Learning Disabilities

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Introduction

"Give them a curriculum that respects their intelligence" – according to this saying students who have learning disability are obviously at a double disadvantage. However it is important to follow some strategies that are effective for these children to learn. School is an environment with children of diverse minds. It is teachers who mould them to gain knowledge and skills. But the present educational system reveals that teachers look at education from the mindset that students learn primarily from one type of intelligence. It is far more important to consider learning preferences of children with learning disability. All learning enters the mind through the senses. The more senses involved during learning, the more likely the brain will receive and process information. By using multiple senses to learn, children find it easier to match new information to their existing knowledge (Schiller 1999; Willis in press).

Review of Literature

Dr. Howard Gardner's work on intelligence in children (Gardner 2006) has refocused how educators understand learning and the nine intelligences which are relatively independent but interacting cognitive capacities. Gardner (2004) emphasized that the theory of multiple intelligences was not developed as an educational intervention. In fact, it was developed as a theory of mind. However, Gardner (2004) stated the impact of his theory on educational thinking and application throughout the world. Furthermore, Gardner explained two primary reasons for this impact. The first was about the variety of strengths and profiles of the individual taken into consideration and the second reason was about the expectation that students could learn and produce in various ways.

Gardner (1983 / 1993) classified intelligence into eight categories: linguistic (enjoys activities that involve reading, writing, and speaking), logical-mathematical (enjoys working with numbers, experimenting, and patterning), musical (enjoys activities which involve music, rhythm, melody, and sounds), and spatial (enjoys learning through visualizing, diagrams, and a wide range of visual media), bodily-kinesthetic (enjoys activities which allow movement, touching, and doing), interpersonal (enjoys learning through communicating and working cooperatively with others), intrapersonal (enjoys personal, self-directed, and individualized learning situations), and the naturalist intelligence (enjoys working and being within the natural environment).

Stanford (2003) confirms that multiple intelligences (MI) can make the greatest contribution to education. "Intelligences are cultivated more than they are inherited. And different cultures tend to reinforce certain intelligence" (Jensen, 2008). This classification will help the learner to recognize their intelligence strengths (Perini, Silver, & Strong, 2000). It is clear that almost everyone to some degree has their own strength and weakness in these nine intelligences which is interrelated to each other. Some students demonstrate a strong intelligence in one area where others seem to demonstrate a cluster of intelligences. It is important to give students the choice in their learning strength that can result in students taking responsibility for their work. Thus in turn we assist the child to match how they think and learn in their own way. "Information about learning styles and multiple-intelligence (MI) is helpful for everyone especially for people with learning disabilities. Knowing your learning style will help you develop coping strategies to compensate for your weaknesses and capitalize on your strengths" (Learning Styles and Multiple Intelligences, 2006). To focus on a weakness is not what is done with the "average "student. Starting the learning process from where the student with learning disability is at more important than starting with their deficiencies (Baum & Owen, 1988; Gardner, 1993; Oliver, 1997; Poplin, 1988; Udvari-Solner, 1996).

Therefore it is crucial to identify the learning style of children with learning disability. With this as the main aim, the hypothesis of the study was framed a) to identify the various strength and weakness of learning styles in children with learning disability b) to understand the various combinations of learning styles in children with learning disability.

Method

The study was carried out in Trichy district in three primary schools with state board curriculum. The total sample size was sixty children from classes 3^{rd} to 9^{th}, who were average performers. Based on the criteria of DSM-IV these children were assessed

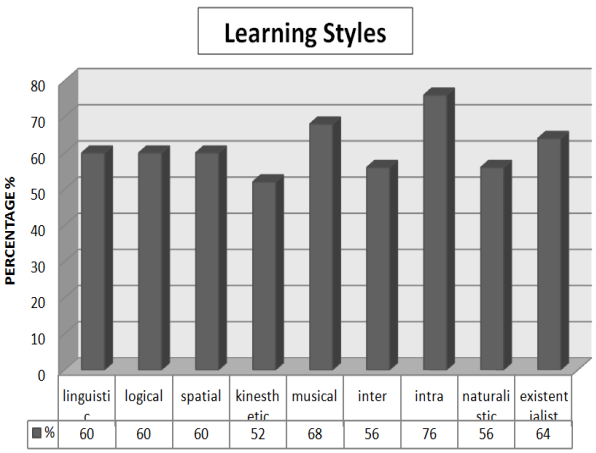
for learning disability using the Learning disability checklist. The checklist gave an insight about their difficulties in reading, writing and mathematics. These children were further assessed for different

learning styles using Howard Gardner's Theory of Multiple Intelligence (1983) questionnaire. The questionnaire consists of nine learning styles and each style contained ten questions. The nine learning style includes verbal linguistic, logical mathematics, visual spatial, kinesthetic, musical, spiritual, naturalists, interpersonal, intrapersonal. The maximum number of 'yes' in each style was considered as the recorded learning style of the children. Learning ability requires eight skills to be efficient. A mean score of 50 was taken as the mid value. A score below 50 was considered the weakness and a score above 50 as the strength of the learning style. The children were given the learning styles checklist and were instructed to circle against each item in all the styles which they feel suitable for them. The total scores in each style were calculated using suitable statistical measures to find the highest and lowest percentage of the styles.

Results

From the calculated data we infer that learning is unique and it cannot be generalized. The results show that children differ in their learning style, though they belong to the same age group and school. 76% of the children are high in intrapersonal intelligence.68% of the children show more interest in musical ability. 52% of the children have scored high in kinesthetic. 64% of children show interest in existential ability. 56% of children are natural lovers and also possess interpersonal skills. 60% of the children were found to be weak in visual spatial skills; verbal linguistic skills and logical mathematics. About 70% of the children have strength in more than one learning style.

Fig.1 Learning styles of children with learning disabilities



Discussion

From the above results it is essential to consider how the children learn from their strength and weakness of different learning styles.

a) The strength and weakness of learning styles of children with learning disability

The children who possess strength in kinesthetic and musical intelligence tend to enjoy learning by doing things. They have very good control over their body and can learn best through action and the opportunity to manipulate materials such as making sculpture in Art or a cake in Food and Nutrition. They can perform simultaneously two activities and can learn best a new skill by seeing and hearing. Whereas the children with musical intelligence can learn better by listening to music and play an instrument. They learn or read by listening to music.

As Gardner concluded in his eighth intelligence, naturalistic intelligence, allows individuals to identify and distinguish among products of the natural world such as animals, plants, types of rocks, and weather patterns (Gardner, 1999). Hence these children learn to adjust, adapt to their surroundings to succeed or to survive. The children who are good in intrapersonal skills were thoughtful and reflective. They learn best from their personal opinions and work alone and they find it difficult to work in groups.

Gardner (2006) himself has speculated about an existential intelligence that reflects an individual's capacity for considering 'big questions' about life, death, love, and being. And in interpersonal skills they are able to motivate, organize and communicate with other people. These children can get along well with others and understand how other people feel.

The children reflected weakness in styles like visual spatial skills, verbal linguistic skills, and logical mathematics. Because of this they are at a disadvantage in verbal and written communication and in learning abstract concepts. To learn best through language which includes listening, speaking, reading, telling, discussing and writing is difficult for them. The children with logical mathematics difficulty are unable to think conceptually, dislike solving problems and cannot learn best using numbers and analysis. A weakness in Visual Spatial skills make it difficult for the child to plan before putting anything on paper. They can't learn best by representing material visually in: scatter diagrams, pictures, brain storms, story boards, etc.

b) The various combination of learning styles in children with learning disability

Gardner believes that each person possesses all seven intelligences, but to a different degree. As we also agree to our finding, that strength of the children reflected not only in a single intelligence but a combination of it. Each child is unique in its style of learning preferences and it is difficult to conclude a general pattern. But still from the data we identified two combinations. The one combination has intrapersonal, music and existential intelligence and the other one is logical, naturalist and interpersonal skills. To create a stimulating learning environment for children with learning disabilities these combinations can be considered in future.

Conclusion

Inevitably, students bring to the classroom a great diversity and learning styles. All children have their own proclivity in all the nine intelligences, and therefore adopting a particular strategy that is successful with several students, cannot be generalized for others. The future education should support the students to be aware of their preferred learning styles utilize their capabilities to maximum. The scope for further research should focus on the broad range of teaching strategies that match with the learning styles of children with learning disabilities.

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