

Examining Learner Self-Perception of Multiple Intelligences in Japanese Nursing ESP classes

A Comparative study

Darlene Reed-Yamauchi
Niigata University of Health and Welfare
daryama2014@outlook.com

Introduction and Background

Learning success in English for Specific Purposes (ESP) courses should meet learners' specific language learning needs (Long, 2005, Lyster, 2007). To achieve this, it is advantageous to examine individual needs, learning styles and strategies (Oxford, 2006). Research by Gardner (1999) advocates each person possesses different types of Multiple Intelligences (MI) such as: linguistic or musical intelligences. Although linguistic intelligence is most closely associated with language learning, recent research recognizes other intelligences not typically associated with language learning may also be significant for the development of more appropriate, student-centered teaching techniques in ESP classrooms particularly in contexts where Content and Language Integrated Learning (CLIL) methods are applied (Yamauchi in press).

This study compares the application of MI principles in first year university ESP courses for nursing students in two separate universities: one a higher-ranking public university and the other a lower ranking private university with regard to entrance level requirements. Results from a self-designed Multiple Intelligences (MI) Inventory will be presented with results of both samples compared to ascertain which MI are more prevalent in each group. The benefits of utilizing MI in the ESP classroom will be explored as well as suggestions for revising as well as designing future syllabi to include more appropriate, student-centered teaching techniques that will cater to students predominant MI.

Context

- Two first year university nursing ESP classes
- Public University A (n=38)
- Private University B (n=22)

THE QUESTION?

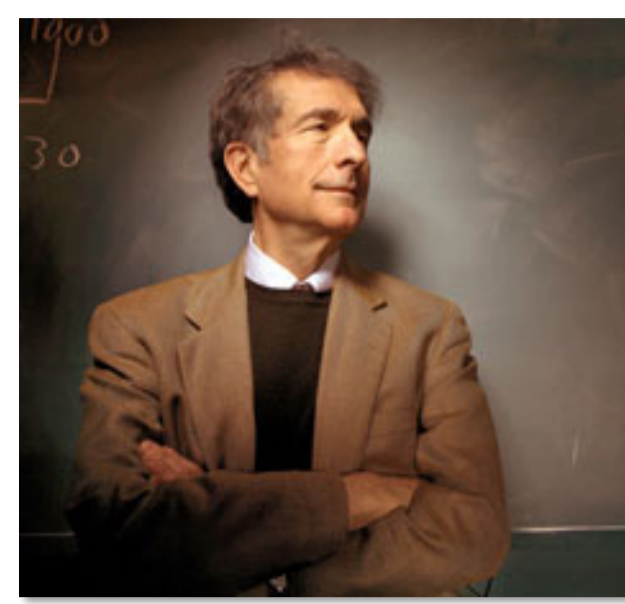
- Which multiple intelligences(MI) are perceived most prevalent by students enrolled in a first year university ESP nursing class .
- How do the the prevalent MI differ between first year ESP(nursing) nursing students at two different universities considered at different levels based on entrance requirements?

The Instrument

- MI Inventory to detect and highlight learner multiple intelligences (Figure 1)
- Students were given 15 minutes to complete the inventory.
- 5 questions pertaining to each intelligence with a total of 40 questions presented randomly.
- MI was developed in both English and Japanese with both available.

Multiple Intelligences:

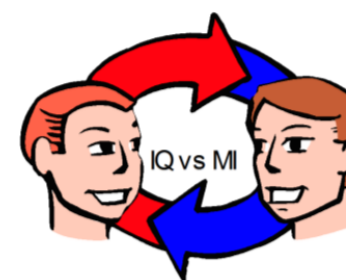
It is not how smart you are, it is how you are smart. (McKenzie 1999).



Dr. Howard Gardner

The theory of multiple intelligences was developed in 1983 by Dr. Howard Gardner, professor of education at Harvard University. MI theory suggests that the traditional notion of intelligence, based on I.Q. testing which may only measure a single skill or entity is far too limited (Gardner, 1999). MI theory proposes that intelligence is multidimensional with at least eight different intelligences to account for a broader range of human potential. Rather than functioning as a prescribed teaching method, curriculum, or technique, MI theory provides a way of understanding intelligence, which teachers can use as a guide for developing classroom activities that address multiple ways of learning and knowing (Christison, 1999).

How does MI theory differ from the traditional definition of intelligence



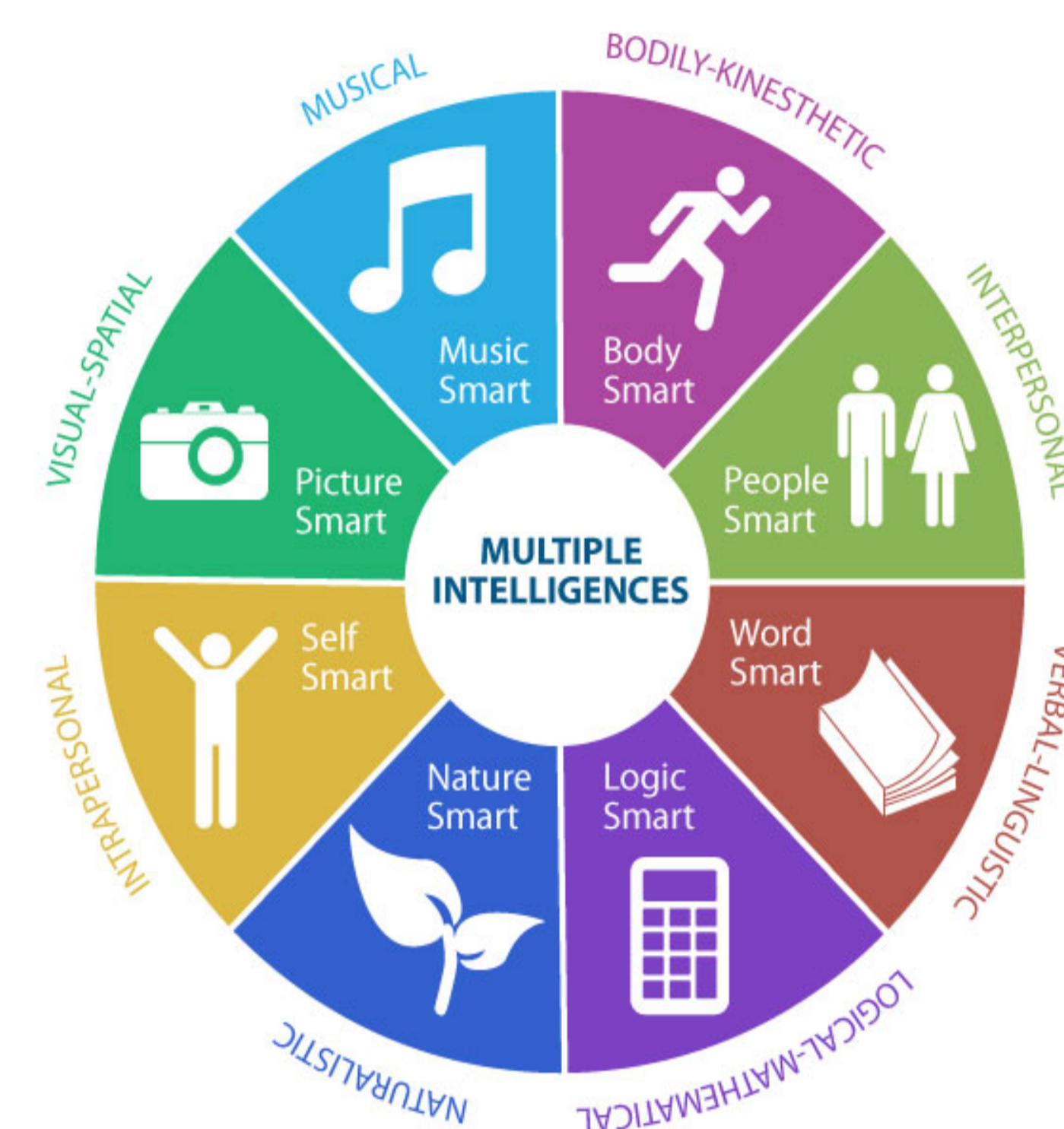
Traditional view of "Intelligence"	"Multiple Intelligences" Theory
People are born with a fixed amount of intelligence.	Human beings have all of the intelligences, but each person has a unique combination, or profile, of them.
Intelligence level does not change over a lifetime.	One can still improve some of the intelligences. Through deliberate practice, one can improve musical, athletic, or other intelligence areas from infancy.
Intelligence consists of ability in logic and language.	There are many more types of intelligence which reflect different ways of interacting with the world.
In traditional practice, teachers teach the same material to everyone.	All intelligence profiles have strengths and weaknesses. Teachers should teach differently, based on individual intellectual strengths and weaknesses.

Activities in the Language Classroom that cater to MI

linguistic intelligence word building games	logical-mathematical intelligence logical-sequential presentations
visual-spatial intelligence mind maps	bodily-kinaesthetic intelligence Interview exercises
musical intelligence Chants music listening to a music video	intrapersonal intelligence journal writing
Interpersonal intelligence group work team activities	naturalist intelligence categorizing activities

MI Associated Occupations

- Verbal/Linguistic Intelligence**
Mark Twain, Robert Frost, poets, writers, newscasters
- Logical-mathematical Intelligence**
Einstein, accounting, banking, medicine, scientific research
- Visual/Spatial Intelligence**
Martin Luther King (dreamer), artists, architecture, advertising
- Bodily/Kinesthetic Intelligence**
Mao Asada , dancers, dramatic acting, mime, physical education
- Musical/Rhythmic Intelligence**
Taylor Swift, music composers, music teachers, musical theatre
- Interpersonal Intelligence**
Billy Graham, counseling, politics, sociologists, therapists
- Intrapersonal Intelligence**
Dr. Phil, Psychiatry, spiritual counseling, philosopher
- Naturalist Intelligence**
Farmers, gardeners, florists, geologist, archaeologists



Intelligence Type	Capability and Perception
Linguistic	Words and Language
Logical-Mathematical	Logic and Numbers
Musical	Music, Sound, Rhythm
Bodily-Kinesthetic	Body movement control
Spatial-Visual	Images and Space
Interpersonal	Other people's feelings
Intrapersonal	Self awareness
Naturalist	Categorization and nature

MI インベントリー
それぞれの項目について、自分に当てはまるものを、下の1-6の中から選び、「回答」欄に、その数字を記入してください。

1→ まったくあてはまらない	4→ どちらかといえばあてはまる
2→ ほとんどあてはまらない	5→ かなりあてはまる
3→ どちらかといえばあてはまらない	6→ ぴったりあてはまる

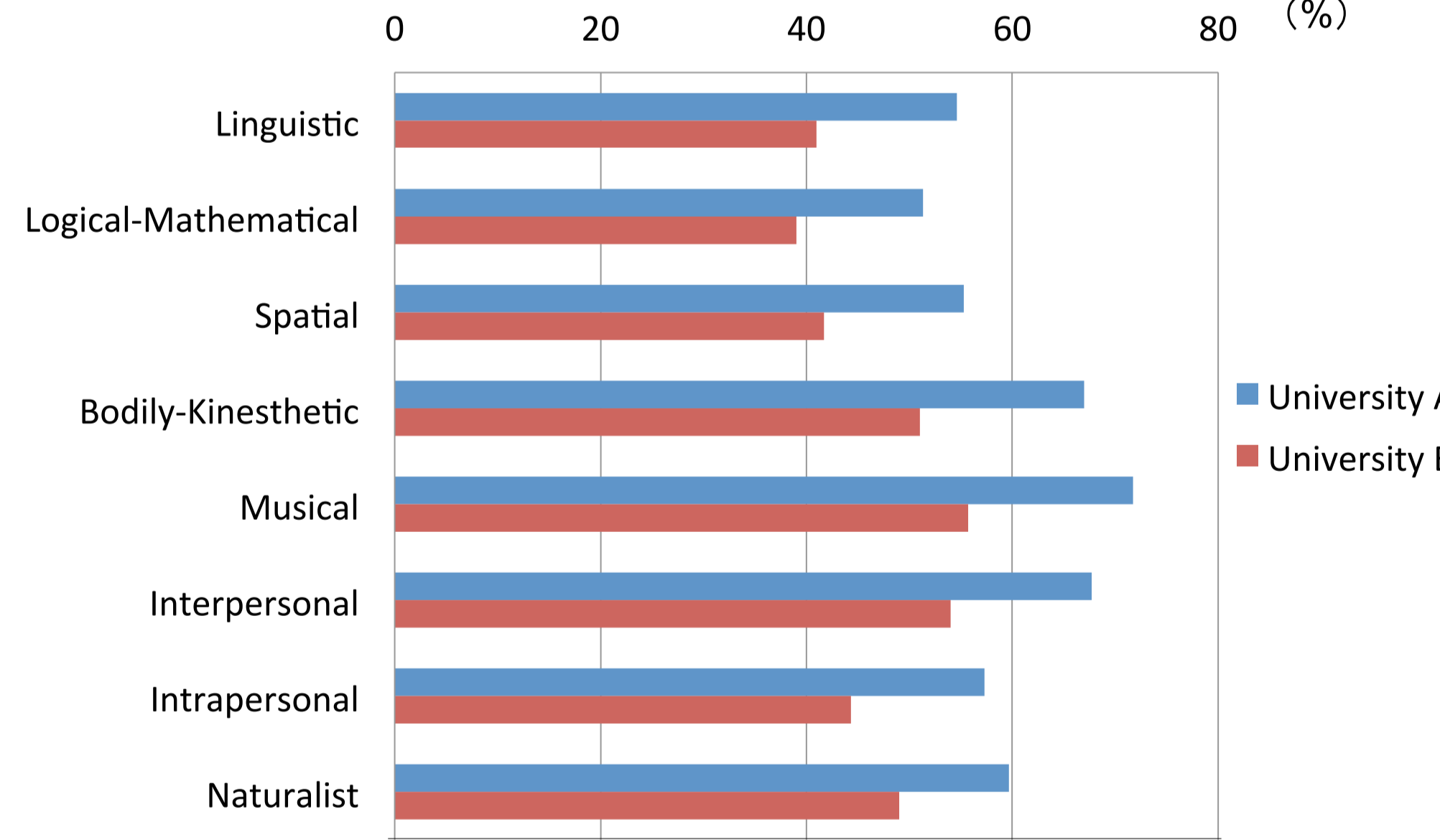
Key	質問	回答
D	1 プラモデルの組み立て、折紙、模型、手芸など、手を動かしてものを作るのが好きです。	
F	2 自分にとって得意な科目は数学で、人並みかそれ以上です。	
D	3 演習場で、ジャコブスターのような乗り物があります。	
C	4 方向感覚はいいので、初めての場所でも迷わずに迷わずにたどり着けます。	
C	5 少ない時間にも関わらず、目標のようものを作っています。	
H	6 動物が好きだし、動物にも話しかけたいです。	
H	7 キャンプやハイキング、釣りやスキーなど、アウトドアの活動が好きです。	
C	8 目を動かさなくても、はっきりと目で見てもらうのが好きです。	
H	9 動物が好きで、ゲームが好きです。	
H	10 ほとんどすべてのことは、論理的に説明できるものだと思います。	
H	11 計算が得意です。	
H	12 計算が得意です。	
F	13 歌うのが好きです。	
H	14 楽器が得意です。	
A	15 人と話すときには、自分が話したいことについて話します。	
C	16 自分は、言葉が上手に話せたり、自分の人柄が話せたりします。	
C	17 自分が話したいことについて話したいので、よく話を聞かれます。	
C	18 自分の長所や短所をよく知っています。	
D	19 長い時間にも関わらず、集中して話を聞かれます。	
F	20 一人でいるよりも、友達と話すのが好きです。	

Preliminary Results and Discussion

Preliminary results from the (MI) Inventory indicated that in both samples rankings were identical (Table 2) with intelligences such as interpersonal and bodily-kinesthetic, generally not directly linked to language acquisition found more prevalent than the standard linguistic intelligence with both groups. Interestingly linguistic and logical-mathematical intelligences, the two intelligences most strongly associated with language learning as well as standardized tests proved to be the least prevalent in both samples. Although the rankings were similar in both samples upon looking at the class percentage averages (see figure 2) another interesting finding was that the university considered higher ranking produced higher scores perhaps indicating a degree of higher confidence in their abilities.

Table 2
Preliminary Results Class Average

	University A	%	University B	%
Linguistic	16.4/30	54.6	12.3/30	41.0
Logical-Mathematical	15.4/30	51.3	11.7/30	39.0
Spatial	16.6/30	55.3	12.5/30	41.7
Bodily-Kinesthetic	20.1/30	67.0	15.3/30	51.0
Musical	21.5/30	71.7	16.7/30	55.7
Interpersonal	20.3/30	67.7	16.2/30	54.0
Intrapersonal	17.2/30	57.3	13.3/30	44.3
Naturalist	17.9/30	59.7	14.7/30	49.0



Key	質問	回答
H	1 カラオケや音楽、ダンス、歌謡、有線のような、集まるような活動が好きです。	
F	2 組み立て、折紙、模型、手芸など、手を動かしてものを作るのが好きです。	
D	3 演習場で、ジャコブスターのような乗り物があります。	
C	4 方向感覚はいいので、初めての場所でも迷わずに迷わずにたどり着けます。	
C	5 少ない時間にも関わらず、目標のようものを作っています。	
H	6 動物が好きだし、動物にも話しかけたいです。	
H	7 キャンプやハイキング、釣りやスキーなど、アウトドアの活動が好きです。	
C	8 目を動かさなくても、はっきりと目で見てもらうのが好きです。	
H	9 動物が好きで、ゲームが好きです。	
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MI Language Skills Activity Chart

MI	Listening	Reading	Writing	Speaking	Grammar	Vocabulary	Literature
Bodily-Kinesthetic	Learners listen to three sections of a tape in three different places then form groups to collaborate on their answers to a task.	Learners re-order a cut-up jumbled reading text.	Learners write stories in groups by writing the first sentence of a story on a piece of paper and passing it to another learner for communication.	Learners play a game where they obtain information from various places in the classroom and report back.	Learners play a board game with counters and dice to practice tenses.	Learners label objects in the classroom with names.	Learners create a similar scene to one they have read about and act it out (e.g. a conflict, a fire, you were let down).
Interpersonal	Learners check the answers to a finishing task in pairs or groups before listening a second time.	Learners discuss answers to questions on a text in groups.	Learners write a dialogue in pairs.	Learners read problem-page letters and discuss responses.	Learners do a 'find someone who...' activity related to a grammar point (e.g. present perfect) find someone who has been to Spain.	Learners test each other's vocabulary.	In groups, learners discuss their preferences for characters in a book.
Intrapersonal	Learners think individually about how they might have reacted, compared with someone on a video they have seen.	Learners reflect on characters in a text and how similar or different they are to them.	Learners write learning diaries.	Learners record a speech or talk on a cassette.	Learners complete sentences about themselves, practicing a grammar point (e.g. complete the sentence 'I am ... as ... (five times).	Learners make their own vocabulary booklet which contains words they think are important to learn.	Learners write a diary for a few days in the life of a character in a book.
Linguistic	Learners write a letter after listening to a text.	Learners answer two file questions about a text.	Learners write a short story.	In groups, learners discuss statements about a controversial topic.	The teacher provides a written worksheet on a grammar point.	Learners make mind maps of related words.	Learners rewrite part of a book, as a film script, with instructions for the director and actors.
Logical-Mathematical	Learners listen to three pieces of text and decide what the correct sequence is.	Learners compare two characters or opinions in a text.	Learners write steps in a process (e.g. a recipe) to create a story.	Learners in a group each have a picture. They discuss and re-order them, without showing them, to create a story.	Learners learn grammar inductively, i.e. they work out the grammar rule words by using discovery activities.	Learners make their own words they can think of related to another word (e.g. photograph).	Learners re-order a jumbled version of events in a chapter of a novel they have read.
Musical	Learners complete gaps in the lyrics of a pop song.	Learners listen to music extracts and decide how they relate to a text they have read.	Learners write the lyrics to an existing melody about a text or topic they have been dealing with in class.	Learners listen to a musical video clip with the TV control set and discuss which images might accompany the music.	Learners create a mnemonic or rhyme to help them remember a grammar point.	Learners decide which new words they would like to learn from a pop song.	Learners find a piece of appropriate music to accompany a passage from a book.
Naturalist	Learners listen to sound inside and outside the classroom and discuss what they have heard.	Learners work with text on environmental issues.	Learners write a text describing a natural scene.	Learners discuss an environmental issue.	Learners do an activity associated with nature (e.g. walk by the sea and write a story in the past tense about it).	Learners make a mind map with a word related to nature (e.g. bird, tree).	Learners read descriptions of nature as it is and then write their own.
Spatial	Learners complete a chart or diagram while listening.	Learners predict the contents of a text using an accompanying picture or photo.	Learners make a collage with illustrations and text about a place in their country.	Learners make a collage with illustrations and text about a place in their country.	The teacher illustrates a grammar point with a series of pictures (e.g. daily activities to show present simple).	Learners cut out a picture from a magazine and label it.	Learners draw a cartoon version of a story.

Tanner, R. (2001) <http://www.unsw.edu.au/cte/et/articles/Kforidou2/>.

Conclusions and Hints for the Future

The results illustrated that university level was not necessarily a factor in determining the prevalent MI for the nursing students in these two samples, as they were found to possess similar predominant MI not typically linked to language learning or entrance examinations. These findings indicate the benefits of reevaluating the current techniques employed within the existing ESP syllabus to aid in the development of more appropriate, student-centered teaching techniques that will appeal to kinesthetic, musical, interpersonal and other intelligences found to be stronger within these groups. Looking to the future it will be interesting to investigate if these modifications to the current syllabus will be successful in achieving an increase in language acquisition as well as learning motivation. The size of these samples was considered a limitation, looking to the future comparing the entire cohorts from both universities may offer more conclusive results.

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