Adult Multiple Intelligences Theory

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NCSALL

National Center for the Study of Adult Learning and Literacy

Adult Multiple Intelligences Theory

This seminar guide was created by the National Center for the Study of Adult Learning and Literacy (NCSALL) to introduce adult education practitioners to the research that shows that instructional practices inspired by Multiple Intelligences (MI) theory have resulted in high levels of authentic instruction and student engagement. Given these findings, practitioners may be interested in exploring MI for use in their instruction. Programs or professional developers may want to use this seminar in place of a regularly scheduled meeting, such as a statewide training or a local program staff meeting.

Objectives:

By the end of the seminar, participants will be able to:

- Summarize the definition of intelligences

- Explain the eight multiple intelligences

- Identify how they might apply multiple intelligences theory in their own classrooms

Participants: 8 to 12 practitioners who work in adult education—teachers, tutors, and others

Time: 3 hours

Agenda:

10 minutes	1. Welcome and Introductions
5 minutes	2. Objectives and Agenda
70 minutes	3. Multiple Intelligences Activities
15 minutes	**Break**
15 minutes	4. Multiple Intelligences: A Review
55 minutes	5. Definition of Intelligences
10 minutes	6. Evaluation of the Seminar

Session Preparation:

This guide includes the information and materials needed to conduct the seminar: step-by-step instructions for the activities, approximate time for each activity, and notes and other ideas for conducting the activities. The reading and signs, ready for photocopying, are at the end of the guide.

Participants should receive the following reading at least 10 days before the seminar. Ask participants to read the article, take notes, and write down their questions for sharing at the seminar.

- **Understanding Multiple Intelligences: The Theory Behind the Practice** (*Focus on Basics*, Volume 3, Issue A, March 1999)

The facilitator will need the following "Sourcebook" for several of the activities. Information on ordering the sourcebook can be found on the NCSALL Web site at: www.ncsall.net/?id=926

- *Multiple Intelligences and Adult Literacy: A Sourcebook for Practitioners.* Julie Viens and Silja Kallenbach (New York: Teachers College Press, 2004)

The facilitator should read the article, study the seminar steps, and prepare the materials on the following list.

Newsprints (Prepare ahead of time.)

___ Objectives and Agenda (p. 6)

___ Definition of Intelligences (p. 8)

___ Useful/How to Improve (p. 9)

Handout (Make copies for each participant.)

___ *MI Bingo Card* (see p. 41 of Sourcebook)

___ Handouts as needed for Activity 3, Step 3 (p. 7)

Reading (Have two or three extra copies available for participants who forget to bring them.)

___ **Understanding Multiple Intelligences: The Theory Behind the Practice**

Materials

___ Newsprint easel and blank sheets of newsprint

___ Markers, pens, tape

___ Materials as needed for Activity 3, Step 3 (p. 7)

___ Signs—pictorial representations of multiple intelligences (see examples on page 20)

Steps:

1. Welcome and Introductions   (10 minutes)

- **Welcome participants** to the seminar. **Introduce yourself** and state your role as facilitator. Explain how you came to facilitate this seminar and who is sponsoring it.

- **Make sure that participants know** where bathrooms are located, when the session will end, when the break will be, and any other housekeeping information.

- **Ask participants to introduce themselves** (name, program, and role).

> **Note to Facilitator**
> Since time is very tight, it's important to move participants along gently but firmly if they are exceeding their time limit for introductions.

2. Objectives and Agenda   (5 minutes)

- ⬜ **Post the newsprint <u>Objectives and Agenda</u>** and review the objectives and steps with the participants.

Objectives

By the end of the seminar, you will be able to:

- Explain the eight multiple intelligences

- Identify how you might apply multiple intelligences theory in your own classroom

- Summarize the definition of intelligences

Agenda

1. Welcome and Introductions (Done!)
2. Objectives and Agenda (Doing)
3. Multiple Intelligences Activities
4. Multiple Intelligences: A Review
5. Definition of Intelligences
6. Evaluation of the Seminar

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3. Multiple Intelligences Activities (70 minutes)

- **Explain to participants** that in this activity they will identify their own intelligences, as well as experience two activities that a teacher-researcher used successfully with her students.

- Conduct *MI Bingo* as described on p. 41 of the *Sourcebook.*

- **Conduct one of the following activities** as described in the *Sourcebook.*

  - "I Can…" (p. 36 in *Sourcebook*)
  - Autobiography Cube (p. 36 in *Sourcebook)*
  - Working From Strengths/Working From Weaknesses: MI Experiences in the Classroom (pp. 37-38 in *Sourcebook)*
  - How are You Smart? (pp. 45-47 in *Sourcebook)*

- **Reconvene the large group and facilitate a 10-minute discussion** using the following questions as a guide:

  - *What did you discover about your own intelligences?*

  - *What other reflections do you have on this activity and MI Bingo?*

  - *Did your experiences participating in these activities confirm the key ideas in the article you read in preparation for the seminar? Why or why not?*

  - *What might this mean for your instruction?*

Break (15 minutes)

4. Multiple Intelligences: A Review   (15 minutes)

- **Post the signs** (pictorial representations) of the multiple intelligences around the room during break.

- **Explain to participants** that in this activity they will review the eight multiple intelligences by labeling the signs posted around the room.

- **Invite the participants** to take a few minutes to walk around the room and identify the intelligence that each sign represents.

- **Reconvene the large group** and ask the group to identify the intelligence for each sign. Write the responses on the signs.

5. Definition of Intelligences   (55 minutes)

- **Explain that, in this next activity, participants will examine Howard Gardner's definition of intelligences.** This exercise, developed by Peter Elbow, encourages participants to attempt to understand how those with whom they may disagree understand an issue. To begin, divide the group in half. Name one group the "Doubters" and instruct them to take a doubting role. Label the other group "Believers" and instruct them to assume a believing stance.

- ⬜ **Post the newsprint Definition of Intelligences.**

> **Definition of Intelligences**
>
> Intelligence is "the biological potential to solve problems or make products that are valued in a culture."
>
> (Gardner, 1993, 2000)

- Ask the Doubters to work together to come up with as many reasons and examples as possible to argue against or to disprove Gardner's definition of intelligences. Ask the Believers to work together to generate as many ideas and examples as possible to support the definition.

- Next, ask the Doubters and Believers to share their ideas and to engage in debate. Please note that it does not matter what the participants truly believe, they must remain Doubters or Believers throughout the debate. If the group wishes, they may then take some time at the end of

the debate to identify their true opinions and to discuss how the debate affected their opinions.

- The group that was originally Doubters becomes Believers and the Believers become Doubters to discuss the statement presented on the newsprint. Follow the process outlined above.

(This activity is based on "The Doubting Game and the Believing Game—an Analysis of the Intellectual Enterprise" from *Writing Without Teachers* by Peter Elbow. New York: Oxford University Press, 1998, pp. 147-190.)

- **Reconvene the large group** and lead a general discussion, debriefing the activity using the following questions as a guide:

  ? *How did playing a role affect your opinion about adult multiple intelligences?*

  ? *How might you use MI in your instruction?*

  ? *What might be the challenges and opportunities for using MI-inspired instruction?*

6. Evaluation of the Seminar   (10 minutes)

- **Explain to participants that, in the time left, you would like to get feedback from them about this seminar.** You will use this feedback in shaping future seminars.

- ⬜ **Post the newsprint <u>Useful/How to Improve.</u>**

Useful	How to Improve

  Ask participants first to tell you what was useful or helpful to them about the design and content of this seminar. Write their comments, without response from you, on the newsprint under "Useful."

- **Then ask participants for suggestions on how to improve the design and content**. Write their comments, without response from

you, on the newsprint under "How to Improve." If anyone makes a negative comment that's not in the form of a suggestion, ask the person to rephrase it as a suggestion for improvement, and then write the suggestion on the newsprint.

- **Do not make any response to participants' comments during this evaluation.** It is very important for you not to defend or justify anything you have done in the seminar or anything about the design or content, as this will discourage further suggestions. If anyone makes a suggestion you don't agree with, just nod your head. If you feel some response is needed, rephrase their concern: "So you feel that what we should do instead of the small-group discussion is . . . ? Is that right?"

- **Refer participants to the National Center for the Study of Adult Learning and Literacy Web site (www.ncsall.net) for further information**. Point out that most NCSALL publications may be downloaded for free from the Web site. Print versions can be ordered by contacting NCSALL at World Education: ncsall@worlded.org.

- **Thank everyone** for coming and participating in the seminar.

Reading 📖

(To be read by participants *before* the session.)

Understanding Multiple Intelligences: The Theory Behind the Practice
by Julie Viens
Focus on Basics, Volume 3, Issue A, March 1999, pp. 6-10

It's early evening in Salisbury, MA, and the GED preparation class is in full swing. Working in pairs or independently, the students use rulers, Play-Doh, drawing materials, measuring spoons, and even a xylophone to complete three measuring tasks from the 10 options Martha, their teacher, has provided. One student measures and cuts strips of paper, one student measures another's height, another pair giggle as they measure and compare differing amounts of Play-Doh. Lively discussions about inches, gallons, and musical notes create a welcomed din to Martha's ears.

Two hundred miles to the north, in rural Vermont, four students in an adult diploma class make entries in their dialogue journals. One student is describing how he used his carpentry-honed spatial skills to solve a math problem. A new student sits with headphones on, completing an informal self-assessment. The voice on the tape asks about her avocations, what types of things she's good at and likes to do. Meg, her teacher, described this as the first step in a process of "discovering her own areas of strengths."

The next morning, in Gloucester, MA, Wendy is leading one of the last sessions of her adult basic education (ABE) history course. She and her students set up the classroom for final project presentations. These projects, some in preparation for weeks, will demonstrate students' understanding of some aspect of the course. One group prepares to do a skit, one student will read an original poem and present related artwork, another pair pin up charts and graphs to accompany their oral presentation. As everyone sits to watch the skit, the nervous energy is palpable and upbeat.

Which one of these teachers is using multiple intelligences (MI) theory to inform her practice? All three, as the reader likely guessed. "Multiple intelligences" is a theory, not an approach or set of strategies. Indeed, when Howard Gardner introduced the theory in 1983, educational implications were only briefly mentioned. As a theory of intelligence, multiple intelligences describes the "smarts" students bring to the task of learning. It frames and suggests, but does not prescribe any specific classroom practices. There is

indeed no single "right way" to apply MI theory. However, using an MI lens or framework can and has helped inform excellent, and often quite distinct, teaching and learning practices.

Moving from a theory of intelligence to actual classroom practices is an act of interpretation. Applying MI theory in the classroom provokes a critical process of practice and reflection on the part of the educator. Simply put, because MI theory is not prescriptive, teachers decide for themselves how to apply it, reflecting and making revisions and additions along the way. Understanding MI theory and its major components is essential to applying it appropriately and well. The teacher researchers on the Adult Multiple Intelligences (AMI) Project described in this edition of Focus on Basics adopted MI theory with subjective but critical lenses. They designed MI-based applications that worked for them, taking into account their contexts, goals, and beliefs about what good, appropriate, and feasible teaching practices entail. Like hundreds of other teachers, they too started with the basics, "What exactly is the theory of multiple intelligences?"

In Theory

What is multiple intelligences theory and what major tenets guide its use? First and foremost, MI theory challenges the widely held belief that intelligence is a unitary trait that can be adequately measured by an IQ test (Gardner, 1993). MI theory claims that there are many ways to be smart and that those abilities are expressed in our performances, products, and ideas. Intelligence is defined as the ability to create or solve a problem or fashion a product that is valued in one or more community or cultural settings (Gardner, 1993a).

Thus MI theory makes proverbial "apples and oranges" out of intelligence: putting everyone on a single line is impossible and comparison or competition among people is pointless. With MI theory the question moves from "How smart are you?" to "How are you smart?" Therefore, MI applications are directed toward identifying, nurturing, and using students' unique combinations of intelligence in the business of learning.

Gardner and his colleagues looked at the many abilities individuals demonstrate and the diverse roles they are able to assume and asked, "What are the basic biological faculties the intelligences' responsible for these abilities that we observe around us every day?" They developed a list of eight criteria necessary for an ability to be designated an intelligence (see page 8). These criteria represent evidence from brain research, human development, evolution, and cross-cultural comparisons that each of these abilities has a universal, biological basis and operates relatively independently. Using the

criteria, Gardner initially identified seven intelligences (see page 9). An eighth intelligence, naturalist, has since been added, and a ninth, existential intelligence, is under consideration (Gardner, 1999). Abilities that satisfied a majority of the criteria were selected as intelligences. Not one of the eight intelligences fulfilled all of the criteria perfectly; each of the eight satisfied most of them. (For a detailed description of the criteria and how each intelligence was assayed, see Gardner, 1993a, Chapter 4; for naturalist intelligence, see Gardner, 1999.)

The criteria have served well as the principal means to identify a set of intelligences that captures a reasonably complete range of the types of abilities valued by human cultures. By keeping the criteria in active use, MI theory can be and has been modified to reflect our increasingly better understanding of people's intellectual capabilities. MI theory offers the most accurate description to date of intelligence in the real world, and it continues to be a helpful articulation and organization of human abilities.

Another important aspect of MI theory is the idea that both nature and nurture have a role in each individual's intelligence. It is not simply a matter of "what you're born with." MI theory holds that intelligence originates biologically; that is, all human beings are at promise for each of the intelligences. However if, how, and to what extent intelligences develop is intrinsically tied to an individual's life experiences. The more time an individual spends using an intelligence, and the better the instruction and resources, the smarter one becomes within that area of intelligence.

Each of the intelligences is universal, but how and to what extent intelligences manifest themselves depend to a significant degree on the cultural and individual context. For example, in the case of linguistic intelligence, writing might dominate in one context and storytelling in another. A child in the first context whose mother is a reporter and whose home is filled with books, a computer, and writing implements might have more developed writing abilities than a child without those environmental supports.

This view of the nature of intelligence suggests providing a range of activities in the classroom to ensure students the opportunity to develop abilities in a range of intelligence areas. It also suggests that if intelligence is demonstrated in the things we make and the problems we solve, then assessment of students' abilities should demonstrate this too. In other words, students should be assessed using real "tools" and solving real problems. Why choose among multiple answers or answer essay questions about, say, political action, when students can get involved politically in some way and teachers can assess that participation?

A Closer Look

Each intelligence has its own unique characteristics, tools, and processes: each represents a different way of thinking, solving problems, and learning; and each emphasizes a particular type of product. Although each intelligence operates relatively independently the brain has distinct mechanisms and operations for each intelligence in reality they work in combination. So people's intellectual strengths are demonstrated through their unique combination of intelligences. For example, a violinist needs musical intelligence to be successful, but only in combination with interpersonal abilities, such as communication with other musicians in the orchestra; intrapersonal, such as translating the emotion of the piece; and bodily kinesthetic, such as the physical act of playing the instrument.

Intelligences also include sub-abilities: one is not simply "musically" or "linguistically" intelligent. One's musical intelligence might be demonstrated through the ability to compose clever tunes or to distinguish instrument parts in a song. In the case of linguistic intelligence, ability might emerge through creative expression, as in a story, or in the descriptive language of a presentation.

These distinctions within intelligences are important to keep in mind when developing experiences and assessments in the classroom. Students may vary in terms of how they are musically or spatially intelligent (Hatch, 1997). Acknowledging the detail of each intelligence provides only more promise for rich, engaging activities in the classroom. Each intelligence is briefly summarized on pages 17-19.

MI in the Classroom

MI theory is not about introducing another way to do things, but rather is a framework for thinking about the types of experiences to have in the classroom that tap a range of intelligences generally and build on students'

The Eight "Signs" of an Intelligence

- Potential isolation by brain damage
- Existence of savants, prodigies, and other individuals distinguished by the presence or absence of specific abilities
- Recognizable end-state and distinctive developmental trajectory
- An identifiable set of core operation(s)
- Evolutionary history and evolutionary plausibility
- Support from experimental psychological tasks
- Support from psychometric findings
- Susceptibility to encoding in a symbol system

   - Gardner, 1993

unique combinations specifically. Good teaching practices should fit under an MI-based umbrella.

Most MI-based programs have been initiated to address three goals: create opportunities for students across a range of intelligences (exploration); give students intensive opportunities in areas of strength (talent development); and create more individualized or personalized education by more directly addressing students' intellectual strengths in their curriculum (using strengths). The following approaches and activities were developed to address these goals.

- **Providing a variety of curricular options.**
  This approach is related to providing students with exposure to and experience across intelligences. Students can hone skills and experience success in the classroom (strength areas), and teachers and students have the opportunity to uncover their own strengths and interests.

- Providing choice among activities or "entry points" to develop understanding or learn skills. Many teachers use MI theory as a framework to develop options for students to work on particular material or skills. Allowing students to learn in ways in which they are most comfortable increases the chances for substantive learning as well as increasing student self-esteem.

- **Expanding instructional strategies and media based on the intelligences.**
  We teach in a manner that makes most sense to us. Upon closer inspection, teachers are not surprised to see that they tend to teach from their own strengths. MI theory has been a useful way to analyze and expand instructional practices and the media used.

- **Informally assessing student intelligences toward developing educational activities.** A definitive assessment of a student's intelligences is not only difficult, but also not necessary (Gardner, 1996). Informal assessments based on observations, student checklists and questionnaires, and other classroom activities such as dialogue journals and intake interviews provide a context to collect valuable information about students' areas of ability. This information can be shared explicitly with students, getting them involved in conversations around how they learn best. It can also be fed back into the curriculum.

- **Expanding assessment options to allow for students' use of areas of strength in demonstrating their learning.** Analogous to providing curricular options, giving students options for showing their learning

allows them to use ways that are comfortable and through which they can experience success.

These approaches are rooted in an understanding of MI theory, its implications for teaching and learning, and a desire to build on students' intelligences. Looking back at the opening vignettes, we see that Martha's application emphasizes providing students with a range of MI-informed entry points into their GED topics. Meg uses ongoing and informal assessment of each student's intelligences to develop instructional strategies. Wendy uses MI theory to give students an opportunity to use their unique profiles of intelligences to demonstrate their understanding.

MI theory did not direct these teachers to these practices, but served as a catalyst. MI theory offers both a framework and a language to use to develop practices that best fit one's context while acknowledging, celebrating, and building on the abilities adult students bring to their learning. In the other articles in this publication, you will see some of the many interpretations of MI that are possible in creating successful learning experiences.
See descriptions of the Eight Intelligences on pages 17-19.

References

Gardner, H. (1993) "Choice Points as Multiple Intelligences Enter the School." *Intelligence Connections,* III, 1, 3, 7-8, Fall.

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Gardner, H. (1996) "Probing More Deeply into the Theory of Multiple Intelligences." *Bulletin,* November, 1-7.

Gardner, H. (1999). "Are There Additional Intelligences? The Case for Naturalist, Spiritual, and Existential Intelligences." In J. Kane (ed.), *Education, Information and Transformation.* Englewood Cliffs, NJ: Prentice-Hall.

Hatch, T. (1997). "Getting Specific About Multiple Intelligences." *Educational Leadership.* 26-29, March.

About the Author

Julie Viens is a senior researcher with Harvard Project Zero, a research group co-directed by Dr. Howard Gardner and located at the Harvard Graduate School of Education. For the past 10 years, she has worked with educators, from pre-K on, in the research and development of MI-based strategies. The AMI Project represents Julie's first foray into adult education, and she hopes to continue working in this diverse and challenging field.

The Eight Intelligences

Linguistic Intelligence

- involves perceiving or generating spoken or written language
- allows communication and sense-making through language
- includes sensitivity to subtle meanings in language
- encompasses descriptive, expressive, and poetic language abilities

A great deal of linguistic intelligence is required if you are a novelist, stand-up comedian, journalist, lawyer, poet, news correspondent. Linguistic intelligence is not about being bilingual, but does include facility with learning languages; nor is it being talkative or liking to talk.

Logical/Mathematical Intelligence

- enables individuals to use and appreciate abstract relations
- includes facility in the use of numbers and logical thinking

A great deal of logical-mathematical intelligence is required if you are a mathematician, scientist, engineer, or architect. This intelligence is not only about numerical reasoning but, as the name implies, includes logical reasoning abilities that might not involve numbers at all.

Spatial Intelligence

- involves perceiving and using visual or spatial information
- transforming this information into visual images
- recreating visual images from memory

You need a lot of spatial intelligence if you are a sculptor, architect surgeon, cab driver, dancer. Spatial intelligence is not necessarily visual. Blind individuals develop excellent spatial ability.

Bodily/Kinesthetic Intelligence

- allows an individual to use all or part of your body to "create"
- refers to the ability to control all or isolated parts of one's body
- includes athletic, creative, fine, and gross motor movement

You require a great deal of bodily kinesthetic intelligence if you are a dancer, surgeon, athlete, sculptor. Bodily kinesthetic intelligence is not merely

moving, or "working off energy." A student who cannot sit still in the classroom does not necessarily possess a strength in this intelligence.

Musical Intelligence

- involves creating, communicating, and understanding meanings made out of sound (music composition, production, and perception)
- includes ability in dealing with patterns of sound

A great deal of musical intelligence is required if you are a musician, conductor, sound engineer, or choreographer. Musical intelligence is not engaged by playing music "in the background." In fact, background music often interferes with the work of those who excel in this area because they tend to focus actively on the music.

Naturalist Intelligence

- involves the ability to understand the natural world
- includes the ability to work effectively in the natural world
- allows people to distinguish among, classify, and use features of the environment
- is also applied to general classifying and patterning abilities

A great deal of naturalist intelligence is required if you are a botanist, biologist, gardener, farmer, chef. The naturalist intelligence is also brought to bear in other non-natural classification and patterning activities.

Interpersonal Intelligence

- involves the capacity to recognize and make distinctions among the feelings, beliefs, and intentions of other people
- allows the use of this knowledge to work effectively in the world

A great deal of interpersonal intelligence is required if you are a teacher, mediator, salesperson. Interpersonal intelligence is not simply working, or preferring to work, in a group, being well liked, or having manners. Rather it emphasizes an individual's ability to understand social situations and the actions of others within that context.

Intrapersonal Intelligence

- enables individuals to understand themselves and to draw on that understanding to make decisions about viable courses of action

- includes the ability to distinguish one's feelings and to anticipate reactions to future courses of action

A great deal of intrapersonal intelligence is required if you are a therapist, poet, minister. Intrapersonal intelligence is not related to comfort with or preference for working alone. Consider the individual who knows that he is or she is the type of person who likes to work in groups.

Existential ability remains under consideration for designation as an intelligence. It refers to the human inclination to ask very basic questions about existence, such as: Who are we? Where do we come from? At this time this ability does not sufficiently meet the criteria discussed earlier (see box on page 14) to be considered an intelligence (Gardner, 1999, p. 9). The question remains as to whether existential abilities are not an amalgam of logical and linguistic intelligences.

Signs

Information About NCSALL

NCSALL's Mission

NCSALL's purpose is to improve practice in educational programs that serve adults with limited literacy and English language skills, and those without a high school diploma. NCSALL is meeting this purpose through basic and applied research, dissemination of research findings, and leadership within the field of adult learning and literacy.

NCSALL is a collaborative effort among the Harvard Graduate School of Education, World Education, The Center for Literacy Studies at The University of Tennessee, Rutgers University, and Portland State University. NCSALL is funded by the U.S. Department of Education through its Institute of Education Sciences (formerly Office of Educational Research and Improvement).

NCSALL's Research Projects

The goal of NCSALL's research is to provide information that is used to improve practice in programs that offer adult basic education (ABE), English for Speakers of Other Languages (ESOL), and adult secondary education services. In pursuit of this goal, NCSALL has undertaken research projects in four areas: (1) student motivation, (2) instructional practice and the teaching/learning interaction, (3) staff development, and (4) assessment.

Dissemination Initiative

NCSALL's dissemination initiative focuses on ensuring that practitioners, administrators, policymakers, and scholars of adult education can access, understand, judge, and use research findings. NCSALL publishes *Focus on Basics*, a quarterly magazine for practitioners; *Focus on Policy,* a twice-yearly magazine for policymakers; *Review of Adult Learning and Literacy,* an annual scholarly review of major issues, current research, and best practices; and *NCSALL Reports* and *Occasional Papers*, periodic publications of research reports and articles. In addition, NCSALL sponsors the Connecting Practice, Policy, and Research Initiative, designed to help practitioners and policymakers apply findings from research in their instructional settings and programs.

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