

THE ROLE OF MULTIPLE INTELLIGENCES IN ACADEMIC ACHIEVEMENT OF LEARNERS

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Abstract. *G. Gardner's theory of multiple intelligence is of great interest to the pedagogical community today, as it allows us to look at the learning process from a new perspective. Despite the fact that the theory is actively used in education, teachers do not take into account the contextual nature of the functioning of types of intelligence. This article examines Gardner's theory of multiple intelligences and its relationship with middle school students' academic performance.*

Keywords: *teaching, multiple intelligenc, learners, motivation, classroom, competence, communication.*

Multiple intelligence theory has many educational uses. Learners apply classroom learning according to their own dominant intelligences and learning styles that work best. Students' learning processes are enhanced by combining learning styles with dominant intelligences.

The educational world was challenged by Gardner's Multiple Intelligences Theory. Gardner defined seven intelligences, each at the core of cognitive information processing models [1], based on previous studies. Students can develop and enhance different intellectual abilities through an approach tailored to multiple intelligences theory. Gardner and Stenberg asserted that by providing enriched learning experiences, educators will increase students' personal motivation.

There is a wide range of applications of the theory of multiple intelligences in the field of education. Simultaneously, education emphasizes only two intelligences: logical-mathematical and verbal-linguistic, both in teaching and in evaluation. Using and applying additional intelligences is possible in a different learning environment and a learning method that includes the use of additional intelligences.

Educators identify different learning styles among students based on Gardner's multiple intelligences theory. Each student applies his

or her dominant intelligence and learning style, which is the most effective way to learn, to the material taught in the classroom. Combining learning styles with dominant intelligences according to Gardner's multiple intelligence (MI) theory enhances student learning [2]. Simultaneously, the multiple intelligences theory emphasizes active learning processes and active learning methods. The skills and strengths of the learners can be promoted and enhanced by teaching based on their preferred learning styles.

Gardner defines intelligence as a set of skills that can be used across a range of domains [1]. This theory provides a theoretical foundation for vocational education, student-centered and individualized instruction, a basis for multidimensional assessment, and a foundation for the development of entrepreneurship competencies.

In his book, Gardner characterized 7 major forms of intelligence: linguistic-verbal, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal. Gardner added another intelligence to the list - spiritual - later in his work. In the second edition of his book, Gardner added an additional intelligence -existential.

Scholars have argued that each type of intelligence has unique characteristics that define it.

Table 1.

Type of intelligence	A trait of intelligence
Linguistic-verbal	Verbal fluency, awareness of word order and phrasing, and verbal comprehension skills meaning
Logical-mathematical	Patterns, relationships, and problem solving skills
Musical	Sensitivity to pitch, melody, tempo and intensity, melody, tempo, and sound intensity
Spatial	Absorption of the visual world, sensitivity to images and visual memory
Bodily-kinesthetic	A high level of co-ordination, the ability to operate technological tools and equipment
Interpersonal	Ability to understand and empathize with people, build social relationships, resolve conflicts. resolve conflicts.
Intrapersonal	Personal awareness and motivation
Spiritual / environmental	The ability to have an understanding of the world around them, high contemplation.
Existential	The ability to reflect on questions about life, death, and reality.

Many factors, such as gender, age, marital status, parental education, parental involvement, and academic achievement, are highly influential in the development of multiple intelligences in students [3]. It also assumes that intelligence does not evolve singly, statically, and monolithically. Quite the opposite. Moreover, cultural and social environments also influence the development of multiple intelligences.

Applying these intelligences to curriculum is important. Barrington [4] argues that only two intelligences are emphasized: linguistic/verbal and logical/mathematical. Assessing is also done based only on these two intelligences. These two intelligences determine the academic performance of learners. The inclusion of additional intelligences in the curriculum does not allow students with different linguistic and mathematical intelligences to fulfill themselves and they fail in academic studies. In addition to that, their abilities and talents are sometimes not revealed.

Teaching and learning in conjunction with the theory of multiple intelligences allows students to develop a personalized learning process and to express their abilities, strengths, and talents in both the process and the product of learning [4].

Teaching beyond the two accepted intelligences (mathematical-logical and linguistic-verbal) has recently become the main demand of educators. It is widely believed that applying the theory of multiple intelligences in the classroom will enable educators to modify their teaching methods and strategies to accommodate children's differences.

Each type of intelligence has an impact on the unique characteristics of the learner and the future of the mature person. A person's choice of career is usually an expression of his or her strengths and personal talents. Gardner asserted that of the eight defined intelligences, the intelligences that define the personality of a leader include interpersonal, intrapersonal, and verbal intelligence.

Linguistic intelligence is the ability to use language to achieve goals and objectives, combined with sensitivity to written and spoken language. Interpersonal intelligence is the ability to understand the feelings, beliefs, agendas, motives, and desires of others, and to decide between them. Intrapersonal intelligence refers to self-direction and self-control, personal motivation to achieve a goal, and perseverance.

All students vary with respect to motivation, approaches to teaching and learning, responses to particular learning environments, and instructional methods. The importance of understanding how individuals learn from their environment is increasingly recognized by educators in all fields. Teaching strategies, academic performance and learning outcomes are influenced by the learning process of the learner.

There are three aspects of the teaching and learning process that Felder and his colleague identified [5]:

- Learning styles – how learners take in information and process it.
- Approach to learning – learning strategies.
- Intellectual development level – approach to learning and assessment materials.

The existence of a variety of learning styles among different individuals is the general consensus among researchers. Teaching aims at equipping students with skills associated with all learning styles, irrespective of personal predilections. Learning style is a way of perceiving and processing information. Seven major learning styles have been identified: visual, auditory, tangible, literal, logical, group, and individual learning styles. When students become aware of their individual learning styles, their learning abilities improve. When teaching styles match the learner's style, the learning process is improved. Simultaneously, the goal is not to "tailor" a solution for each student, but to develop learning skills appropriate for all learning styles.

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According to Gardner's theory, it is essential to characterize a learning style along with a dominant intelligence. It is important for students to be aware of both their most effective learning style and their dominant type of intelligence. The theory of multiple intelligences can be applied through the content learned and the guided activity, and can significantly improve the learner's participation. Early research suggests that using guidance tailored to multiple intelligence theory contributes to development of logical, critical, and creative thinking skills.

Forcing educators to broaden their teaching strategies and tools to include the previously logical and linguistic intelligences is the greatest contribution of multiple intelligences theory to the field of learning strategy development. Gardner's theory of multiple intelligences is based on the assumption that there are a variety of human intelligences. However, Gardner argues that it is not the individual intelligence that has an impact on the development of skills, but the combination of multiple intelligences together that has an impact on the learner's abilities, and in particular, the learner's ability to deal with challenges and solve problems. Effective learning requires critical thinking. Therefore, it is important to develop a teaching approach that enhances the learner's skills. The application of Gardner's multiple intelligence theory [6] is one of the creative ways to do this. The central premise of this theory is that there is a cognitive domain of knowledge which has a relationship with the type of personal intelligence. For example, the logical intelligence communicates the academic abilities and the other ones. Therefore, if instruction is based on students' skills and aims to develop students' personal abilities, the different types of intelligence can be applied to the instructional process.

Thus, Instruction should provide students with skills associated with all learning styles and dominant intelligences, regardless personal preference. The more motivated students are to learn, the higher the achievement will be, as students learn different learning styles. In addition, the development of dominant intelligence in students is highly dependent on and influenced by a large number of factors. Dominant intelligences develop as students grow and are exposed to different curricula. Using social networks and social communication in the teaching process is an alternative to traditional teaching and can help develop some intelligences, such as verbal or interpersonal. The more we can develop the greater number of personal dominant intelligences among the learners, the more the students will develop as more independent, curious and capable learners. independent, curious, and capable learners.

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РОЛЬ МНОЖЕСТВЕННОГО ИНТЕЛЛЕКТА В АКАДЕМИЧЕСКИХ ДОСТИЖЕНИЯХ УЧАЩИХСЯ

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Аннотация. Теория множественного интеллекта Г. Гарднера представляет сегодня большой интерес для педагогического сообщества, поскольку позволяет взглянуть на процесс обучения с новой стороны. Несмотря на то, что теория активно используется в образовании, преподаватели не учитывают контекстный характер функционирования типов интеллекта. В данной статье рассматривается теория множественного интеллекта Гарднера и ее связь с академической успеваемостью учащихся средней школы.

Ключевые слова: обучение, множественный интеллект, учащиеся, мотивация, класс, компетентность, коммуникация.