

Multiple Intelligence of Prospective Teachers

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Abstract

The present study aims to probe the multiple intelligence of prospective teachers. This study was carried out by survey method. The population for the investigation is the students studying Diploma in Teacher Education (D.T.Ed.) in teacher training institutes in Sivagangai district of Tamil Nadu, India. The investigator selected 400 prospective teachers by the simple random sampling technique. Multiple Intelligence Inventory was administered for collecting data which was developed by Walter L. McKenzie, Jr. (2012) and downloaded from the website <http://surfaquarium.com>. The inventory contains 90 statements whose responses can be used to measure the individual's multiple intelligences. For analyzing the data percentile analysis, 't' test and ANOVA were used as the statistical techniques in the SPSS package. The findings show that (i) male and female prospective teachers significantly differ in their verbal-linguistic intelligence, (ii) first year and second year prospective teachers significantly differ in their musical-rhythmical intelligence, (iii) rural and urban prospective teachers did not differ in their multiple intelligences, and (iv) Age group of 18 to 22, 23 to 27, and 28 to 34 years were significantly differing in their musical-rhythmical, intrapersonal and naturalistic intelligences.

KEYWORDS: multiple intelligence, prospective teachers, D.T.Ed. students

INTRODUCTION

Howard Earl Gardner set about studying intelligence in a systematic, multi-disciplinary and scientific manner, drawing from psychology, biology, neurology, sociology, anthropology and the arts and humanities. This resulted in the emergence of his theory of Multiple Intelligence (MI) as presented in the book *Frames of Mind* (Gardner, 1983). According to Gardner (1999) intelligence is much more than IQ because a high IQ in the absence of productivity does not equate to intelligence. In his definition "Intelligence is a bio-psychological potential to process information that can be activated in cultural settings to solve problems or create products that are of value in culture" (Cronbach, 1977, p.34).

MULTIPLE INTELLIGENCE

According to Howard Gardner (1983), "Intelligence is the ability to solve problems or to create products, which are valued within one or more cultural settings" (Baron, 1989, p.86). Gardner (1999) proposed and defined seven intelligences. They are Verbal-linguistic, Logical-mathematical, Visual-spatial, Bodily-kinesthetic, Musical-rhythmic, Interpersonal and Intrapersonal intelligence. Gardner is of the view that each of these seven 'intelligences' has a specific set of abilities that can be observed and measured. Gardner believes that there is no general intelligence rather, multiple, distinct intelligences. He claims that all human beings have Multiple

Intelligence. This Multiple Intelligence can be nurtured and strengthened or ignored and weakened.

SIGNIFICANCE OF THE STUDY

All students can learn and succeed but not all on the same day in the same way. Intelligence is the ability to see a problem, then solve a problem or make something that is useful to a group of people. Howard Gardner's theory of Multiple Intelligence identifies that there are many forms of intelligence and that people have varying strengths and combination of these. We can all improve each of the intelligence area than in others. Today, in this world of technological advancements Multiple Intelligence plays a vital role. Application of Multiple Intelligence theory helps students begin to understand how they are intelligent (Sivakumar, 2012). Multiple Intelligence theory makes its greatest contribution to education by suggesting that teachers need to expand their repertoire of techniques, tools and strategies beyond the typical linguistic and logical methods. If the teachers gained good preparation in their training itself only they will be efficient to teach various modes according to multiple intelligence and attract the students. So, the investigator aims to probe the multiple intelligence of prospective teachers.

OPERATIONAL DEFINITION

The investigator adopted the following definitions for the terms used in this title.

Multiple Intelligence

By the term 'Multiple Intelligence' the investigator means a set of skills such as Verbal-linguistic intelligence, Logical-mathematical intelligence, Visual-spatial intelligence, Bodily-kinesthetic intelligence, Musical-rhythmic intelligence, Interpersonal intelligence, Intrapersonal intelligence, Naturalistic intelligence and Existentialistic intelligence.

Prospective Teachers

Prospective Teachers are the student-teachers undergoing their Diploma in Teacher Education (D.T.Ed.) programme in teacher training institutes after their +2 from higher secondary schools.

OBJECTIVES

To find out if there is any significant difference in the multiple intelligence of prospective teachers in terms of background variables – gender, year of study, locality of residence and age.

HYPOTHESES

1. There is no significant difference between male and female prospective teachers in their multiple intelligence.
2. There is no significant difference between first year and second year prospective teachers in their multiple intelligence.
3. There is no significant difference between rural and urban prospective teachers in their multiple intelligence.
4. There is no significant difference among the prospective teachers in the age group of 18 to 22, 23 to 27, and 28 to 34 years in their multiple intelligence.

METHODOLOGY

This study was carried out by survey method. The Population for the investigation is the students studying Diploma in Teacher Education (D.T.Ed.) in Teacher Training Institutes in Sivagangai District of Tamil Nadu, India. The Investigator selected 400 prospective teachers by the simple random sampling technique. Multiple Intelligence Inventory was administered for collecting data which was developed by Walter L. McKenzie, Jr. (2012) and downloaded from the website <http://surfaquarium.com>. The inventory contains 90 statements whose responses can be used to measure the individual's Multiple Intelligences. For analyzing the data percentile analysis, 't' test and ANOVA were used as the statistical technique in the SPSS package.

DATA ANALYSIS AND FINDINGS

H₀ 1: There is no significant difference between male and female prospective teachers in their multiple intelligence.

TABLE – 1
DIFFERENCE BETWEEN MALE AND FEMALE PROSPECTIVE
TEACHERS
IN THEIR MULTIPLE INTELLIGENCE

Multiple Intelligence	Gender	N	Mean	SD	Calculated 't' value	Remarks at 5% level
Verbal-Linguistic	Male	76	33.82	6.74	2.00	S
	Female	324	35.31	5.63		
Logical-Mathematical	Male	76	28.93	6.54	0.30	NS
	Female	324	29.16	5.68		
Visual-Spatial	Male	76	37.70	6.96	1.25	NS
	Female	324	38.73	6.41		
Bodily-Kinesthetic	Male	76	35.01	5.20	1.41	NS
	Female	324	34.07	5.24		
Musical-Rhythmical	Male	76	37.25	7.97	1.12	NS
	Female	324	36.07	8.33		
Interpersonal	Male	76	43.33	6.89	1.81	NS
	Female	324	41.65	7.39		
Intrapersonal	Male	76	32.41	4.69	0.26	NS
	Female	324	32.60	6.25		
Naturalistic	Male	76	44.32	6.59	0.17	NS
	Female	324	44.16	7.38		
Existentialistic	Male	76	34.33	4.90	0.56	NS
	Female	324	34.73	5.77		

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated 't' values are less than the table value for logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmical, interpersonal, intrapersonal, naturalistic and existentialistic intelligences at 5% level of significance. Hence, the null hypothesis is accepted.

It is inferred from the above table that the calculated 't' value is greater than the table value for verbal-linguistic intelligence at 5% level of significance. Hence, the null hypothesis is rejected.

H₀ 2: There is no significant difference between 1st year and 2nd year prospective teachers in their multiple intelligence.

TABLE – 2
DIFFERENCE BETWEEN 1st YEAR AND 2nd YEAR PROSPECTIVE TEACHERS IN THEIR MULTIPLE INTELLIGENCE

Multiple Intelligence	Year of Study	N	Mean	SD	Calculated 't' value	Remarks at 5% level
Verbal-Linguistic	1 st Year	150	34.82	6.03	0.54	NS
	2 nd Year	250	35.15	5.79		
Logical-Mathematical	1 st Year	150	28.88	5.93	0.62	NS
	2 nd Year	250	29.26	5.80		
Visual-Spatial	1 st Year	150	38.57	7.09	0.07	NS
	2 nd Year	250	38.52	6.17		
Bodily-Kinesthetic	1 st Year	150	34.52	5.48	0.80	NS
	2 nd Year	250	34.09	5.09		
Musical-Rhythmical	1 st Year	150	37.67	8.52	2.59	S
	2 nd Year	250	35.47	8.01		
Interpersonal	1 st Year	150	41.72	7.59	0.52	NS
	2 nd Year	250	42.11	7.17		
Intrapersonal	1 st Year	150	32.64	5.50	0.19	NS
	2 nd Year	250	32.52	6.26		
Naturalistic	1 st Year	150	43.91	6.89	0.59	NS
	2 nd Year	250	44.36	7.44		
Existentialistic	1 st Year	150	34.57	6.33	0.23	NS
	2 nd Year	250	34.70	5.14		

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated 't' values are less than the table value for verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic and existentialistic intelligences at 5% level of significance. Hence, the null hypothesis is accepted.

The calculated 't' value is greater than the table value for musical-rhythmical intelligence at 5% level of significance. Hence, the null hypothesis is rejected.

H₀ 3: There is no significant difference between rural and urban prospective teachers in their multiple intelligence.

TABLE – 3
DIFFERENCE BETWEEN RURAL AND URBAN PROSPECTIVE TEACHERS IN THEIR MULTIPLE INTELLIGENCE

Multiple Intelligence	Locality	N	Mean	SD	Calculated 't' value	Remarks at 5%
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						level
Verbal-Linguistic	Rural	162	35.23	6.28	0.57	NS
	Urban	238	34.89	5.60		
Logical-Mathematical	Rural	162	28.62	5.70	1.41	NS
	Urban	238	29.45	5.94		
Visual-Spatial	Rural	162	38.91	6.25	0.94	NS
	Urban	238	38.29	6.70		
Bodily-Kinesthetic	Rural	162	34.24	5.24	0.03	NS
	Urban	238	34.26	5.25		
Musical-Rhythmical	Rural	162	35.88	7.64	0.82	NS
	Urban	238	36.57	8.67		
Interpersonal	Rural	162	41.54	6.76	0.95	NS
	Urban	238	42.25	7.69		
Intrapersonal	Rural	162	32.81	4.99	0.66	NS
	Urban	238	32.40	6.57		
Naturalistic	Rural	162	44.23	7.10	0.10	NS
	Urban	238	44.16	7.33		
Existentialistic	Rural	162	34.16	5.97	1.46	NS
	Urban	238	34.99	5.34		

(At 5% level of significance, the table value of 't' is 1.96)

It is inferred from the above table that the calculated 't' values are less than the table value for verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmical, interpersonal, intrapersonal, naturalistic and existentialistic intelligences at 5% level of significance. Hence, the null hypothesis is accepted.

H₀ 4: There is no significant difference among the prospective teachers in the age group of 18 to 22, 23 to 27, and 28 to 34 years in their multiple intelligence.

TABLE – 4
DIFFERENCE AMONG THE PROSPECTIVE TEACHERS IN THE
AGE GROUP OF 18 TO 22, 23 TO 27, AND 28 TO 34 YEARS IN THEIR
MULTIPLE INTELLIGENCE

Multiple Intelligence	Source of Variance	Sum of Squares	MSV	df	Calculated 'F' value	Remarks at 5% level
Verbal-Linguistic	Between	1.77	0.89	2	0.03	NS
	Within	13773.98	34.70	397		
Logical-Mathematical	Between	179.50	89.75	2	2.65	NS
	Within	13459.21	33.90	397		
Visual-Spatial	Between	24.03	12.01	2	0.28	NS
	Within	16935.41	42.66	397		
Bodily-Kinesthetic	Between	26.46	13.23	2	0.48	NS
	Within	10926.54	27.52	397		
Musical-Rhythmical	Between	614.09	307.05	2	4.58	S
	Within	26638.68	67.10	397		
Interpersonal	Between	14.09	7.05	2	0.13	NS
	Within	21387.42	53.87	397		

Intrapersonal	Between	215.66	107.83	2	3.05	S
	Within	14048.52	35.39	397		
Naturalistic	Between	13.80	6.90	2	0.13	NS
	Within	20847.76	52.51	397		
Existentialistic	Between	472.30	236.15	2	7.76	S
	Within	12080.09	30.43	397		

(At 5% level of significance for 2,397 df the table value of 'F' is 3.00)

It is inferred from the above table that the calculated 'F' values are less than the table value for verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, interpersonal and existentialistic intelligences at 5% level of significance. Hence, the null hypothesis is accepted.

The calculated 'F' values are greater than the table value for musical-rhythmical, intrapersonal and naturalistic intelligences at 5% level of significance. Hence, the null hypothesis is rejected.

INTERPRETATIONS

Male and female prospective teachers were significantly differs in their verbal-linguistic intelligence, but they did not differ in their logical-mathematical, visual-spatial, bodily-kinesthetic, musical-rhythmical, interpersonal, intrapersonal, naturalistic and existentialistic intelligences. This finding corroborates the finding of Sivakumar & Arunachalam (2012).

First year and second year prospective teachers were significantly differs in their musical-rhythmical intelligence, but they did not differ in their verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, interpersonal, intrapersonal, naturalistic and existentialistic intelligences.

Rural and urban prospective teachers did not differ in their multiple intelligences. This finding contradicts the finding of Gracious & Shyla (2012) and Sivakumar & Arunachalam (2012).

Age group of 18 to 22, 23 to 27, and 28 to 34 years were significantly differing in their musical-rhythmical, intrapersonal and naturalistic intelligences, but they did not differ in their verbal-linguistic, logical-mathematical, visual-spatial, bodily-kinesthetic, interpersonal and existentialistic intelligences.

CONCLUSION

Multiple Intelligence theory says that students can be intelligent in diverse ways. In the technologically sophisticated modern work fields, this intelligence can play a vital role. With an understanding of Gardner's theory of Multiple Intelligence, teachers, school administrators and parents can better understand the learners in their midst. They can allow the students to safely explore and learn in many ways and they can help students direct their own learning. Adults can help students understand and appreciate their strengths, and identify the real-world activities that will stimulate more learning.

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