outlines activities that can be applied to a topic to cater for the eight defined intelligences. An example of this can be found by using the picture book *The Rabbits* (Marsden & Tan, 1998). Students could be asked to use the source to complete a topic about the characters, further from this students could be asked to do the following activities:

- (1) Linguistic intelligence (words and language people use) – brainstorm, in peer groups, the roles of the different animals and their characteristics.
- (2) Logical-mathematical intelligence (logic and exploration of patterns and numbers) – classify and categorise the characters, based on visual characteristics.
- (3) Spatial intelligence (perceptions of images and space) – using the characteristics that have been outlined, draw a visual description of the rabbits identified in the visual storyline.
- (4) Bodily-kinaesthetic intelligence (body movement control) – classroom theatre of how the invaders are depicted by the visual images on key pages.



- (5) Musical intelligence (see/recognise patterns of sounds and rhythm) – create mood music from the illustrations, which depicts the invaders and how they have been portrayed.
- (6) Interpersonal intelligence (ability to interrelate with others) – using peer sharing and cooperative groups, students brainstorm what the book cover suggests about the characters.
- (7) Intrapersonal intelligence (access to inner feelings) – individual time to create connections between how students view the characters prior to peer sharing and how differing views have helped them create a whole picture of the characters.
- (8) Naturalistic intelligence (discriminate between living things) – students are asked to look at the relationship between the animals in the story and compare these to another set of animals that exist in a natural setting.

These strategies can be used individually and there is a relationship between many; for example, activities one and two could be used to introduce and supplement each other. All of the activities above cannot be executed at once, however, the activities can be used throughout the study of the story to reinforce the main concepts in a variety of ways. This allows students to further develop their strengths and build on their weaknesses (Nicholson-Nelson, 1998). The use of strategies like these allow students to build and actively use their most highly developed intelligence to achieve and understand the main concepts; once attained, this will help the student understand and develop their other intelligences within the topic framework. This is done by reiterating the same concept using numerous techniques in order to assist students to identify their preferred learning style.

Teachers can use MI-influenced activities by creating learning centres, or simply assigning tasks throughout the day that allow students to access their intelligences individually and in connection to others (Jensen, 2006). This results in students developing the understanding that there is not just one way of learning that can be explored. For example, a student may be unable to complete $2+2=4$ on a piece of paper (spatial intelligence), however, is able to understand and complete the task when asked to do it physically with concrete materials (bodily-kinaesthetic intelligence). This allows students to explore how the intelligences can be used to supplement and extend their knowledge and understanding.

Experiment and build predetermined intelligences

Gardner believed that environment and opportunity shape students' intellectual capacity by influencing the information that students have access to in their everyday life (Tomlinson *et al.*, 2002). The application of practices that allow students to engage their formula of intelligences is important, as this allows students to access and use the intellectual capacity that is most effective to achieve the task. This is done by providing students with a range of strategies to achieve the same outcome, which, in turn, ensures that education is accessible, regardless of cultural understanding and environment.



Use of choice

The use of choice helps to intrinsically motivate students (Palmer, 2007). Promoting the use of learning stations allows students to choose how they will learn and demonstrate their knowledge of a particular topic. In some cases, however, all stations must be utilised in order for students to truly understand the main concepts. Choice can then be used to allow students to choose a starting point for their introduction to the main concepts. The other stations are then used to reinforce initial understanding and build upon this. A choice of activities enables students to identify their personal qualities, preferred learning style and to feel that they are valued for their personal achievement. With the use of strategies to accommodate students' MI in the classroom, teachers are able to differentiate the content and how it is taught to more-beneficially cater to students' blend of intelligences and preferred learning styles.

Conclusion

To cater for the range of multiple intelligences in a diverse classroom, teachers must differentiate the teaching–learning process to create an inclusive learning environment. Creating a differentiated and inclusive classroom helps teachers to more effectively meet the needs of all students. This is essential, as the classroom must be a place that is free from discrimination, where students are comfortable to take risks and feel valued. In order to create an inclusive classroom the teacher must differentiate the content, process and product to accommodate all students' learning styles. To differentiate, it is essential that teachers understand their students on an individual level in order to create lessons based on the students' interests and abilities

The application of Gardner's MI theory helps to promote an inclusive environment by valuing that all individuals have strengths in different areas. The eight intelligences identified by Gardner can be used individually or in conjunction with one another to enable students to identify their preferred style of learning, as well as allow student access to explore other preferred styles of learning. Utilising strategies that accommodate students' MI in the classroom enables the teacher to create an inclusive classroom environment, by differentiating the content in relation to the eight intelligences. This promotes teaching in a range of ways to cater for individual differences and ensure education is accessible for all.

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