

Exploration of the Learner Centered Vocational Teaching and Management Based on the Multiple Intelligence Model

Cherry Jiang¹, Jiangyi Lv²

¹Columbia University, New York, USA

²Beijing Polytechnic University, Beijing, China

Abstract: *Intelligence is not a single ability or a combination of several abilities centered around a single ability, but relatively independent and equal eight intelligences namely verbal-linguistic intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and natural observation intelligence. Based on the multiple intelligences model, this paper explores and studies the promotion of learner-centered vocational education teaching and management. This paper analyzes and summarizes the characteristics and manifestations of the eight major intelligences through elaboration, and through cases and analyses such as vocational education and teaching laws and management practice and social perspectives. It elaborates on the scope of application and the use methods of multiple intelligences in vocational education and teaching. The process of teaching and education and student management. The effective use of the theory of multiple intelligences can stimulate more students' potential, so that every student can realize their strengths and their confidence. Through scientific means, these intelligences in students are discovered, and a good cultivation environment and a sound education mechanism are created. So that the concepts of teachers and teachers be transformed, and the abilities of students can be promoted and stimulated. So as to, it more effectively promotes vocational education and teaching management centered on learners to explore and achieve.*

Keywords: *Logical-Mathematical Intelligence, Visual-Spatial Intelligence, Specific Learning Disabilities, Metacognition, Intrapersonal Intelligence*

1. Introduction of Multiple Intelligence Concept

The theory of multiple intelligences was proposed by Howard Gardner (Howard Gardner), a developmental psychologist at Harvard University's Graduate School of Education, in 1983. He believed that individuals possess different types of intelligence, which manifest as various skills and abilities, linked to specific cognitive domains or different knowledge categories[1]. In a given social context, the ability of an individual to solve real problems they face and to produce and create effective products needed by society. In terms of the outcomes of intelligence, it is not a single ability or a combination of several abilities centered around one, but rather eight relatively independent and equal intelligences: linguistic-intellectual intelligence, logical-mathematical intelligence, visual-spatial intelligence, bodily-kinesthetic intelligence, musical intelligence, interpersonal intelligence, intrapersonal intelligence, and naturalist intelligence.

2. Characteristics and Manifestations of the Eight Kinds of Intelligence

1) Linguistic Intelligence, also known as Verbal-Linguistic Intelligence: This includes the ability to use words for thinking, expressing oneself verbally, and perceiving complex meanings through language. Writers, poets, journalists, and news broadcasters all demonstrate high levels of linguistic intelligence. For example: reading textual materials; expressing textual materials; experiencing textual materials; writing textual materials; using language skills to discover and communicate with society. Linguistic intelligence encompasses the use of verbal thinking and expression, as well as the ability to perceive complex meanings. Writers, poets, journalists, speakers, and news broadcasters all exhibit high levels of linguistic intelligence[2]. Most students in vocational schools have poor study habits, are unwilling to memorize or have weak memory, and perform poorly when presenting their verbal expressions in public. Some even shy away from speaking and public speaking, just getting by.

2) Logical Intelligence, Logical-Mathematical Ability: This refers to the ability to calculate, quantify, conceptualize, and perform complex operations on numbers and symbols representing numerical relationships. Scientists, engineers, accountants, and computer programmers all demonstrate strong logical-mathematical abilities. They possess characteristics as a preference for using abstract symbols to represent specific matters, patterns, and concepts. The ability to reason logically, formulate hypotheses, and test them. The capacity to identify patterns and relationships. Logical intelligence is the ability to calculate, quantify, think about propositions and hypotheses, and perform complex mathematical operations. Scientists, accountants, engineers, and computer programmers all have strong logical intelligence[3]. Students in vocational schools, influenced by admission score thresholds, often have weaker math scores and less logical-mathematical ability.

3) Bodily Kinesthetic Intelligence, primarily manifested in bodily-kinesthetic intelligence: This refers to the ability of people to manipulate objects and precisely adjust their body movements. Athletes, dancers, surgeons, and craftsmen all demonstrate strong bodily-kinesthetic abilities. They explore environments and objects through touch and movement; learning is most effective through direct contact and manipulation; flexibility, coordination, balance, and precision are exhibited in work involving partial or full-body movements, achieving an effective connection between mental activity and bodily kinesthetics[4]. Motor intelligence is prominently displayed in athletes, dancers, surgeons, and craftsmen. Therefore, bodily-kinesthetic intelligence is the easiest to leverage in vocational education skill systems.

4) Spatial intelligence, Visual-Spatial Ability: This refers to the ability of people to think in three dimensions. Architects, sculptors, navigators, and pilots all demonstrate strong visual-spatial abilities. Spatial intelligence enables individuals to perceive external and internal images, to reconstruct, transform, or alter representations, to navigate through space with themselves and objects, and to form and interpret information about their surroundings. The characteristics of spatial intelligence are as the following . Enjoy learning through observation and viewing, excelling at distinguishing details such as appearance, shape, color, and scenes[5]. It is skilled at interpreting images, icons, diagrams and learning through drawing or media visualization. Using visual images as aids for recalling information. Capable of creating concrete, visual representations of information.

Spatial intelligence helps people perceive external and internal images, capable of recreating, transforming, or altering representations, allowing them to navigate in space with objects and construct and interpret graphic information. Navigators, pilots, sculptors, painters, and architects all possess strong spatial intelligence. Spatial intelligence has certain advantages in the skill requirements of vocational education.

5) Musical intelligence: People who are sensitive to pitch, melody, rhythm, and timbre. They respond physically to music through conducting, playing, composing, or dancing; they react emotionally to the atmosphere and beats of music; they can make intelligent responses through discussion and analysis of music; and they have a strong aesthetic response to music. Music intelligence is prominently displayed in those who are sensitive to pitch, melody, rhythm, and timbre. Those who exhibit higher levels of music intelligence include composers, conductors, musicians, music critics, instrument makers, and listeners who are sensitive to music.

6) Interpersonal intelligence: This refers to the ability to effectively understand others and interact with them. Teachers, social workers, politicians, and actors all demonstrate strong interpersonal skills. It has characteristics as follows. Good relationships with family or friends and can engage in positive interactions. It is skilled at recognizing others' emotions, thoughts, motivations and lifestyles. It is also able to adjust one's behavior according to different environments, groups or feedback from others. That can influence others' opinions or behaviors and also can consider different perspectives in various situations. So it has strong interpersonal skills. Interpersonal intelligence is the ability to effectively understand and interact with others[6]. This intelligence is evident in successful educators, social workers, actors or politicians.

7) Self-reflection intelligence, self-knowledge introspective intelligence, Self-awareness and self-reflection: This refers to the ability of individuals to construct accurate self-perception and apply this knowledge to plan and guide their lives. Theologians, psychologists, and philosophers demonstrate strong self-awareness and self-reflection. Introspective intelligence has characteristics as it can effectively explore and understand one's inner experiences. It can keenly perceive the mutual influence between oneself and the human environment. It is interested in "big questions" in life, such as exploring the value, purpose, and meaning of life. It can establish a moral value system and use it to guide life. Introspective intelligence refers to the ability of individuals to construct accurate self-perception and apply this knowledge to plan and guide their lives. From metacognition and constructivism aspects,

psychologists and philosophers all exhibit strong introspective intelligence. Students in vocational education institutions generally have weaker introspective intelligence, with some even being smooth-talking, unreasonable, and evasive.

8) Natural observation intelligence, Naturalist Intelligence: This includes the ability to observe various forms in nature, identify and classify objects, and understand natural and artificial systems. It encompasses farmers, botanists, hunters, ecologists, and horticultural designers. Naturalist intelligence has characteristics: like a love for observing, identifying, and interacting with plants, animals, or certain objects. The ability to categorize, classify, or rank objects based on their differences. Interest in the life cycles of plant and animal species[7]. Interest in the interrelationships between plant and animal species and the dependencies between natural and artificial systems. Skilled naturalists include farmers, botanists, hunters, ecologists, and horticultural designers.

3. The phenomenon of multiple intelligences reflected in the daily vocational education learning process

For example, specific one-on-one intelligent activities during the foundational mathematics course, such as solving math word problems. Multiple intelligences centered around a single intelligence activity, like the emotional, cultural geography, cultural customs, politics, and science content displayed in the textbook, integrate verbal intelligence with logical-mathematical, intrapersonal, and interpersonal intelligence activities. The integration of multiple intelligences across different subjects and the differences in specific intelligence abilities, such as physics, which primarily integrates spatial and logical-mathematical intelligences, can be seen in students who excel in physics but perform averagely in math. This indicates that their mathematical intelligence may be average, but their spatial intelligence is high, thus contributing to their outstanding performance in physics.

3.1 Advantageous intelligence

Intelligence is not just a capability; it is also an energy that needs to be utilized and released. The activities of dominant intelligence influence the mastery and activation levels of individual skills. Dominant intelligence activities affect emotional arousal levels, mostly positive emotions. To better apply the theory of multiple intelligences, one should strive to enhance self-efficacy and self-perception, awaken the individual's willpower, and allocate time and space in life. This way, dominant intelligence can promote other intelligences. Traditional rote learning methods, while well-intentioned by teachers, often lead students to become overly mechanical, limiting their ability to improve learning efficiency.

3.2 Design multiple intelligence to promote effective learning in vocational education classroom case demonstration

For example, a boy who prefers to tackle difficult problems before listening to theoretical explanations can find his own gaps through comparative learning. Reflective learning can stimulate his introspective abilities. Another example is the "car fleet" activity group, which engages students' kinesthetic intelligence, thereby promoting the development of other intelligences such as verbal and numerical logic, thus enhancing learning efficiency.

3.3 Suggestions for students with certain advantages in intelligent learning methods

We create an advantageous intellectual environment and integrate the advantageous intelligence into classroom learning content. The following methods can be used to improve classroom learning effect in vocational education classroom teaching.

3.3.1 Discussion-based learning

Teachers Organize specific small groups that accept each other and establish discussion rules. We determine the content for discussion-based learning, as well as the learning objectives and standards to be achieved. Under a broad topic, each person should identify a sub-topic or sub-question. Some may go back to prepare first, while others work on the same question individually. After one person finishes speaking, others share their understanding and evaluate the speaker. The teacher guides everyone to experience differences.

The fundamental benefits and principles of discussion-based learning require everyone to first grasp

the basics themselves; everyone must listen attentively to others' discussions and contributions, as they are required to speak on the topic and also offer feedback, both positive and constructive. Such individuals are more sensitive to verbal information in group discussions and can better understand what others are saying. Through expressing and evaluating others, one develops new or more accurate understanding of knowledge. Building on this initial understanding, information from others broadens one's knowledge horizon, which helps teachers explain issues more thoroughly and deeply later on. Discussion topics can extend beyond textbook knowledge. It is important to use language that leverages students' strengths, such as asking what they like or what makes them happy?

3.3.2 Use visual-spatial intelligence to promote textbook learning

For example, through diagrams: flowcharts, mind maps, unit diagrams, visual start-up diagrams, and spider charts. Teachers use mathematical formulas and computational principles to explain the formation of beautiful architectural compositions or the shapes of beautiful objects, as well as aesthetic applications and advanced principles. All beautiful two-dimensional or three-dimensional structures, even those in the universe, are often constructed with beautiful mathematics, physics, and chemistry, which can be explained using these principles. Or Teachers learn about the visual diversity of materials: memorize words visually, emphasize them with color and demonstrate processes through videos. Utilizing visual-spatial intelligence to promote textbook learning, primarily by visualizing and spatializing various types of knowledge, where visual-spatial relationships to some extent represent logical-mathematical relationships. Visual-spatial relationships also represent linguistic relationships to some extent which using of visual-spatial relationships stimulate various imaginations. We can use linguistic-linguistic intelligence to enhance textbook learning, such as engaging auditory, verbal, reading, and writing functions to promote effective learning, which is the most common and easiest method to master.

3.3.3 Use language-verbal intelligence to promote expression learning

It is by using language and verbal logic to help explain numerical symbol relationships. For example, the concept of direct and inverse proportions, describing a math problem filled with numerical symbols using narrative language, and making numerical logical relationships vivid and social. The learner often feels that when I teach others, everything becomes clear.

3.3.4 Use logical-mathematical intelligence to promote language and speech learning

For example, using charts to explain the relationship between language and speech articles. Teachers also use logical-mathematical thinking to grasp the content of language and text. Such as recall space, time and where. They identify relationships and patterns, classify, infer, connect intermediaries, primary concepts and secondary concepts.

3.3.5 Create an environment that fosters self-awareness

Teachers help students reflect on their strengths and weaknesses, accept and explore others' positive and negative evaluations (with a focus on the positive). Such highly intelligent individuals are absolutely suited to praise and inspiration; they tend to dislike criticism, especially public criticism, as they have an introverted personality. Teachers encourage students to feel and express their feelings about the world around them, which can be written into works or articles. Efforts should be made to boost self-esteem, ideally through knowledge gained from personal experiences and private guidance from teachers, while emphasizing the personalization and socialization of learning motivation. Teachers guide students to discover and encourage them to explore learning methods and strengths that suit them, gradually enabling self-directed learning. We focus on cultivating students' curiosity, integrating a passion for teaching and students into the classroom. This emotional teaching approach should incorporate current social and political hot topics, using self-awareness intelligence to promote the basic principles of textbook learning. If these students exhibit strong self-awareness, self-evaluation, and self-motivation, sometimes they need guidance from teachers[8]. However, teachers may sometimes withhold this opportunity or even discourage them. Such students are better at discovering and summarizing learning methods, content, and motivations that suit them, and can sometimes integrate emotions into their learning.

4. The Principle of the Promotion Effect of Multiple Intelligences on Learning

The multiple intelligences approach can better improve emotions, enhance psychosomatic arousal levels, and promote individual growth. Multiple intelligences play a positive guiding role in fostering willpower, which three types of willpower, providing an additional learning pathway. This enhances self-efficacy, effectively increases interest in learning, thereby improving related emotions, learning

efficiency, and motivation, ultimately leading to an increase in self-esteem at the mental level.

Students with poor academic performance or those at the bottom of their class often exhibit characteristics of multiple intelligences that lack planning, self-discipline, and a dislike for learning. That does not have complete commonality. The classroom and daily life behaviors of underachieving students show significant emotional resistance to learning, teachers, and the school environment, leading to poor adaptation and disinterest in studies. These students frequently lack motivation for learning, have low or excessively high self-esteem, and experience emotional instability. They may be addicted to bad habits, such as internet addiction; their attention span is lower than that of average students, and their working memory capacity is also below average. Utilizing the theory of multiple intelligences can help underachieving students. For example, some students excel in musical intelligence, others in interpersonal intelligence, some in bodily-kinesthetic intelligence, and still others in visual-spatial intelligence. Some students show a balanced but uneven development in linguistic intelligence, while others have either low or high levels of intrapersonal intelligence, leading to directional deviations[9]. Some students excel in naturalist intelligence, while many have low logical-mathematical intelligence, indicating severe non-intellectual factors affecting their performance.

4.1 Basic principles of using multiple intelligences to help poor learners

Multiple Intelligences, then Learning, then Non-intellectual Factors, then Multiple intelligences effectively promote learning, which in turn promotes the development of non-intellectual factors. The development of non-intellectual factors, in turn, drives the development of multiple intelligences, thus forming a virtuous cycle among the three. That is, developing advantageous intelligences, creating intellectual interests and environments, are effective ways to enhance students' vocational education learning. Teachers utilize advantageous intelligences and multiple intelligences to promote logical-mathematical and linguistic-intellectual intelligences; use advantageous intelligences and extended intelligences to promote the personalization and diversity of learning methods; utilize advantageous intelligences to improve students' non-intellectual factors in learning.

4.2 Use multiple intelligences to help poor students raise annual case analysis

In general, in a single-parent family with average economic conditions, the mother tends to be overly attentive to her child. The student's academic performance is at the bottom of the class, ranking in the bottom 20%. She shows some disinterest in learning, often daydreaming during classes, reading novels, and copying homework. Her math and English scores are the lowest, and she has a negative attitude towards teachers and classmates. She enjoys practicing Taekwondo and has attended training classes before. Her physical education teacher commented that her practice in Taekwondo demonstrates good physical fitness and that she practices diligently. However, due to her mother's refusal to pay further fees, she had to stop practicing. Through a multiple intelligences assessment, her scores for Bodily-Kinesthetic and Intrapersonal intelligence are relatively high, while those for Logical-Mathematical intelligence are lower. The student reflects that she feels "a bit dumb," struggles with learning, especially in math and remembering English words. She is repulsed by social trends, finding them tainted with money, including from teachers and classmates. She feels different from others and is not interested in material consumption; she just wants to have enough food and drink in the future. She enjoys practicing Taekwondo, which makes her feel physically stretched and gives her a sense of self-control (self-efficacy)[10]. She also watches sports channels. She likes her Taekwondo teacher, who is not overly materialistic and dreams of becoming a Taekwondo coach to make a living.

We use our dominant intelligence to improve emotional states, creating a sense of intellectual satisfaction and achievement. By leveraging dominant intelligence to drive other intelligences, we can diversify learning methods, such as using linguistic intelligence, interpersonal intelligence, and naturalist intelligence to enhance logical-mathematical intelligence. We guide students to develop their own motivation for learning and cultivate various willpower skills, among other methods of multiple intelligences development, to boost learning efficiency in vocational college students[11]. For students with learning difficulties, through the phenomena and application of multiple intelligences, dominant intelligence can positively promote other intelligences, thereby better and more effectively developing their interests and abilities.

By creating an advantageous intellectual environment to enrich its content, for example, if a physical education teacher at a sports school not only teaches taekwondo techniques but also learns car repair in his spare time, students can be guided to explore the joy of the car repair process and its positive impact

on daily life with their trusted coach. Through this release of superior intelligence, a student who was once obsessed with taekwondo can eventually escape from school due to disinterest and successfully enroll in a second-tier national engineering college. Another example is a boy with behavioral disorders along with ADHD who releases excess energy by regularly participating in social activities he enjoys, then completes his homework and teaching tasks, ultimately graduating smoothly from vocational school and obtaining a bachelor's degree in self-taught English.

4.3 Introduction of methods and contents of promoting school learning efficiency by multiple intelligences

Teachers create an advantageous intellectual environment, expressing textual knowledge through dance and transforming mathematical and scientific knowledge into humanistic stories. They discover hidden mathematical and scientific principles in sports activities, articulate these principles in written form, and express them visually-spatially, such as in ancient and beautiful architecture, aircraft design, etc. They use music and songs to convey linguistic knowledge, describe vivid natural phenomena with language and numbers, and present information in tabular form. Utilize introspective skills to help students enhance their learning motivation and find the most suitable learning methods, such as discussion-based learning, expression-based learning, emotion-driven learning, and mastery-based learning. In vocational education classrooms, mastery-based teaching, discussion and expression-based teaching, and emotion-driven teaching can strengthen the development of multiple intelligences. They utilize different cognitive styles to promote students' learning attitudes and motivations, for example, the three transformations of learning motivation: socialization, personalization and emotionalization. Different motivational information collection windows can spark interest and appreciation in tasks, guiding students to develop their own learning motivations. At the same time, this approach has a demonstrative effect on parents and helps cultivate various willpower abilities in students, such as survival will[12]. Many parents' education stifles survival will, intellectual will, and personal cognitive preference will.

4.4 The role of multiple intelligences in overcoming learning barriers and improving learning efficiency in vocational education

At present, most students who enter vocational colleges cannot play an advantage in the college entrance examination policy in terms of intelligence, or even have some intelligence obstacles due to various factors such as family.

4.4.1 Specificity calculation disorder

The performance on tasks such as counting and number recall was significantly worse than that of the normal control group, but there were no significant differences in non-numerical working memory tasks. Geary believes that poor working memory not only makes it difficult to execute computational procedures but also affects the learning of mathematical knowledge. Overall, mathematical difficulties may be accompanied by various forms of working memory challenges, although there is no evidence to suggest a causal relationship between working memory deficits and mathematical disorders. MLD children have impairments in retrieving basic arithmetic knowledge from long-term memory, which persist and can disrupt different cognitive processes, leading to difficulties in mathematical understanding, calculation principles, retrieval of mathematical knowledge, and computational procedures.

In specific computational disorders, there is sometimes a total impairment of the ability to understand, produce and calculate numbers, or only selective impairment of calculation. But for Arabic numerals

The recognition and output of numbers in symbolic and word forms have not been affected. Miyake et al. believe that executive function is a purposeful control mechanism that coordinates cognitive processes and regulates human behavior in flexible and effective ways. A low level of executive function is a significant factor leading to poor early math scores and difficulties in learning mathematics among children. Executive function includes three components: working memory, inhibition, and switching. American scholar Geary categorized MD into semantic memory-based MD, procedural MD, and visuospatial MD. Semantic memory-based MD is characterized by poor retrieval of mathematical facts and unstable response times during retrieval. Procedural MD is marked by the use of immature strategies to solve math problems, resulting in more errors, and slower acquisition of mathematical concepts. Visuospatial MD is characterized by difficulty correctly arranging numerical information, easy confusion of symbols, omissions or reversals of numbers, and frequent misinterpretation of spatial-related numbers.

Temple divided DD into three categories: 1) Numerical Processing Disorder, which refers to obstacles in the understanding and generation of numbers in children with DD. Specific manifestations of numerical understanding disorder include difficulties in comprehending quantities, the essence of number symbols, and extracting internal representations of numbers from their surface forms (such as Arabic numerals, verbal speech, or written language). Numerical generation disorder includes obstacles in counting, reading and writing numbers, and generating numbers from their internal representations. 2) Arithmetic Fact Disorder refers to obstacles in representing, memorizing, and retrieving arithmetic facts (such as $6 \times 3 = 18$) in children with DD. 3) Calculation program barriers refer to the obstacles that DD children have when performing complex problems requiring multiple steps (such as $25 + 68 = ?$).

4.4.2 Graphic character processing defects

Some students suffer from a certain degree of dyslexia or alexia. This disorder is not due to intellectual disability or visual problems, but rather the lack of ability to process graphic characters. For example, some patients often confuse b and d. Chinese characters themselves have the characteristics of pictographic symbols, making their forms much more complex than phonetic scripts. Therefore, cognitive processing activities for Chinese characters require strong visuospatial cognitive abilities.

4.4.3 Reading comprehension defects

Some children are unable to extract meaning from the words they read, a condition known as surface dyslexia or surface alexia. Surface dyslexia may be caused by a functional disorder in the brain's grammar center, which prevents them from understanding the meaning of sentences.

4.4.4 Speech perceptual defects

Wright et al. found that some individuals with dyslexia also have perceptual deficits in speech. For example, the perception of continuous rapid speech streams: patients with reading and language disorders generally fail to normally detect and recognize continuous rapid speech streams; audio discrimination: some individuals with dyslexia have impaired auditory perception, which affects their ability to distinguish sounds due to the involvement of the auditory system in producing speech, thus impacting the fluency of reading; distinguishing target sounds from noise: research has shown that children with dyslexia find it difficult to establish connections between visual stimuli and verbal labels.

5. Some Special Teaching Methods under the Guidance of Multiple Intelligences in Foreign Countries

5.1 The Art World in My Eyes: Spatial Intelligence

Using students' love for drawing to find "material" for painting can influence learning and improve classroom effectiveness. For example, when teaching the concept of car design in the lesson on Automotive Culture, teachers can have students draw their own "Ferrari" based on task descriptions. In such drawing activities, students will naturally understand the text in the book and create works through understanding. When students are fully engaged in their drawings, stimulating their minds, bodies, and spirits, they can achieve good performance in both learning and behavior. Teachers encourage students to start with copying or free creation and insist on visiting various themed museums or theme parks at irregular intervals so as not to limit their imagination. The world of students is rich and colorful, without any rigid rules, so the drawings they create will also be diverse and vibrant. If we correct them immediately, it means limiting their imagination, which over time can lead to a loss of interest in painting and prevent the development of intelligence that should have been cultivated. Therefore, we should encourage students to draw what they want to draw, fostering divergent thinking. Providing a quiet, undisturbed environment where students can independently complete each of their own works will have a more healing effect.

5.2 Harmonious Melody: Musical Intelligence

A student's musical literacy is closely related to the influence of their parents. Regardless of their profession, students from families where music is cherished will also love music. Therefore, in campus life, more songs can be played and more music listened to, creating a relaxed and pleasant environment for students. For students with talent in this area, they can be encouraged to choose an instrument and join the school's music club to showcase their abilities. It is important to emphasize respecting the student's wishes. If a student clearly enjoys playing the trumpet, we should not force them to learn drums

just because there is a shortage of drummers in the band. This not only undermines their motivation to learn an instrument but also prevents them from learning with interest, which can hinder their mastery of the instrument and prevent them from developing their intelligence effectively for professional skill acquisition.

5.3 Communication and understanding: interpersonal intelligence

Hiding bullying in school is likely due to the following reasons: Threats from the bully, such as if you dare tell your parents, the consequences will be more severe; Students are unwilling to recall unhappy events; Students feel ashamed of being bullied. So, what should homeroom teachers and subject teachers do? You might find that students rarely talk about other things besides bullying. Therefore, as homeroom teachers and subject teachers, it's important to communicate frequently, for example, by observing the students' emotional states, asking about what happened at school, and showing genuine interest in what they say. If there is indeed bullying, students will inevitably mention it during extensive conversations. After learning that a student has been bullied, teachers should not blame the student but instead inquire about the situation, such as where the student went wrong to be ridiculed or bullied by others. Teachers think about solutions based on the incident or identify areas where the student needs improvement. If the situation is serious, teachers can involve the other student's teacher to discuss with both adults, fostering a calm and peaceful atmosphere, especially to promptly stop any noisy or abusive incidents.

6. Conclusion

In the process of designing teaching methods and managing students, the effective application of multiple intelligences theory can stimulate more students' potential, enabling each student to recognize their strengths and thus boost their confidence. What we do is use scientific means to discover these intelligences in students and create a favorable environment for cultivation and a sound educational mechanism. This helps transform teachers' mindsets and promotes and stimulates students' abilities, thereby more effectively advancing vocational education and management centered on learners.

References

- [1] Onukwuli O.D et al. Dual-purpose optimization of dye-polluted wastewater decontamination using bio-coagulants from multiple processing techniques via neural intelligence algorithm and response surface methodology[J]. *Journal of the Taiwan Institute of Chemical Engineers*, 2021, 125 : 372-386.
- [2] Huang Guanhua, Lv Jiangyi, Research on Promoting Vocational Education Teaching and Management Based on Multiple Intelligence Model[J]. *Social Sciences and Education*, 2025 (3): 7-11.
- [3] Chew Elaine Y. T. Chew Elaine Y. T. et al. Multiple intelligence and expatriate effectiveness: the mediating roles of cross-cultural adjustment[J]. *The International Journal of Human Resource Management*, 2021, 32(13) : 2856-2888.
- [4] Hou Jie. Feasibility Study on Developing Children's Multiple Intelligences in Music Education [J]. *Northern Music* 2019, 39(18): 127-128.
- [5] Zhao Xin. On the Strategies and significance of Developing Multiple Intelligences in Chinese Classrooms [J]. *Journal of Liaoning Teacher's College (Social Science Edition)*, 2011(01): 103-105.
- [6] Song Wenxuan. Application of PASS Theory in the Intervention Research of Learning Disabilities Mathematics [D]. Shanghai Normal University, 2016.
- [7] Tu Guizhi. Application of Multiple Intelligences Theory in Primary School English [J]. *Science and Technology Outlook*, 2016, 26(20): 229.
- [8] Gu Zhengwu. Intelligences Factors of Sports Art Class Students and Chinese Teaching [D]. Yunnan Normal University, 2006.
- [9] Dengibo. Exploration of High School Information Technology Teaching under the Perspective of Multiple Intelligences [J]. *College Entrance Examination*, 2025, (10): 72-75.
- [10] Pirgon Yuksel. A Comparison of the Multiple Intelligence Profiles of Trainee Music Teachers in Respect of Music Genre Preference[J]. *International Education Studies*, 2021, 14(7) : 36-38.
- [11] Byrne Michael F. et al. Artificial Intelligence (Ai) In Endoscopy - Deep Learning For Scoring Of Ulcerative Colitis Disease Activity Under Multiple Scoring Systems[J]. *Gastrointestinal Endoscopy*, 2021, 93(6S) : AB196-AB197.
- [12] Abbassi Amira Abbassi Amira et al. Assessment of cylindricity and roughness tolerances of holes drilled in marble using multiple regression and artificial intelligence[J]. *Advances in Mechanical Engineering*, 2021, 13(8).