# Enhancing Online Learning with Multiple Intelligences

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# Abstract

- This paper will examine the applications of Howard Gardner's Multiple Intelligences (MI) theory to differential instructional strategies for the education of adults in institutions of higher education (IHE).

- With more IHE classes being offered online, there are new challenges and opportunities for individualizing instruction to meet unique student needs to assure their success.

- MI holds great promise in differentiating instruction for online classes by applying these intelligences to online instruction.

- This paper will define Multiple Intelligences (MI) theory, provide background information about IHE online instruction, assessment of students, how they can identify their MI strengths, and how online course activities can be applied to MI Theory.

- The role and training needs for instructors in utilizing MI Theory will also be discussed, along with the challenges for instructors to make a paradigm shift applying and practicing MI to meet the individual needs of all students in online courses.

# Agenda

- Definitions of Multiple Intelligence
- Identifying primary and secondary intelligence
- Examples of Different Multiple Intelligences
- Role of Professors in Utilizing Multiple Intelligences in Online Instruction
- Applying Multiple Intelligences in Designing Class Strategies and Activities
- Involving Students By Identifying Their Learning Styles for Multiple Intelligences
- Application of Multiple Intelligences To Online Instruction
- Conclusion

**Tenants of Multiple Intelligences:  Each person possesses all eight intelligences between the lowest and highest extreme.**

**1.) Linguistic Intelligence:**

- The capacity to use words effectively, whether orally (e.g., as a storyteller, orator, or politician) or in writing (e.g., as a poet, playwright, editor, or journalist).

- These learners have well developed auditory skills and are generally elegant speakers. There thought process is in words as opposed to pictures.

# 2. Logical-Mathematical Intelligence:

- The capacity to use numbers effectively (e.g., as a mathematician, tax accountant, or statistician) and to reason well (e.g., as a scientist, computer programmer, or logician).

- These learners think conceptually in logical and numerical patterns making connections between pieces of information.

- Always curious about the world around them, the learner asks lots of questions and like to do experiments. (ldpride.net)

## 3. Spatial Intelligence:

- The ability to perceive the visual-spatial world accurately (e.g., as a hunter, scout, or guide) and to perform transformations upon those perceptions (e.g., as an interior decorator, architect, artist, or inventor)

## 4. Bodily-Kinesthetic Intelligence:

- Expertise in using one's whole body to express ideas and feelings (e.g., as an actor, a mime, an athlete, or a dancer) and facility in using one's hands to produce or transform things (e.g., as a craftsperson, sculptor, mechanic, or surgeon).

## 5. Musical Intelligence:

- The capacity to perceive (e.g., as a music aficionado), discriminate (e.g., as a music critic), transform (e.g., as a composer), and express (e.g., as a performer) musical forms.

## 6. Interpersonal Intelligence:

- The ability to perceive and make distinctions in the moods, intentions, motivations, and feelings of other people.
- Learners try to see things from other people's point of view in order to understand how they think and feel. They have the skill to sense feelings, intentions and motivations.
- Although manipulative at times, they are great organizers.
- They make an effort to reach groups consensus and encourage co-operation.
- Both verbal (e.g. speaking) and non-verbal language (e.g. eye contact, body language) are used to open communication channels with others. (ldpride.net)

# 7. Intra-personal Intelligence:

- Self-knowledge and the ability to act adaptively on the basis of that knowledge.
- These learners seek their dreams, relationships, inner feelings, relationships with others strengths and weaknesses.
- Some of their skills include: reflecting and analyzing themselves, being aware of their inner feelings, analyzing their desires and dreams, evaluating their thinking patterns, reasoning with themselves, understanding their role in relationship to others. (lpride.net)

# 8. Naturalistic Intelligence:

- The ability to easily recognize and classify plants, animals, and other things in nature. (Armstrong, 1994).
- **Naturalistic Intelligence** was later added after Gardner's original seven intelligences.

# Activity: Group Splits Into Pairs or Three's

- Pairs to identify their Multiple Intelligence strengths and favorite activities to support that strength.
- Complete Personal Inventory of Intelligence, Score, and Interpret

- **Examples of Multiple Intelligences**

- The most brilliant scientific professor may well have exceptional intelligence in a number of areas (probably Logical-Mathematical, and one or two others) but will also be less able in other intelligences, and could well be inept in some.
- A person who struggles with language and numbers might easily be an excellent sportsman, or musician, or artist.
- A hopeless academic, who is tone-deaf and can't add up, could easily possess remarkable interpersonal skills.
- Many very successful business-people judged failures at school. They were judged according to a very narrow definition of what constitutes intelligence.

# Examples of Different Multiple Intelligences

- Many successful and fulfilled people in life were also judged to be failures at school - brilliant scientists, leaders, writers, entertainers, sports-people, soldiers, humanitarians, healers, religious and political leaders

- Each one of us has a unique and different mix of intelligence types, and commonly the people with the least 'conventional' intelligence (as measured using old-fashioned narrow criteria), actually possess enormous talent - often under-valued, unknown and under-developed. (Businessballs.com)

# Role of Professors in Utilizing Multiple Intelligences in Online Instruction

- Research confirms that the instructors' most important role is to motivate students: moving from being an intellect on-stage performer to a learning catalyst on-line.

- This is accomplished through both an asynchronous virtual community between students and their instructors. (Yi, Cornelious, 2004), and a synchronous "class live pro,"

- Although some (usually full-time) skillful instructors will have an innate ability to motivate students on-line, most need comprehensive training to make it happen.

# Role of Professors in Utilizing Multiple Intelligences in Online Instruction

- Frequency of interaction and prompt responses to all students is another key to successful on-line instruction for all multiple intelligence activities.

- Studies have shown that the single greatest factor affecting student satisfaction in distance education course is the amount of interaction that occurs between teacher and students.

- This happens from the instructor's careful planning of collaborative course activities (Kirby, Elizabeth, 1999). This study is confirmed by some instructors making some fatal mistakes by not introducing themselves on-line at the beginning of the course, or immediately before the course begins.

- Others do not respond to individual student threaded discussion responses (instead respond to a group of student responses), or delay their response for two or three days.

# Connecting Higher Education Online Instruction and Teaching Strategies with Multiple Intelligences

- When curriculum, instruction, assessment, and pedagogy are viewed through a Multiple Intelligence (MI) perspective, there are a myriad of ways for student to learn.

- Some online courses offer more options for students to learn utilizing a variety of Multiple Intelligences than other courses.

- When MI is the palate, the instructor (professor) relies on her/his wisdom to find the right brush and the right colors to make learning meaningful. (Hoer, 2002).

- In order to locate the right brush, students should be encouraged to take a "learning styles self-assessment ."

## Applying Multiple Intelligences in Designing Class Strategies and Activities

- Number of teaching materials and methods available in MI beyond the traditional professor as lecturer mode.
- Three specific Multiple Intelligences will be selected applicable for Educational Administration online classes.
- 1.)<u>Linguistic Intelligence</u>, which is typically strong in reading books and literature, communication skills, and writing skills.
  Class activities that promote these skills may include large and small group discussions, brainstorming in class live pro, chat-room, and threaded discussions among faculty and students and between students. Writing and interactive activities are also alternative activities.

# Applying Multiple Intelligences in Designing Class Strategies and Activities

- 2.) <u>Spatial multiple intelligence</u> also lends itself to the Action Research online class as students prepare their action research paper, because of its emphasis on visualizations, i.e. charts, graphs, diagrams and maps.
- These are typically found in the appendices of the paper. Bar and line graphs along with pie charts are used for student performance comparisons and pre and post test scores.

- 3.) <u>Inter-personal and intra-personal Multiple Intelligences</u> also provide exciting possibilities for online classes. Extensively applied as students are encouraged to work together in cooperative groups where interpersonal interaction is practiced.
- Collaboration among peers, peer feedback and tutoring, students presenting to the class in class live pro, and encouragement of group editing are also effective activities.

## Involving Students By Identifying Their Learning Styles for Multiple Intelligences

- Learning styles are different from Multiple Intelligences, in that learning styles are different approaches to learning.
  Examples: <u>visual</u> (*learn through seeing*)
  <u>auditory</u> (learn (learn through moving,
  through listening)
  <u>tactile/kinesthetic</u> doing, touching).

- According to Gardner, each child and adult possesses and can develop all seven intelligences to a fairly high level of competence, although children and adults show an inclination, i.e. proclivities.

- Information about learning styles and Multiple Intelligence (MI) is helpful for everyone especially for people with learning disabilities and Attention Deficit Disorder (ldpride.net).

# Application of Multiple Intelligences To Online Instruction

- Online instruction is gaining in popularity in both higher education and virtual high schools because of the access convenience to students, compared to on-site classes.

- How much will instructors utilize Multiple Intelligences in delivering online instruction that meets every student need and capitalizes on their strengths

- Instructor utilization will depend on both the higher education institution and instructor commitment to utilizing Multiple Intelligences theory for online class instruction.

- Offers students a greater chance for success than utilizing a single measure of intelligent quotient (IQ) or student test taking skills.

# Delivery of Multiple Intelligence Instruction

- How will instructors deliver Multiple Intelligences instruction to 25 or more students for an online course in a previously packaged and prepared course shell curriculum?

- It should start with instructors surveying student multiple intelligence by administering a Multiple Intelligences test

- Following an assessment of student Multiple Intelligences strengths and weaknesses, students should be given a choice of course activities that matches their strengths.

- For example, students who have a strength in Linguistic multiple intelligence should appropriately be assigned a written research report for the class capstone assignment.

# Assessing Student Performance

- How will instructors assess individual student performance, using different Multiple Intelligences, when it comes to posting their course grade?

- Instructors will assess student performance by the agreed on assessment activities

- Based on the student multiple intelligence strength(s). Examples may include essay midterm and/or final exam(s), student research project, oral presentation on class live pro, etc.

# Traditional vs. Multiple Intelligence Role of Instructors

- One significant feature of MI is that it transforms the role of the teacher.
- In traditional courses, teachers typically rely on – are often tied to – text books and other mandated curriculum materials.
- The name of the game is often scoring well on standardized tests.
- Naturally, then, materials are purchased which prepare students for the tests; the closer the match between the curriculum and what is tested, the "better" the curriculum.
- Aside from the losses to students – which are considerable – this approach also takes a heavy toll on teachers.
- How much fun can it be to read from a script all day? What's the message to us about our competencies when everything is set out and predetermined by a faraway publisher? (www.newhorizons.org › … ›

# Training of Instructors to Deliver Differentiated Online Instruction

- How will instructors be sufficiently trained to provide differentiated instruction online to meet multiple student needs?

- The sufficiency of training depends largely on the institution of higher education (IHE) commitment, and enlisting only the instructors genuinely interested and committed to online instruction.

- Training may include familiarity with Multiple Intelligence theory, differentiated instruction, and assessment of student performance in each course.

- Instructors not interested nor confident in their ability to teach online classes should never by coerced by IHE's into teaching online classes.

# Conclusion

- The future use of Multiple Intelligences to higher education online instruction holds much promise because it provides a legitimate form of differentiated instruction to meet the individual needs of adults to assure their success for online courses.

- Furthermore, it provides alternative means for instructor assessment of student performance based on the strengths of students rather than relying on a traditional IQ.

- However its utilization success for differentiated instruction will depend on the level of commitment and training by instructors to implement Multiple Intelligences.

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