**IO1 – Resource 4 - DRAFT/FAR**

**“Practical guidelines on different intelligences&learning styles”**

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# 1. Multiple Intelligence in Theory

## What are multiple intelligences and how do they affect learning?

Over the past few decades, research in the field of learning has led to the discovery of the Theory of Multiple Intelligences. In short, this theory states that each person has different ways of learning and different intelligences they use in their daily lives.

While some can learn very well in a linguistically-based environment (reading and writing), others are better taught through mathematical-logic based learning. Still others benefit most from body-kinesthetic intelligence (learning by doing with the hands).

Each person possesses each intelligence to an extent, but there is always a primary, or more dominant, intelligence.

The work on multiple intelligences began in the early 1980s with Howard Gardner.

In greater detail, the theory proposes that "we are all able to know the world through language, logical-mathematical analysis, spatial representation, musical thinking, the use of the body to solve problems or to make things, an understanding of other individuals and an understanding of ourselves. Where individuals differ is in the strength of these intelligences and the ways in which such intelligences are invoked and combined to carry out different tasks, solve diverse problems and progress in various domains."

This diversity, according to Gardner, should impact the way people are educated. He stated that these differences "challenge an educational system that assumes that everyone can learn the same materials in the same way and that a uniform, universal measure suffices to test student learning." Joan Hanifin, an Irish researcher, determined in a 2014 publication that the outdated system of education in Ireland was adversely affecting students in the long-term. By not embracing multiple methods of teaching based on different intelligences, students often left school feeling "under-valued."

Gardner argues that "a contrasting set of assumptions is more likely to be educationally effective. Students learn in ways that are identifiably distinctive. The broad spectrum of students—and perhaps the society as a whole—would be better served if disciplines could be presented in a number of ways and learning could be assessed through a variety of means.”

Ex: In 2010, Bas and Beyhan presented findings based on their study of using Multiple Intelligences theory in learning English. They determined that MI-based learning is more effective in terms of student achievement levels and their attitudes toward learning.

## The 9 multiple intelligences

Gardner claims that all human beings have multiple intelligences. These multiple intelligences can be nurtured and strengthened or ignored and weakened. His research from 1991 identified seven intelligences; in the intervening time, he has come to believe there are a total of nine intelligences:

**Verbal-Linguistic Intelligence**: Well-developed verbal skills and sensitivity to the sounds, meanings and rhythms of words.

**Mathematical-Logical Intelligence**: The ability to think conceptually and abstractly, and the capacity to discern logical or numerical patterns.

**Musical Intelligence**: The ability to produce and appreciate rhythm, pitch and timbre.

**Visual-Spatial Intelligence**: The capacity to think in images and pictures, to visualize accurately and abstractly.

**Bodily-Kinesthetic Intelligence**: The ability to control one's body movements and to handle objects skillfully.

**Interpersonal Intelligence**: The capacity to detect and respond appropriately to the moods, motivations and desires of others.

**Intrapersonal Intelligence**: The capacity to be self-aware and in tune with inner feelings, values, beliefs and thinking processes.

**Naturalist Intelligence**: The ability to recognize and categorize plants, animals and other objects in nature.

**Existential Intelligence**: The sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why we die and how we got here.

While all people possess some level of each intelligence, most will experience more dominant intelligences which impact the way they learn and interact with the world around them.

Some may find it an impossible task to teach to all learning styles. However, teachers are using multimedia, so it is becoming easier. As teachers begin to understand learning styles more effectively, it is clear why multimedia is good for all learners and why a variety of media is more effective. Multimedia inherently speaks to the different types of learning preferences that one person has and has the potential to impart knowledge to a diverse class or group.

There are specific modes of multimedia and instruction techniques, which include the following:

**Visuals**: Visual media help students acquire concrete concepts, such as object identification, spatial relationship or motor skills.

**Printed words**: While the printed word is the most common method of dispensing information, some argue that audio is superior.

**Sound**: Sound media offer a stimulus for sound recognition or recall. Audio narration is a useful tool for students who struggle with reading.

**Motion**: Motion depicts human performance so that learners can copy the movement. This kinesthetic method can be essential for understanding some subject matter.

**Color**: Choices on color display are required if it is essential to what is being learned (such as, the sky is blue).

**Realia**: Realia teaches cognitive and motor skills with objects. Realia can be used with individuals or groups, depending on the situation. Realia may be used to present information realistically, or with the way learners internalize information. Teachers can provide this support by using the chalkboard, realia , and other visual aids.

**Instructional Setting**: Design must include what materials are being used, as well as the environment in which it is to be taught. Printed materials should be individualized to allow the learner to set the pace.

**Learner Characteristics**: Teaching models must consider learner characteristics, as media may be interpreted in various ways by different learners. Research has not provided definitive methods in matching the media most suitable for types of learners.

**Reading ability**: Pictures aid learning for poor readers who understand spoken words rather than printed words; good readers can control the pace, and print allows for easier review.

**Categories of Learning Outcomes**: Categories ranged from three to eleven and most include some or all of Gagne's (1977) learning categories: intellectual skills, motor skills, verbal information, overall attitudes and use of cognitive strategies.

**Events of Instruction**: Teachers have to choose the external events which support internal learning with events of instruction. This occurs in the planning stage and before selection of appropriate media.

**Performance**: It is important for students to perform tasks that demonstrate learning and retention. The elicited performances can be categorized by type: covert, overt, motor, verbal, constructed and select. Media should be selected to correspond with the desired outcome.

## Multiple intelligences in the classroom

Educators have positively responded to Gardner's theory. It has been embraced by a range of educational theorists and, significantly, applied by teachers and policymakers to the problems of schooling.

Many schools in North America have sought to structure curricula according to the intelligences and to design classrooms—even whole schools—to reflect the understandings that Howard Gardner develops.

All intelligences are needed to live life well. Teachers, therefore, need to attend to all intelligences, not just the first two of verbal-linguistic or mathematical-logical intelligences, which have historically taken precedence.

## Multiple intelligence activities

One of the most significant results of the theory of multiple intelligences is how it has provided eight different potential pathways to learning. If a teacher is having difficulty reaching a student in the more traditional linguistic or logical ways of instruction, the theory of multiple intelligences suggests several other ways in which the material might be presented to facilitate effective learning:

Words (linguistic intelligence).

Numbers or logic (logical-mathematical intelligence).

Pictures (spatial intelligence).

Music (musical intelligence).

Self-reflection (intrapersonal intelligence).

A physical experience (bodily-kinesthetic intelligence).

A social experience (interpersonal intelligence).

An experience in the natural world (naturalist intelligence).

You don't have to teach or learn something in all eight ways. However, simply knowing the possibilities available can enable you to decide which particular pathways interest you the most or seem to be the most effective teaching or learning tools.

The theory of multiple intelligences is so intriguing because it expands our horizon of available teaching and learning tools beyond the conventional linguistic and logical methods used in most schools (e.g. lecture, textbooks, writing assignments, formulas, etc.).

## Multiple intelligences: new horizons

Having an understanding of different teaching approaches from which we all can learn, as well as a toolbox with a variety of ways to present content to students, is valuable for increasing the accessibility of learning experiences for all students.

We want to continue to develop this toolbox, so it is especially important to gather ongoing information about student strengths and challenges, as well as their developing interests and dislikes. Providing different learning contexts for students and engaging a variety of their senses is supported by current research. Studies done by Hamari et al (2016) suggest that engaging in learning games has a positive effect on learning: ". . . educational video games may be an effective means of posing learning challenges that are perceived as interesting and enjoyable, resulting in engagement and immersion in the game-based learning task."

As our curiosity about the learning process persists and studies continue to evolve, additional scientific research may emerge that further elaborates on multiple intelligences and learning styles.

## How do we benefit from understanding multiple intelligences?

When educators are given the freedom to move away from the traditional, visually-based methods of teaching, they will have the opportunity to reach more students, more effectively. By teaching to the dominant learning intelligences, teachers will find students to be more productive, more receptive and more willing to engage in the learning process.

As so many educators have already embraced this theory, it is time for educational administrators to take notice of new techniques that can be successful based on the research of Howard Gardner and the other researchers who have followed.

# 2. Multiple intelligences in practice

Helping teachers, students, and parents realize that there are multiple ways to learn and that they themselves possess multiple types of intellectual strengths and life skills is but one reason to consider the theory of MI for teaching students with special needs. Not only can MI increase students’ confidence and enthusiasm for learning, it can also improve their academic achievement and change teachers’ perceptions of their students’ learning abilities. MI unveils academic strengths and honors alternative ways of learning, which can be highly helpful when educating students identified for special education services.

“Students in special education” identify learners who have traditionally been labeled “students with disabilities.” Since the theory of MI proposes that individuals have divergent intelligences, it becomes more difficult to identify what constitutes a disability versus an ability.

Because MI focuses on a wide spectrum of abilities, it helps place “special needs” in a broader context. Rather than accepting what he calls the “deficit paradigm” which depends on labels, or can be viewed as a medical model, Armstrong maintains that a growth paradigm would be more appropriate for students with special needs. Educators who view special needs in the context of the eight intelligences view all those students differently. “Using MI as a backdrop, educators can begin to perceive children with special needs as whole persons possessing strengths in many areas” (Armstrong, 2000, p. 104). Numerous educators (Cushner, McClelland, & Safford, 2003; Gardner, 1999; Kornhaber, Fierros, & Veenema, 2004; Perkins, 1992) have argued that the best learning opportunities are those that are most successful for all students. What may need emphasis, however, is the way in which lessons are specifically tailored to the needs of individual students or small groups of students. An MI curriculum not only provides teachers with ways to personalize education for students, it can also help to cultivate a passion for life and career goals (Armstrong, 2000).

A recent study involving over 100,000 participants found that no one test can measure how well a person would perform cognitive tasks. Because most intelligence tests give only a two-dimensional picture of a person’s mental abilities, they don’t always capture a student’s full potential.

Based on research from psychology, linguistics, neuroscience, and other cognitive disciplines, Dr. Howard Gardner’s theory of multiple intelligences was created to better represent the diversity in human intelligence. This theory not only considers traditional learning abilities like math and science skills as markers of intelligence, but it also includes more diverse abilities, such as musical, social, and nature-based skills.

If you want to help students develop cognitive skills in a way that meets them at their strengths and shores up their weaknesses, one of the best ways to do so is through Gardner’s multiple intelligence theory.

Each intelligences are relatively independent of one another. This means that a student can be highly proficient in one intelligence and struggle with another. An athlete, for example, could have strong bodily-kinesthetic and spatial intelligence but poor musical intelligence. That’s why it’s so important to use instructional strategies that involve a variety of these multiple intelligences so every child has the opportunity to learn in a way that works best for them.

## Linguistic Intelligence

Linguistic intelligence involves the ability to comprehend words while reading, writing, or speaking. This can include reading and writing in a person’s native tongue, but it also involves the ability to learn new languages.

A few activities and skills related to linguistic intelligence include:

Reading books aloud or independently

Learning new vocabulary words

Writing stories, sentences, or essays

## Logical-Mathematical Intelligence

Logical-mathematical intelligence refers to the ability to use reason and analysis to solve problems. Students with strong logical-mathematical skills are also often skilled at identifying patterns to develop answers to a question.

A few logical-mathematical intelligence skills and activities include:

Learning addition, subtraction, and other math concepts

Using the scientific method to test hypotheses

Using logical abilities to create compelling debates

## Spatial Intelligence

Spatial intelligence involves the ability to visualize and manipulate environments. Children with strong spatial intelligence are aware of the space around them and skilled at manipulating it in creative or innovative ways.

Spatial intelligence skills or activities you could use in class include:

Putting together puzzles

Painting, sculpting, or other artistic activities

Performing tasks that involve hand-eye coordination

## Musical Intelligence

Musical intelligence is defined as the ability to appreciate, create, and perform music. It involves not only does sensory musical activities, but also the theoretical side of music, such as composition.

A few musical intelligence skills or activities can include:

Practicing pitch or a sense of rhythm

Learning to sing or play an instrument

Recognizing musical notes or patterns

## Bodily-Kinesthetic Intelligence

Bodily-kinesthetic intelligence involves skillfully moving and controlling your body. Children with a strong sense of bodily-kinesthetic intelligence often succeed in hands-on activities rather than theoretical assignments.

If you want to try bodily-kinesthetic intelligence activities in class, a few ideas can include:

Participating on a sports team

Doing relay-races or outdoor games

Learning the choreography to a dance

## Interpersonal Intelligence

Interpersonal intelligence refers to the ability to interact with others in a healthy and meaningful way. Students skilled in interpersonal intelligence can be introverted or extroverted, but they are often good at making and maintaining friendships.

Activities and skills related to interpersonal intelligence include:

Making positive relationships with peers

Using effective communication skills

Comforting a friend when they’re feeling down

## Intrapersonal Intelligence

Coinciding in some ways with interpersonal intelligence, intrapersonal intelligence is defined as the ability to understand and analyze your own emotions, actions, and beliefs. It is closely linked to the social-emotional skill of self-awareness, or developing an understanding of yourself and how others perceive you.

Skills and activities that involve intrapersonal intelligence include:

Creating a reflection journal

Nurturing a strong sense of introspection

Practicing mindfulness activities like meditation

## Naturalistic Intelligence

The eighth type of intelligence, naturalistic intelligence, refers to a person’s sensitivity to and appreciation for the natural world. Students with naturalistic intelligence often have an affinity for recognizing and interacting with plants and animals.

A few activities or skills related to naturalistic intelligence include:

Hiking, camping, or other outdoor activities

Taking care of animals

Recognizing different types of plants

Definition of competitive intelligence

Competitive intelligence is the systematic process of observing, collecting and analyzing relevant information about the external business environment and distributing the resulting insights within an organization in order to make informed decisions. It can focus on competitors, customers and other stakeholders, but also on products and markets as well as on economic, technological or legal factors. Regardless of the scope, its main purpose is to understand the external environment so that appropriate actions can be taken by businesses to stay competitive.

Exemples:

Airline tickets

The airline industry is a great example of how competitive intelligence is being used in practice. Every day, airline companies are changing their flight ticket prices based on several pieces of external information. For instance, if all competitors increase their price for a certain route, a flight provider would quickly follow suit to secure higher margins. In addition, customer information is frequently used for pricing adjustments. By identifying and tracking specific users, flight companies can spot when a potential customer is repeatedly searching for the same flight details and increase the prices over time, since they can be sure that they really want to fly on these dates.

Investment trading

Investment banking and trading is another perfect case for highlighting the importance of competitive intelligence. While all bankers have access to the same information (excluding illegal cases of insider trading) through news channels, financial statement reports, industry research papers etc., those who know how to use and analyze the available information to gain valuable insights will have the best chances to outperform the rest.

Tech startups

Startups are also fantastic competitive intelligence examples, as they use this kind of information to disrupt markets. Whereas traditional companies have higher budgets, resources superior technology and often data too, startups are often able to outperform them in specific niche segments. By focusing on a particular field and processing, reacting and adapting rapidly to competitive intelligence insights, they can understand client pain points better and deliver superior solutions. Think of Airbnb and how they were able to leverage technology, socio-demographic change and consumer insights to disrupt the hotel industry.

Sport analytics

The sports industry is one of the most competitive in the world and, recently, the ability to process and interpret external data has been a big success factor for organizations around the world. Just think of Billy Beane taking the baseball team Oakland Athletics to unprecedented success levels in spite of operating under one of the lowest budgets in the league. But aside from the famous ‘moneyball story’ there are plenty of other case studies. Other good competitive intelligence examples can be found in the football world where teams like Sevilla FC and Southampton FC perform miracles every year, in spite of their budgets. The reason they outperform their budgets is that they excel in gaining new data (scouting) and insights (analytics), and effectively distributing this information among their management teams.

Competitive intelligence is pivotal to business success across a vast amount of industries. Great examples of its benefits can be found almost anywhere, from the financial sector, to the sports world, to tech startups. In each of these cases, the common denominator is that organizations who are able to outperform their peers do so by mastering the collection, interpretation and distribution of competitive intelligence.

## Assessing Multiple Intelligences

Assessment should reflect the diversity of intelligences and learning styles in your classroom. For example, students who are good at spatial learning might not display the full range of their knowledge on an essay test. In fact, traditional testing methods are inherently biased in favor of students with strong linguistic and mathematical skills. Advocates of MI theory suggest that teachers supplement their traditional assessment methods with assessment strategies that evaluate student progress in an inclusive, meaningful way.

So, how can you use the theory of multiple intelligences (MI) to assess student achievement in your classroom? The MI approach to testing is closely related to authentic assessment. This approach enables students to demonstrate the depth of their understanding, connect their classwork to real-life experiences, and apply their knowledge to new situations.

MI theorists offer the following tips:

Emphasize ongoing assessment and progress. Continue to ask if and how students have improved their skills.

Introduce assessment to your students as a regular part of classroom life. Make assessment a part of the learning process, not a stressful, intimidating "event."

Try to use instruments, tools, and procedures that embrace some, if not all, of the multiple intelligences.

Use a wide range of assessment tools to measure students' skills and abilities.

Give lots of feedback!

***Build Your Own Assessment Repertoire***

To create successful assessment strategies, familiarize yourself with your students' individual learning styles. Knowing how your students learn best can help you choose approaches that will reach them most effectively. Here are some specific strategies that can make assessment productive and fun:

**Linguistic**

Ask students to write in a journal regularly.

Give oral exams and/or essay tests.

Emphasize creative writing – have students write poems, plays, and stories.

**Logical/Mathematical**

Assign science labs and experiments.

Have students complete logic problems and games.

**Bodily/Kinesthetic**

Challenge students to write and perform plays.

Have students build models or use other hands-on techniques to show what they learned.

**Visual/Spatial**

Invite students to create collages, murals, and posters.

Encourage students to illustrate their ideas using maps, charts, and graphs.

Help students use school equipment to make a video or slide show.

**Interpersonal**

Stage a classroom debate.

Have students work collaboratively to brainstorm and prepare a project.

**Intrapersonal**

Ask students to identify their own academic strengths and weaknesses.

Have students think of personal goals and give progress reports.

**Musical**

Challenge students to identify and explain patterns in music or poetry.

Ask students to write new lyrics to familiar melodies or to compose a new song.

**Naturalist**

Ask students to keep environmental journals and to share their observations.

Invite students to lead classmates on a nature walk to point out interesting plants and animals they found during independent study.

Note that many of these assessment strategies evaluate more than one kind of intelligence. You can use strategies like these and other combinations of projects, performances, and portfolios to assess students' progress.

There is no "right" way to use multiple intelligences in testing and assessment. You don't have to overhaul your whole curriculum. But you can make an effort to address each student's strengths and weaknesses by using creative alternatives to traditional testing in your classroom.

## Multiple intelligences questionnaire

Use the following checklist to determine which intelligence each of your students possesses.

**Linguistic Intelligence**

Enjoy listening to other people talking?

Get annoyed with people who use improper Romanian? (for example, He don't know the answer.)

Like to learn new words?

Give good directions to others so that they understand the first time?

Like to tell stories?

Enjoy reading books?

Have a good memory for names, dates, and trivia?

If this sounds familiar, the student might someday write a bestseller or become fluent in many languages.

**Logical-Mathematical Intelligence**

Like to work with computers and calculators?

Enjoy math class?

Easily add numbers in her head?

Enjoy doing science experiments?

Ask a lot of questions about how things work?

Enjoy chess, checkers, or other strategy games?

Enjoy logic puzzles or brainteasers?

If so, the student could one day work program computers.

**Spatial intelligence**

Prefer to draw pictures rather than tell stories?

Find her way around a new place easily?

Like to take things apart and then try to figure out how to put them back together?

Read maps, charts, or diagrams more easily than text?

Daydream more than peers?

Build interesting three-dimensional constructions (like LEGO buildings)?

Doodle a lot on notebooks?

If this is your student, then she could grow up to paint or fix car engines.

**Bodily-kinesthetic Intelligence**

Find activities like riding a bicycle, skating, or walking on a balance beam easy?

Use a lot of hand gestures and body movement when talking to friends?

Run, swim, and exercise without getting tired?

Learn to play new sports easily and quickly?

Like to touch something she has just seen?

Report different physical sensations while thinking or working?

Cleverly mimic other people's gestures or mannerisms?

Move, tap, or fidget while seated for a long time in one spot?

If yes, then your student could develop into an skier or someone who amuses her friends .

**Musical Intelligence**

Enjoy playing a musical instrument?

Listen to music a lot?

Hum or sing a lot?

Cheer herself up with songs when she is sad?

Tell you when music sounds off-key?

Have a good singing voice?

Remember the melodies of songs?

If this is your student, then she may one day conduct a symphony or play music.

**Interpersonal Intelligence**

Like to work with other?

Understand how friends are feeling by looking at their faces?

Have two or more close friends?

Give advice to friends who have problems?

Have a good sense of empathy or concern for others?

Seem to be a natural leader on teams?

If you answered yes to most of these, your student might become someone's favorite teacher or the CEO of a big company.

**Intrapersonal Intelligence**

Often need a quiet place to work or just be alone?

Like to make collections of things that have special meaning to her?

Remember her dreams?

Display a sense of independence or strong will?

Have a realistic sense of her strengths and weaknesses?

Have an interest or hobby that she doesn't talk much about?

Accurately express how she is feeling?

Sound familiar? Then your student could someday write great poetry or resist negative peer pressure and do the right thing for herself.

**Naturalist Intelligence**

Enjoy collecting flowers, or rocks?

Like to closely examine what she finds in nature?

Keep detailed records of her observations of nature?

Like to watch natural phenomena like the moon and the tides and hear explanations about them?

Become fascinated with one particular thing from nature and want to learn about it thoroughly?

Want to become a geologist, biologist, or some other type of scientist?

If your answer is yes, then your student could become an expert on paleontology or discover new ways to save the whales.

# 3.Practical methods of learning styles

## Visual

Learn best from maps, charts, graphs, diagrams, brochures, flowcharts, highlighters, different colors, pictures, word pictures, different spatial arrangements, designs, whitespace, patterns, shapes and the different formats that are used to highlight and convey information, such as drawing on the board with terms and lines/arrows between them to indicated interrelationships between the parts. Counterintuitively, it does NOT include still pictures or photographs of reality, movies, videos or slide shows (these are in the Kinesthetic list).

## Aural

Learn best from lectures, group discussion, radio/podcasts, email (chat style, with non-formal language and abbreviations), using mobile phones/ tablets, speaking, web-chat and talking things through. Often want to sort things out by speaking first (even talking out loud to themselves), rather than sorting out their ideas and then speaking. They need to say it in their own words, even though it may be a repetition of what someone else has said.

## Read-Write

Learn best using text: all forms of reading and writing but especially manuals, reports, essays and assignments. Strongly prefer slide presentations, Internet searching, lists, diaries, dictionaries, thesauri, and quotations. Most slide presentations are suited to read/ write learners as they seldom have narration or visual symbols.

## Kinesthetic

Learn by trying things out or problem solving right away, rather than reading and thinking it through first, and learning from mistakes and successes. Prefer demonstrations, simulations, videos and movies of "real" things, labs, collections of samples, case studies, practice and practical applications. The key is the concrete nature of the example—can it be grasped, held, tasted, or felt? Assignments should specify the details of who will do what and when. A case study or working example of what is intended or proposed will help.

*Provide variety in presentation methods, and assignment and assessment formats. Try different lecture methods, discussion, reading assignments, audio-visual materials, and hands-on activities. Provide opportunities for students to work in groups as well as alone. Provide assignment options: written papers, oral reports, class presentations, multimedia portfolios, video projects.*

*Have exams that require a variety of cognitive skills: questions that ask for specific information (recall), that require focused analysis, responses to scenarios, problem solving and other types of practical application of theoretical principles.*

*Helping Students Use Learning Styles Ideas to Their Advantage*

*Tell students how knowing about learning styles can help them understand their own learning processes, identify their learning needs and develop new and more effective learning behaviours. Ask students to notice what they do when they are trying to learn something new. For example, when trying to learn a new software application, assemble a piece of furniture or use a new device, do they read the manual? Learn through trial and error? Ask someone to show them? Also ask students to consider what kinds of learning activities or assignments they find most rewarding and what kinds they most dread. Share anonymous profiles of the different learning styles and our own preferences. Students then see that not everyone learns in the same way, and they have strong and weak methods.*

*Recommend that students identify their learning styles using online questionnaires such as VARK and Learning Styles Questionnaire (explanation of results). Emphasize that these questionnaires are not intelligence tests and are designed primarily to help students become more aware of how they learn and to manage their own learning. Advise them to use their own judgment and ignore any results that do not seem right to them.*

*Students see how instructors are trying to address their needs and they become more connected to the course. Knowing a student’s learning styles and preferences help instructors craft responses to questions when students request individual help. Learning styles questionnaire:*

I understand something better after I

*try it out.*

*think it through.*

I would rather be considered

*realistic.*

*innovative.*

When I think about what I did yesterday, I am most likely to get

*a picture.*

*words.*

I tend to

*understand details of a subject but may be fuzzy about its overall structure.*

*understand the overall structure but may be fuzzy about details.*

When I am learning something new, it helps me to

*talk about it.*

*think about it.*

If I were a teacher, I would rather teach a course

*that deals with facts and real life situations.*

*that deals with ideas and theories.*

I prefer to get new information in

*pictures, diagrams, graphs, or maps.*

*written directions or verbal information.*

Once I understand

*all the parts, I understand the whole thing.*

*the whole thing, I see how the parts fit.*

In a study group working on difficult material, I am more likely to

*jump in and contribute ideas.*

*sit back and listen.*

I find it easier

*to learn facts.*

*to learn concepts.*

In a book with lots of pictures and charts, I am likely to

*look over the pictures and charts carefully.*

*focus on the written text.*

In brief, the recommended way to incorporate learning styles into teaching is this:

1. Choose a learning styles model. The ideal choice is a model that has been used successfully to characterize student populations of the type for which instruction is to be designed.

2. Design instruction that alternately addresses the preferences of students at each pole of each model dimension. (In Kolb's15 terminology, “teach around the cycle.”)

If the entire goal is to teach in a way that addresses the needs of most students in a class, Steps 1 and 2 are sufficient: it is not necessary to even assess individual students’ learning styles, let alone tailor instruction to them.

3. Assess the learning style preferences of the students in the class and discuss the meaning of the results.

Individualized treatment of students facilitates adaptation

* to the requirements and objectives of the process
* instructive-educational and involves the correlation between the requirements of the program and their possibilities of understanding.

Differentiated treatment expresses the need for organization

* conducting and evaluating the activity to stimulate student development. The tasks that are given to the student are in accordance with the personality traits.

The differentiation can be done both by the curriculum, by the extension and the depth of the knowledge proposed for learning, as well as by the forms of organization of the activity and the didactic methods used.

Those in different phases of school failure may be involved in frontal activities, but they must also be treated individually, with work tasks that take into account their difficulties.

The practitioner should emphasize the positive approach of student behavior, the improvement of educational practices, such as: avoiding discrimination, favoring or labeling them, avoiding inappropriate impulsive reactions, threatening and intimidating the student, expressing confidence in the possibilities of each one to succeed.

It can be used in teaching activities for young people with disabilities the expository methods (the story, the exposition, the explanation, the description), but certain requirements must be respected: to use an adequate language, corresponding to the level of the verbal communication, the presentation to be clear, precise, concise, the ideas to be systematized, to resort to processes and intuitive materials, to train students through control questions to verify the level of understanding of the contents by them and to intervene with new explanations when this is required.

Simulation methods (teaching game, dramatization) can be applied successfully both in terms of the content of some disciplines and in the formation and development of communication in students with mental and sensory deficiencies. Their involvement as directly as possible in simulated life situations, arouses motivation and implies the active, emotional participation of the students, constituting a means of socialization and interrelation with those around them.

The demonstration method helps young people with disabilities understand the basics of a phenomenon or process.

Along with the demonstration method, the exercise is a method with a wide applicability, especially in the activities of knowledge consolidation and skills training.

In the educational activity of young people with disabilities, learning through cooperation can be used with maximum efficiency.

Lessons based on cooperative learning allow for frequent evaluation of the performance of each student who has to give an answer on their behalf or on behalf of the group, students help each other, encouraging and sharing their ideas, explaining to others, discussing what they know , learn from each other, realize that they need each other to complete a task of the group.

The integration and inclusion of young people with disabilities can be achieved not only through school educational activities, but also through extracurricular activities.

It is necessary a careful planning, organization and development of these types of activities in direct relation with the real possibilities of the students and to come to meet the problems that the respective students feel in relation to the educational act.

The therapeutic role of extracurricular activities consists in the fact that socialization can be achieved through them. Depending on their specific nature, these activities develop much more solid cognitive and behavioral skills, skills and abilities in students, because, taking place outside the traditional classroom environment, they allow direct contact with the social reality.

Extracurricular activities such as excursions and open-air meetings allow the development of interpersonal relationships and a better connection of students with society, the increase of the interest of knowledge, the formation and development of feelings of desire to be someone, to do something.

Contests with different topics (sports, artistic, study disciplines, etc.) develop in young people with disabilities, the spirit of competition, team, confidence in their own forces, mobilize them to cooperation. Integrated education will enable them to live with others, to carry out joint activities, acquiring skills to adapt, integrate and become like others.

# 4. Learning styles - models

There are 3 learning styles. We will present each one separately, and explain each one the appropriate learning strategies.

**The visual style**

Information processing is done in this style by using images, charts, graphs, tables.

***Characteristics*** of the visual style:

* speak quickly
* good organizer
* observe in particular the details of the environment
* He retains more quickly what he has seen than he has heard
* it does not distract from the noise
* forget the verbal instructions
* is a good and fast reader
* he prefers to read, not to read
* sometimes they can't find the right words.

***Learning strategies suitable for visual status:***

* underline the main ideas, words, mathematical formulas with different colors
* provides enough time to view graphics, tables and images
* use of studio tools: maps, tables, charts
* transcribing information
* visualization of written information.

**Hearing style**

The ***characteristics*** of the auditory style

* learn by listening to conversations or presentations
* speak rhythmically
* talk to yourself (thinking)
* it is slightly distracted by noise
* He moves his lips and says the words as he reads
* likes to learn aloud
* he is a better storyteller than a writer
* it's talkative, he likes discussions.

***Learning strategies******suitable for hearing status****:*

* explanation of new information, verbal expression of ideas
* reading aloud
* learning with tutors or in a group where they can ask questions, offer answers, express how they understand oral information

**Kinesthetic style**

Whoever has this style of learning learns by getting involved in activities and working in groups. Build models or manipulate objects to explain a series of abstract concepts.

The ***characteristics*** of the kinesthetic style

* learn by manipulating objects
* wants to try objects and mechanisms
* he rarely speaks
* stay close to the person you are talking to
* he is attentive to gestures and gestures
* memorize walking
* does not retain geographical locations unless it has been there
* it uses action verbs
* it uses actions of the body to demonstrate what it has learned
* has bad writing
* he likes to get involved in games.

***Learning strategies suited to the kinesthetic style:***

* handling of the objects to be learned
* arranging the tables and diagrams in the correct order
* the use of movements, dramatizations, dance, pantomimes or role-playing games for the development of long-term memory
* talking and walking while repeating knowledge
* learning by applying in practice the knowledge learned.

## How did you learn the best?

Regardless of the style of learning, it is important to understand the role of training, which are the reasons why we must learn. "Is school important to me? What is the purpose of the school? Why do I come to school? What are the reasons why I should come to school? Will the school help me in what will I do later in life?" - these are questions that each of us should answer.

In order to be able to cope with the school and its requirements, to be able to assimilate information both for myself (to help me form a general culture) or even to qualify for a job, I need to know some of " the laws of learning ".

I will present further, the factors that concern you (each student separately), in learning.

Thus, it really matters what your goals are when you learn.

The pupils' learning goals refer to:

- on the one hand to the performance, that is to the result that he wants to achieve - eg. "I want to be the best",

- on the other hand refers to how focused the student is on assimilating or perfecting some knowledge - for example. "I want to learn more about how an engine works".

***Remember!!***

Effective learning goals include:

- defining goals in clear and realistic terms. It is much better to propose as a realistic and measurable purpose (eg "I want to read 20 pages in the next 3 days") than something vague and immeasurable (eg "I want to be the best")

- setting a deadline for achieving the proposed purpose

- identification of the action steps to be followed to reach the goal

- establishing a reward for achieving the goal.

We know that students tend to assert that the results depend first of all on luck, on teachers' preferences, on the characteristics of the task. Well, research shows that students who believe that the outcome of learning depends primarily on them, perform better in school than those who feel they cannot control the outcome.

The motivation for learning is very important. It helps you a lot in achieving your goal. Here are some such motivational strategies:

- strategies that help you control your own way of thinking: intentionally ignore all attractive and irrelevant alternatives for learning; eg: "Whenever there is something distracting from your learning, ignore that thing!" - tell yourself this phrase whenever there is something distracting from learning.

- strategies that help you control your emotional states: ex: "I did another exercise like that." Telling you this reminds you that you have gone through a similar situation and managed to solve it.

- strategies that control the environment, which helps you control the environment in which you work: ex: turn off the phone, notify your family that between certain hours you learn, turn off the phone and computer, etc.

## Learning strategies

The most important thing in learning is that you understand what you are learning! When you learn the new information, it adds to the information you already own, and you will be able to manipulate it in the activities it requires.

It is very important that when you learn to think critically. When we think critically, we ask a series of questions about the text.

Here are some examples of questions that show critical thinking about the text:

1. What examples can I give to support these ideas?

2. What ideas or similar facts have I encountered?

3. How does this information differ from what I knew about this topic?

4. How can I use this information?

5. What would be the consequences of applying these ideas in practice for myself and others?

When you think critically, you make comparisons between elements, find similarities and differences between them; surprise the differences between several situations, elements or events; you can identify the situations that determine a particular event or state of affairs; you can make the transition from the example to the general idea; you can find examples that support a certain theory.

Other strategies:

- quickly browse through all the text you have to learn to identify the essentials;

- ask questions about the text;

- after each fragment, carry out a verification of the understanding of the respective fragment;

- clarify your ideas that pose problems of understanding;

- try to extract important ideas from the text, in order to better retain it.

Here is the proposal for some storage techniques:

- you have to know that meaningful information is held better and easier than meaningless!

- forgetfulness has the most accelerated rhythm immediately after learning, after which the forgetfulness rate is greatly reduced;

- the beginning and the end of a memorizing material are easier to remember, while the middle part is easier to forget;

- It is more difficult to retain what you learn for two similar subjects than for two non-similar subjects.

***A. General Strategies for Improving Mesh Performance***

Understanding the learning material is very important for the ease with which the material is stored.

When learning, you need to take short breaks (5-10 mins) for rest to increase learning efficiency. The study for a longer period of time without breaks leads to the decrease of the concentration capacity.

It is recommended that the subjects studied consecutively be as different (eg, after chemistry, history rather than chemistry.)

Clipping the material into meaningful sequences

It is advisable to use some methods of fixing the knowledge such as reciting, recapitulation aloud, writing the main ideas or making a sketch to improve the memory.

Repeat the information in the middle of the study material, because they are easier to look at.

Repeat the material to be retained even after a longer time.

***B. Specific strategies for improving the performance of the mesh***

*1. Acronyms*

For example, we keep the names of the great American lakes as follows: Huron, Ontario, Michigan, Erie, Superior - HOMES

*2. Associating a word list with a well-known song is a method of retaining elements.*

*3. Visualization*

For example, to remember the date when Mihai Viteazul takes over the throne of the Romanian Country, you can imagine his entry into Bucharest, under a banner that he writes on October 11, 1593. you have problems, because such images are easier to retain.

*4. The itinerary* *implies the association* *of the information that must be kept with a familiar route that you frequently travel.*

For example, in order to retain the main endocrine glands their name may be associated with certain landmarks on the route you travel daily from home to school. So, if you pass by Agarbiceanu's memorial house, you associate his pituitary glands and thalamus. Then you pass the building "Passport Service" and you associate the thyroid. Then it's on your way to the cinema "Art", you associate it with the testicles and ovaries, etc. So to recap the name and sequence of the endocrine glands, you just have to take a "mental" walk! These associations, combined with the visualization technique (on each building you can imagine that you put a huge banner with the name of each gland) will be useful in remembering the information learned.

*5. Roman camera*

The procedure is similar to the itinerary, except that it is now a family room, and the objects used are no longer buildings, but objects in that room. You can use this technique for any kind of space where there are enough spatial cues to be associated with the material to be stored.

**Techniques underlying the organization of the material**

**A. Underline** - the main idea is underlined (after all the paragraph has been read in advance)

do not stress too much text!

Different signs are used to discriminate between the parts of the text (eg, circle concepts, underline definitions, line examples delimited)

**B. Taking notes** - is one of the most important steps in learning. Because it is an important source of study alongside textbooks or other sources.

**C. Graphic representations**

Many people understand and retain much better information when presented in a graphic form. The relationships between different concepts, their place and role in a system, can sometimes be much easier to graphically than by other means.

# 5. Barriers and difficulties regarding accessibility in education for young people with disabilities

Practitioners have the obligation to know all the barriers that could prevent the young person with disabilities to integrate, to evolve, to be an active part of the community, to become more valuable and not an assisted person for the whole life.

**1. Lack of options**

There are not enough services available at the moment, to reach their requirements. A list of options should be build from the start of the education. In schools, physical access is choice limited, as it is also the support services and a selection of schools prepared to provide full access to the curriculum. Rural, regional and isolated areas provide the minimalist options (see also transitional services and post-school options).

**2. Lack of information on available options**

Many parents do not know what choices are available for their children either in Special Schools or inclusive schools, or have any information on ancillary services. They are often unaware of how to access educational services appropriate to the needs of their child with disability, especially in early intervention and early childhood education. Older students find it difficult to obtain sufficient information about vocational education, pre-employment training and support services, or adult and community education.

**3. Lack of information to families about procedures**

Many parents have no information about procedures for funding or personal support and do not know what pre-schools, schools or any of the post-school services may offer the student. Many do not have information about planning the student's educational goals and how these work, or what an Aide's role is, or whether equipment can be obtained to assist in accessing the curriculum. They do not know how personal care or health care can be arranged or what needed therapies can be provided in the educational setting.

**4. Inconsistency (lack of equivalence) between education sectors**

In many instances, the move from one educational sector to another (more often the next one) reveals major gaps at service level. Moving a young child with disability from early childhood services to primary school is frequently a transition in which the programs and supports have no equivalent in the new environment. This problem is also found at all transitional levels, equally from primary school to secondary school, and from there to the range of post-school options. There is lack of equivalence within a region from one school to another, and from the private sector to the public school sector, so families dissatisfied with service or who move location find the student unable to move with ease across education settings.

**5. Co-ordination between services and departments finds itself unsatisfactory**

The need of service providers is great in supporting students with disability. In many cities, towns, areas and regions, the needed coordination between education, health and community services is either not supported or non-existent..

**6. Inssufficient funding for student disability**

Insufficient provision of funds is one big issue when it comes to providing equal access to education for students with disability. There are several funding sources, but any of them seem to be enough to cover all the needed services.

**7. Inssufficient technological aids and other devices**

Obtaining appropriate equipment as needed for individual students, from hearing and vision aids, to electronically adapted mobility devices, to walking frames for students, is a constant barrier in providing equal access for education providers, from students in kindergarten and child care, through the school system, to vocational and recreational education providers.

**8. Disability unrecognised or undiagnosed**

In several areas, failure to recognise or failure to diagnose a student's disability is a problem in student’s education. In early childhood, it may not be possible to identify a child's disability, if it is a learning difficulty or the child is too young for it to be discovered, if it is a developmental delay, because very young children develop at vastly variate steps in the first years, if it is a complex mix of muscular, behavioral/emotional and intellectual disability which is not diagnosable until an older age. Many disabilities are not recognised by many teachers and are often denied by parent or student.

**9. Disability denied by parents or minimised unappropriately**

Parents sometimes deny or do not inform the school on their child’s disability. Some parents do not alert schools on in’s degree or level of gravity, or simply ask the school to provide education above the level of capacity of the student with disability. This creates problems of a sensitive nature for many schools and their teachers.

**10. Access to buildings (costs and other problems)**

Many buildings used for child care and pre-schools, schools, start from the premise of being used by adults, and are slighty accessible for disabled children and students.

**11. Transport: barriers**

Many students with disability have mobility limitations. Many have physical and medical problems which makes it hard for them to use transportation properly due to the lack of it’s accesibility. Cost of special transport is also difficult because it would be too expensive. Parent availability to transport students is not always possible, and some education providers say transport to and from pre-school, school, college, or university is the biggest problem in providing access to students with disability.

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