

Multiple Intelligences (MI): Mapping the Pathway of Future Elementary Teacher Candidates

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ABSTRACT

This study on Multiple Intelligences of the teacher candidates of the College of Education of NEUST was conducted to dissect their internal mental qualities to help the Bachelor of Elementary Education (BEEd) Curriculum Program in determining whether they have the right and initial potential characteristics of a future elementary teacher. Determining their dominant, more dominant, and, most dominant Multiple Intelligences (MIs) using Gardner's test of MI will help teacher – mentors in planning instructional content, process, strategies, and assessments for them. Awareness of these teacher candidates on their MIs will help them appreciate their subject and preferences, teaching grade level preferences, and their learning styles.

Key words: Multiple Intelligences (MI), dominant MI, grade level preferences, teacher candidates

1. INTRODUCTION

The Theory of Multiple Intelligences (MI) of Howard Gardner brought enormous development and changes in the landscape of educational process specifically on the aspect classroom instructions [1]. Individual differences are highlighted and celebrated,

recognition of learning styles are observed and respected, cognitive processes are given more importance and emphasis [2]. Even assessment tools and process are being aligned and anchored to the multidimensional implications of MI. These are just some of the implications of MI [4-5]. So much had been studied about MI in relation to the benefits of the learners. In this

study, the MI is used to establish some information in relation to future Elementary Teachers [6]. It seeks to provide an inventory of their dominant qualities and preferences. Some relationships are being established to further prove its essential implications to future candidates of the teaching profession. Moreover, this study probes possible ways to nurture and strengthen the Elementary Teacher Program Curriculum [7].

Thus, this study aimed at exploring other applications of Multiple Intelligences in relation to the candidates of Elementary Teacher Education Program of the College of Education of Nueva Ecija University of Science and Technology.

Specifically, this study would answer the following questions:

1. How may teacher candidates be described in terms of their Multiple Intelligences?
2. How may teacher candidates be described in terms of their dominant Multiple Intelligences according to their year levels?
 - 2.1. BEEEd 2
 - 2.2. BEEEd 3
 - 2.3. BEEEd 4
3. How may teacher candidates be described in terms of their teaching grade level preferences?
 - 3.1. Early Childhood Education (Pre-Kindergarten and Kindergarten Levels)
 - 3.2. Special Education (Learners with Special Needs)
 - 3.3. Primary Levels (Grades 1 -3)
 - 3.4. Intermediate Levels (Grades 4 -6)
4. How may the teacher candidates be described in terms of their subject preferences?

- 4.1. Mathematics
- 4.2. Science
- 4.3. Social Studies/Araling Panlipunan
- 4.4. Filipino
- 4.5. English
- 4.6. Music, Arts Physical Education, and Health (MAPEH)
- 4.7. Araling Panlipunan/Social Studies
- 4.8. Edukasyon sa Pagpapakatao (EsP)/Values Education

2. METHODOLOGY

2.1. Research Model

The study covered respondents starting from the second year to fourth year levels in the Elementary Curriculum Program of the NEUST – College of Education. The total respondents were 178 elementary teacher candidates distributed as follows: Second Year Level – 90; Third Year Level – 74; and Fourth Year Level – 14.

2.2. Data Collection Tools

An assessment tool on Multiple Intelligences developed by Howard Gardner [8] was used in this study to generate data about the target respondents. The assessment tool consists of 90 items grouped in to 10 sub-components. The assessment was conducted during the second semester of School Year 2019 – 2020 from second year to fourth year levels.

Personal Information Form was added in the collection of data containing 7 items was prepared to secure needed information necessary in the interpretation of the of the results.

2.3. Data Analysis

In analysing the data, frequency distribution, percentage, and ranking were used in interpreting nominal and interval data. The use of SPSS 20 facilitated accurate and reliable tools for the analysis.

3. RESULTS AND DISCUSSION

The first table exhibits the spread out or distribution of Multiple Intelligences (MI) of all the respondents.

The first three dominant MI of all the respondents were identified. Respondents in the most dominant MI registered the following data: 68 for existential, 58 for interpersonal, 28 for logical mathematical while for the more dominant MI, 52 for interpersonal, 34 for existential and 25 for logical mathematical and lastly for the dominant MI, 47 for logical mathematical, 24 for bodily kinaesthetic and 22 for the naturalist.

Table 2 summarizes the different components of all the respondents' MI. This establishes a trend about their dominant MI. It gives a clearer view of the components of the different dominant MI as a whole of the whole respondents.

Generally, respondents' MIs are existential, interpersonal, and logical mathematical. Only the sequence of these MIs varies specifically between the most dominant and the more dominant MIs.

Percentage distributions of all respondents are spread out as follows: Existential (38%), Interpersonal (32%), and, Logical Mathematical (16%).

The overall percentage spreads of the dominant MI of all the respondents are: Logical Mathematical (26%), Bodily kinaesthetic (14%), and, Naturalist (12%).

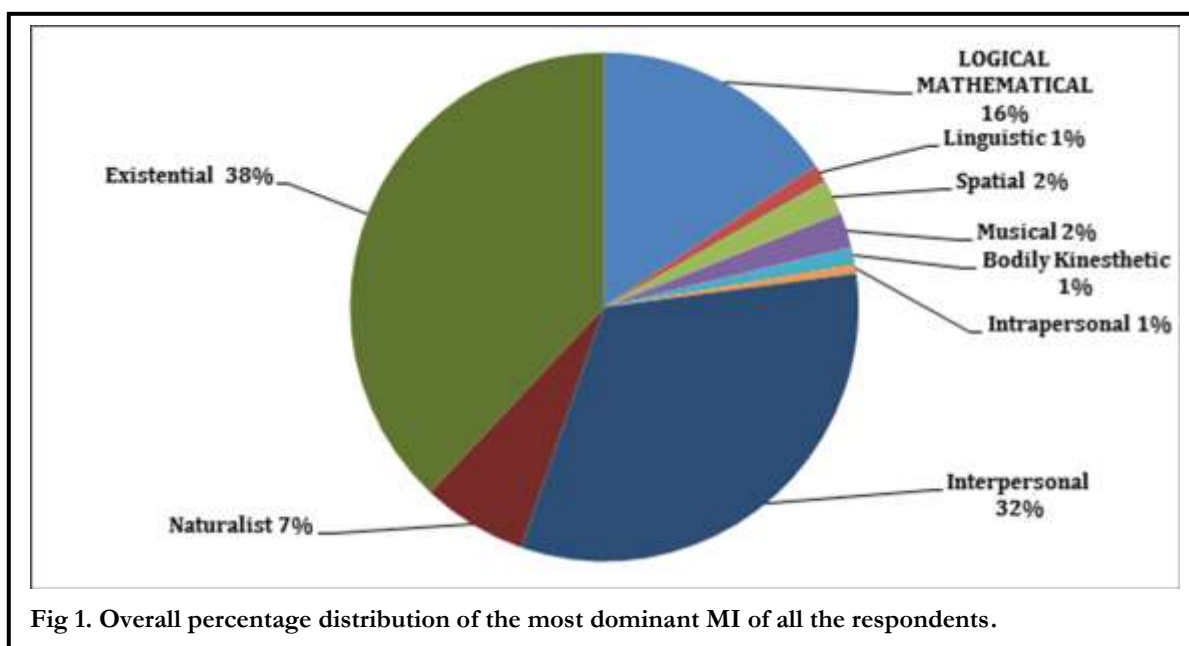
Based on Tables 1 & 2, and Figures 1 – 3, they all show consistency of respondents dominant MIs.

Table 1. Distribution of Multiple Intelligences of all the respondents.

Multiple Intelligences	Students having the most Dominant MI	Students having a more Dominant MI	Students having a Dominant MI
Logical Mathematical	28	25	47
Linguistic	2	17	18
Spatial	4	6	13
Musical	4	6	12
Bodily Kinesthetic	2	13	24
Intrapersonal	1	5	3
Interpersonal	58	52	20
Naturalist	12	21	22
Existential	68	34	20
Total	179	179	179

Table 2. Overall types of MIs of all the respondents

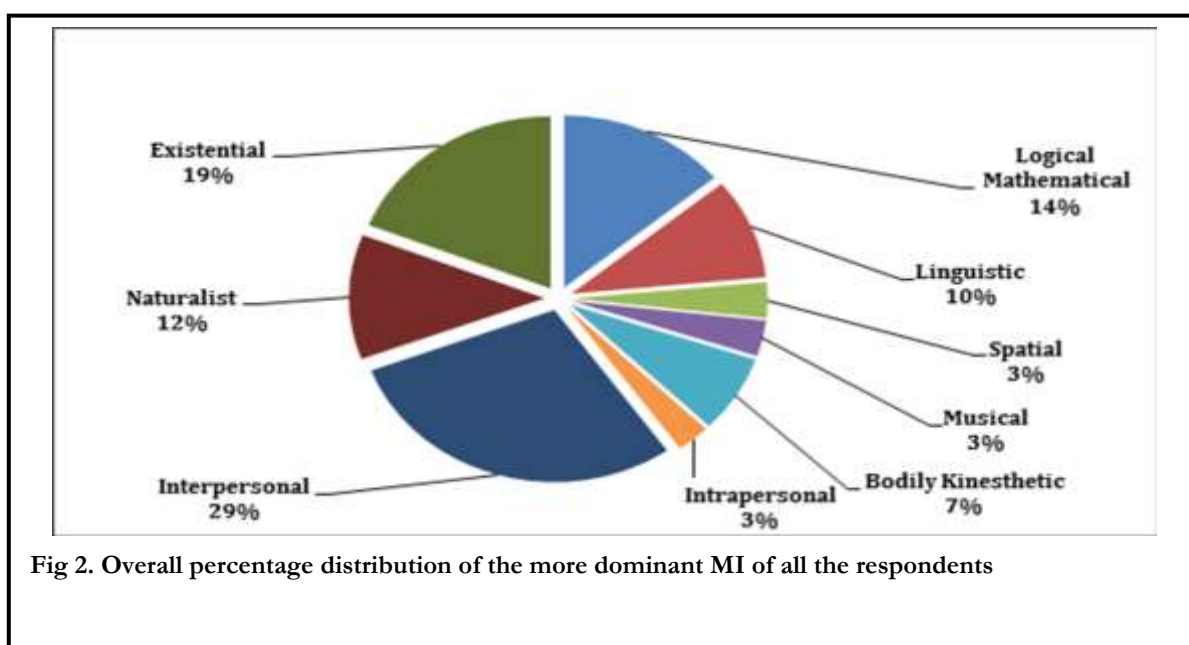
Most Dominant MI	More Dominant MI	Dominant MI
Existential	Interpersonal	Logical Mathematical
Interpersonal	Existential	Bodily kinaesthetic
Logical Mathematical	Logical Mathematical	Naturalist



The most dominant and more dominant MIs are very consistent. Since respondents' most and more dominant MIs are almost the identical, this tells that elementary teacher candidates establish their real dominant MIs in which their dominant MIs are existential, interpersonal and logical mathematical. The latter (logical mathematical) is the most consistent for it remains third from the dominant to the most dominant MIs.

Results show that teacher candidates are reflective thinkers, keen observant, goal setters, purpose driven, people sensitive, task oriented, risk managers among others. These basic qualities are pre-requisite attributes of teacher candidates which are needed for one to succeed and stay in the teaching profession.

Table 3. presents distribution of the of the respondents' dominant MIs for the second year



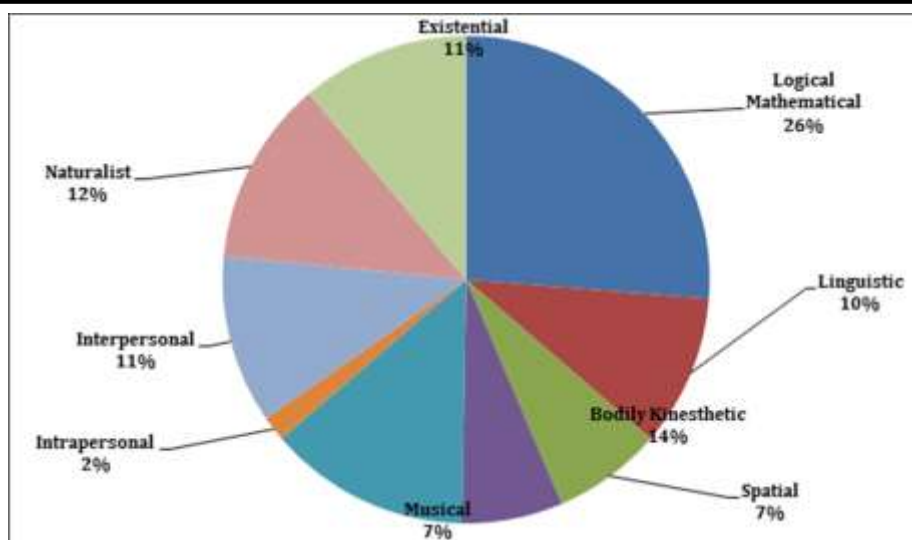


Fig 3. Overall percentage distribution of the dominant MI of all the respondents.

level only.

Results show that among the second year level only, the most dominant MIs are: Interpersonal (29); Existential (28), and, Logical Mathematical (17). In the more dominant MIs are: Interpersonal (25), Existential (19), and, Logical Mathematical (11). The dominant MIs are:

Mathematical Logical (28), Linguistic (13), and, Bodily kinaesthetic (11).

Table 4 exhibits the MIs of the second year teacher candidates. Results show that both the most and more dominant MIs are very identical. Students are consistent with their attributes whether in the most or more dominant MIs.

Table 3. Dominant MIs for second year teacher candidates

Multiple Intelligences	Students having the most dominant MI	Students having the more dominant MI	Students having the dominant MI
Logical Mathematical	17	11	28
Linguistic	1	9	13
Spatial	2	2	7
Musical	2	3	6
Bodily Kinesthetic	2	8	11
Intrapersonal	1	4	3
Interpersonal	29	25	9
Naturalist	8	9	10
Existential	28	19	3
Total	90	90	90

Table 4. Components of respondents' MIs for the second year level only

Most Dominant MI	More Dominant MI	Dominant MI
Interpersonal	Interpersonal	Logical Mathematical
Existential	Existential	Bodily kinaesthetic
Logical Mathematical	Logical Mathematical	Naturalist

Table 5. Dominant MIs for second year teacher candidates

Multiple Intelligences	Students having the most dominant MI	Students having the more dominant MI	Students having the dominant MI
Logical Mathematical	9	10	16
Linguistic	2	6	8
Spatial	3	5	5
Musical	1	5	5
Bodily Kinesthetic	1	4	10
Intrapersonal	1	1	2
Interpersonal	24	21	10
Naturalist	2	8	12
Existential	31	14	6
Total	74	74	74

Table 6. Components of respondents' MIs for the second year level only

Most Dominant MI	More Dominant MI	Dominant MI
<i>Existential</i>	<i>Interpersonal</i>	<i>Logical Mathematical</i>
<i>Interpersonal</i>	<i>Existential</i>	<i>Naturalist</i>
<i>Logical Mathematical</i>	<i>Logical Mathematical</i>	<i>Bodily kinaesthetic/Interpersonal</i>

In general, results among second year level corroborate the overall results that they have the needed attributes of future elementary teachers. Most of them are highly capable of doing human relations and interactions. Meaning, they are people oriented yet reflective at the same time [9]. Moreover, this establishes consistency on the types of intelligences as shown in the identical results of the most and more dominant MIs of the second year

respondents.

Table 5 presents the MIs of the third year level teacher candidates. The table reveals the following results about the third year's Multiple Intelligences: most dominant MI are - Existential (31), Interpersonal (24), Logical Mathematical (9); more dominant MI are - Interpersonal (21), Existential (14), Logical Mathematical; dominant MI are - Logical

Table 7. Dominant MIs for second year teacher candidates

Multiple Intelligences	Students having the most dominant MI	Students having the more dominant MI	Students having the dominant MI
Logical Mathematical	4	1	3
Linguistic	0	0	0
Spatial	1	0	0
Musical	2	0	1
Bodily Kinesthetic	0	2	2
Intrapersonal	0	0	0
Interpersonal	4	7	1
Naturalist	0	3	3
Existential	3	1	4
Total	14	14	14

Table 8. Components of respondents' MIs for the second year level only

Most Dominant MI	More Dominant MI	Dominant MI
<i>Interpersonal and Logical Mathematical</i>	<i>Interpersonal</i>	<i>Existential</i>
<i>Existential</i>	<i>Naturalist and Logical Mathematical</i>	<i>Naturalist and Logical Mathematical</i>
<i>Musical</i>	<i>Bodily Kinesthetic</i>	<i>Bodily Kinesthetic</i>

Mathematical (16), Naturalist (12), and Bodily Kinesthetic and Interpersonal.

Table 6 shares the MIs of the third year level teacher candidates. The table shows the following sequence of MI results: for the most dominant MIs - (1st) Existential, (2nd) Interpersonal, (3rd) Logical Mathematical; more dominant MIs - (1st) Interpersonal, (2nd) Existential, (3rd) Logical Mathematical; dominant MI - (1st) Logical Mathematical, (2nd) Naturalist, (3rd) Bodily kinaesthetic and Interpersonal.

Results show consistency between the most dominant MI and more dominant MI. The only

difference is the sequence of the first two MI (Existential and Interpersonal). The third MI (Logical Mathematical) is the most consistent among the first three MI based on the results in the most and more dominant MIs [10].

Table 7 displays the Multiple Intelligences of the fourth year teacher candidates. The table shows the following sequence of MI results among the fourth year level: for the most dominant MIs - (1st) Interpersonal and Logical Mathematical, (2nd) Existential, (3rd) Musical; more dominant MIs - (1st) Interpersonal, (2nd) Naturalist, (3rd) Bodily kinaesthetic; dominant MIs - (1st) Existential, (2nd) Naturalist and Logical

Table 9. Overall teaching grade level preference of all the teacher candidates

Teaching Grade Level Preference	Frequency
Early Childhood Education (Kindergarten)	29
Special Education (Learners with Special Needs)	4
Primary Level (Grade 1-3)	85
Intermediate Level (Grade 4-6)	61
Total	179

Table 10. Overall subject teaching preference of all the teacher candidates

Subject Preference	Frequency
Filipino	27
English	27
MAPEH	26
EsP/Values Education	48
EPP/TLE	11
Araling Panlipunan	10
Math	15
Science	15
Total	179

Mathematical, and, (3rd) Bodily kinaesthetic.

Table 8 shows the sequence of MIs from the most dominant, more dominant and dominant Multiple Intelligences. Results show that there is still consistency of the MIs among the Fourth Year which are Interpersonal, Existential and Logical Mathematical considering the sequence of MI from the most dominant to the dominant MIs.

Results prove that even the fourth year level, the type of Multiple Intelligences is in consonance with the general trend established in the overall results of all the teacher candidates.

Table 9 presents the overall teaching grade level preference of all the teacher candidates. Results on the overall teaching preferences of all the teacher candidates are as follows: 1st Preference – Primary Grade Level (85), 2nd Preference – Intermediate Level (61), 3rd Preference – Early childhood Education (29), and 4th Preference – Special Education (4).

Results from Table 9 reveals that most of the respondents preferred to be teaching in the primary grades (Grade 1 – 3) registering a frequency of 85 or equivalent to 48%. Moreover, the 16% or equivalent 29 respondents can be added to the primary grade because Early Childhood Education covers kindergarten to Grade 3.

Table 10 presents the overall subject preference when respondents be given the opportunity to teach to the grade level they want to handle. Results display the following subject preferences of the respondents which are accordingly as follows: EsP/Values Education

(48), Language: Filipino and English (both 27), MAPEH (26), Math and Science (both 15), EPP/TLE (11) and Araling Panlipunan (10).

Though elementary teachers are teaching all the subjects in a class, the subject preference will give an idea of the strength and weakness of the teacher candidates which can be enhanced and can still be addressed while they are still in the mentorship program.

The results on subject preferences are jiving and complementing with the overall most dominant MI (existential, interpersonal, Logical Mathematical), more dominant MI (Interpersonal, Existential, and Logical Mathematical), and dominant MI (Logical Mathematical, Bodily Kinesthetic, Naturalist) of the teacher candidates.

It is but logical that EsP or Values Education registered as the most preferred subject to be taught among the respondents since the first most dominant MI is existential.

Preference on teaching language (Filipino and English) as second in the list is still complementing with interpersonal MI because communication is absolutely needed in building relations with other people.

MAPEH is third most preferred subject to be taught it is because bodily kinaesthetic emerged in the dominant MI.

Mathematics is also in the list because Logical Mathematical is consistently present in the most dominant down to the dominant MIs.

Science, of which tied with Mathematics, is also in the list for it is registered in the dominant MIs of the teacher candidates.

4. CONCLUSION

The overall result of the test on MI developed by Gardner among the teacher candidates from the second year to fourth year levels reveals the kind of learners they are in which the most dominant MIs are: (1st in rank) Existential, (2nd in rank) Interpersonal, and (3rd in rank) Logical Mathematical. This is also identical with the more dominant MI results: (1st in rank) Interpersonal, (2nd in rank) Existential and (3rd in rank) Logical Mathematical. It is further reinforced by the results of the dominant MI which are as follows: (1st in rank) Logical Mathematical, (2nd in rank) Bodily Kinaesthetic and (3rd in rank) Naturalist.

This is backed up by the year level MI results as seen in the different tables and figures.

The above results of MI among teacher candidates are complementing with their subject preferences which are as follows: (1st in rank) EsP/Values Education, (2nd in rank) Language: Filipino and English, (3rd in rank) MAPEH, (4th in rank) Mathematics and Science, (5th in rank) EPP/TLE, and (6th in rank) Araling Panlipunan.

Results on the teaching grade preferences among the teacher candidates are as follows: (1st in rank) Primary Grades (Grade 1 to 3), (2nd in rank) Intermediate Grades (Grade 4 to 6), (3rd in rank) Early Childhood Education, (4th in rank) Special Education. Teaching grade preference is significant and crucial specifically

in the primary levels and early childhood education for these groups of teachers provide the initial foundation of the youngest group of learners. The attributes of this youngest group of learners must be compatible with the attributes of the teachers. Education is not just the transfer of knowledge but rather it is the transfer of life. The life of the teacher matters the most in this case then. This is the agenda of the mentorship among the teacher candidates.

With these initial findings on MI results of the teacher candidates the following are recommended:

1. Use the result to enhance the strengths of the teacher candidates. Provide programs suited to their Multiple Intelligences that will further nurture such initial strengths. Capitalizing these potentials of the teacher candidates in bringing it to its full functionality will help bring quality education in return. The teachers will become an asset to the school they become part with.
2. It is not only their strengths are being probed but also their limitations or weaknesses. Teacher mentors should provide remediation that will treat their limitations as teachers. Balancing their limitations by levelling it up will help them become multi - taskers. Meaning, they will become capable of doing not only within the dimensions of their strengths and potentials but even to areas within the dimension of their limitations or weaknesses. This process will make teacher candidates whole.

3. Whether an enhancement program or remediation program that intends to nurture strengths or offer help for weaknesses, it must be cascaded in the classroom instructions. It can be institutionalized by incorporating it in the different subject areas of the BEEEd Curriculum through cascading it by including it in the syllabi of the different subjects of the program.
4. Activities and assessments (formative or summative) must be aligned to the most dominant down to the dominant MIs of the teacher candidates and be observed in all the subject areas of the BEEEd Curriculum and/or classroom instructions.
5. Conduct additional study that measures the degree of MI development among the teacher candidates. It will help teacher mentors in preparing an enhancement program or remediation program for both the teacher – mentors and teacher candidates to be aware of the extent they have to work together in enhancing and improving the MI.

5. ACKNOWLEDGEMENT

NA

6. CONFLICT OF INTEREST

NA

7. SOURCE/S OF FUNDING

No source of funding

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