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MULTIPLE INTELLIGENCES OF UNDERACHIEVERS AND OVERACHIEVERS IN SECONDARY SCHOOL ENGLISH

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ABSTRACT

Underachievement as a phenomenon among school students exists in all subjects, but it is more pronounced in English, especially among students whose medium of learning is vernacular. The multiple intelligences-based instruction has been suggested as a remedy for overcoming the achievement discrepancy in English among EFL learners. This requires understanding the multiple intelligences of underachievers in English in comparison with their overachieving counterparts. The study aims to compare underachievers and overachievers in English with respect to their multiple intelligences. The participants of the study consisted of 85 underachievers and 77 overachievers in English, separated statistically by employing regression method from a larger sample of 447 ninth grade students of Kerala. Data were collected by administering Multiple Intelligences Scale for Secondary School Students, developed by the investigator. Inferential analysis by employing independent sample t-test revealed that underachievers and overachievers in English differed significantly in their Verbal-linguistic intelligence, Visual-spatial intelligence, Intrapersonal intelligence, Interpersonal intelligence and Naturalistic intelligence. The overachievers excel the underachievers in all the five components of multiple intelligences. The underachievers and overachievers in English were found almost alike in their Logical-mathematical intelligence, Bodily-kinesthetic intelligence, Musical intelligence, Existential intelligence and Moral-ethical intelligence.

INTRODUCTION

In spite of the ever increasing demand of English, quality of English education in Indian schools is in its worst form, achievement in English in our students remain inferior. Among students who learn English as a compulsory subject under the three language formula in India, English is the most difficult subject where academic failure is phenomenal. In Indian schools where vernacular is the medium of instruction, achievement in English is 2 to 4 standard deviations below the average achievements in other school subjects (Joxy, 2014). The discrepancy between learners' potential to acquire English as a second language and his/her actual achievement in English classroom is termed as Underachievement in English. Some researchers have taken low performance on standardized tests as a benchmark for underachievement of English learners (eg: Gillies, 2008; Smith, 2007; Lindholm-Leary & Borsato, 2006).

Underachievement as a phenomenon among school students exists in all subjects, but it is more pronounced in English, especially among students whose medium of learning is vernacular (Joxy, 2014; Ronquillo, 2015). Underachievement in English carries a strong undertone of poor scholastic performance affected by psychological, cultural, and socioeconomic factors. The phenomenon appears in the form of academic performance of struggling English learners who are faced with significant barriers that impede educational access and participation in meaningful learning. They struggle to perform on par with their peers due to a number of limitations including inadequate English language proficiency, lack of prior schooling, socioeconomic issues, and inequitable educational practices. Ballantyne, Sanderman, and Levy (2008) pointed out limited access to socio-cultural resources such as low income, non-English speaking family background, lack of extra-curricular support, limited parent education, poor educational experiences and interactions at home etc. as significant contributors of underachievement in English. The study of Babansky (2007) attributed 22% of the causes of underachievement in English to family and health of the learner, whereas teaching efficiency the major villain being defective classroom teaching. Higher incidence of underachievement in English among economically disadvantaged, culturally diverse, and marginalized group has been reported by earlier studies such as those conducted by Garcia (2001), Gonzalez and Soltero (2011), Li (2005), Waxman, Padron, and Garcia (2007), Young, Lakin, Courtney and Martiniello (2012) etc.

Research is active in the area of underachievement, which mostly focus on addressing learning styles or classroom motivational techniques for minimizing the mismatch between ability and achievement. Gardner's Multiple Intelligences (MI) Theory is an effective model for developing systematic approach to teaching underachievers by addressing their individual needs and strengths in a classroom setting. The MI-theory envisages that every learner is smart to varying degrees of expertise in each of the intelligences, stronger in some ways and less developed in in others. Remediation for underachievement in English among second language learners requires verifiable and demonstrable evidences stemming from scientific research carried out in actual classroom situation. MI based classroom instruction to overcome underachievement in English requires understanding underachievers in terms of their multiple intelligences, which is best possible by comparing them with overachievers in their multiple intelligences. This study is a modest attempt to this direction.

OBJECTIVES OF THE STUDY

The main objective of the study is to find out the multiple intelligences that differentiate between underachievers and overachievers in secondary school English.

HYPOTHESIS OF THE STUDY

The null hypothesis formulated for the study is stated as follows: "There is no significant difference between underachievers and overachievers in English with respect to their multiple intelligences".

METHODOLOGY

METHOD

A descriptive research design which followed normative survey method was employed for the study.

Population

Discrepant achievers (underachievers and overachievers) in English studying in 9th grade in schools affiliated to the Board of Secondary Education, Govt. of Kerala (India), is the population of the study.

Sample

The sample for the study comprised 85 underachievers and 77 overachievers in English, separated statistically from a larger sample of 447 ninth grade students selected randomly form the population.

Tools Used

a) Multiple Intelligences Scale for Secondary School Students (MIS): The multiple intelligences of the participants were assessed by the Multiple Intelligences Scale for Secondary School Students, developed by Heera and Arjunan (2017). It is a 100-item standardised instrument developed by the investigators for the purpose of the study. It assesses 10 components of multiple intelligences such as Verbal-linguistic intelligence, Logical-mathematical intelligence, Visual-spatial intelligence, Bodily-kinesthetic intelligence, Musical intelligence, Intrapersonal intelligence, Interpersonal intelligence, Naturalistic intelligence, Existential intelligence, and Moral-ethical intelligence. The MIS has a concurrent validity of 0.76 and component wise test re-test reliability varying from 0.77 to 0.92.

b) Raven's Progressive Matrices Test of Intelligence: The discrepant achievers in English were identified by regression method. It consumed secondary data pertaining to English achievement and intelligence of participants measured by the Progressive Matrices Test of Intelligence, developed by Raven (1958). It is a 60-item non-verbal test of intelligence having a validity ranging from 0.84 to 0.91 and split-half reliability varying from 0.79 to 0.86.

Procedure

Identification of discrepant achievers (underachievers and overachievers) in English was done on the basis of the average score obtained for English in two Unit Tests and the Intelligence Test (Raven's Progressive Matrices Test) score secured by each student. The Regression Method suggested by Farquhar (1963) was adopted to classify the participants into three levels of English achievement, viz., underachievers, normal achievers, and overachievers. It is based on the deviation of the students' score from the regression line of the achievement measure on the intelligence score. Students are considered as underachieving if this deviation is negative and greater than one standard error of estimate (σ esty). Overachievers, on the contrary, are those whose deviation is positive and greater than one standard error of the estimate. The mathematical equation given by the SPSS output for the regression line is Y = 20.891 + 0.81 X. The standard error of the estimate (σesty) computed is 12.843, which is rounded as 12.8. The multiple intelligences scale (MIS) was administered on all the categories of achievers under standard conditions, and the responses of normal achievers were discarded from scoring and data consolidation. The component wise scores of the MIS for underachievers and overachievers in English were consolidated and analyzed with the help of SPSS 21.0.

ANALYSIS AND INTERPRETATION

Descriptive Analysis

The important statistical indices such as Mean (M), Median (Md), Standard Deviation (σ), Skewness (Sk), Kurtosis (Ku), Standard error of Mean (SE_M) and Population values of the Mean (M_{POP}), calculated from the scores obtained on the Multiple Intelligences Scale for Secondary School Students (MIS) for Underachievers (UA) and Overachievers (OA) are presented in Table 1.

Table 1: Statistical Indices Pertained to Multiple Intelligences of Underachievers (N = 85) and Overachievers (N = 77)

No.	MI Component	Group	Range	M	Md	σ	Sk	Ku	SE_M	M_{POP} .05
1	Verbal-linguistic Intelligence	UA	16	26.40	27.0	3.99	-0.12	-0.75	0.43	25.54 - 27.26
		OA	17	28.55	28.0	4.12	0.49	-0.45	0.47	27.61 - 29.48
2	Logical-mathematical Intelligence	UA	19	22.02	22.0	4.44	0.82	0.19	0.48	21.07 - 22.98
		OA	19	22.84	23.0	3.69	0.09	0.35	0.42	22.01 - 23.68
3	Visual-spatial Intelligence	UA	15	26.24	26.0	3.52	0.17	-0.17	0.38	25.48 - 26.99
		OA	18	27.74	28.0	3.68	0.07	0.07	0.42	26.91 - 28.58
4	Bodily-kinesthetic Intelligence	UA	18	23.36	23.0	3.53	0.45	0.71	0.38	22.60 - 24.13
		OA	16	23.13	23.0	3.37	-0.21	-0.04	0.38	22.37 - 23.89
5	Musical Intelligence	UA	15	20.32	20.0	3.16	0.12	-0.30	0.34	19.64 - 20.99
		OA	17	20.21	21.0	3.70	0.13	-0.49	0.42	19.37 - 21.05
6	Intrapersonal Intelligence	UA	14	20.33	20.0	3.36	0.30	-0.75	0.36	19.61 - 21.05
		OA	16	23.13	24.0	3.77	-0.37	-0.84	0.43	22.27 - 23.99
7	Interpersonal Intelligence	UA	14	23.52	24.0	3.57	0.11	-0.64	0.39	22.75 - 24.29
		OA	16	24.99	25.0	3.57	0.11	-0.25	0.41	24.18 - 25.79
8	Naturalistic Intelligence	UA	18	25.72	26.0	3.68	0.29	0.21	0.40	24.92 - 26.51
		OA	18	27.65	27.0	3.96	0.61	0.23	0.45	26.75 - 28.55
9	Existential Intelligence	UA	12	16.81	17.0	2.10	0.20	0.58	0.23	16.36 - 17.27
		OA	12	17.06	17.0	2.76	0.29	-0.33	0.32	16.44 - 17.69
10	Moral-ethical Intelligence	UA	22	24.09	24.0	5.36	0.43	-0.51	0.58	22.94 - 25.25
		OA	16	25.13	25.0	4.00	0.18	-0.49	0.46	24.22 - 26.04

The result of the analysis shows that the Underachievers and Overachievers in English are heterogeneous with regard to the distribution of their multiple intelligences. In both Underachievers and Overachievers the lowest range estimated is 12, for the existential intelligence. Whereas the highest range estimated is for moral-ethical intelligence (Range = 22) for the Underachievers, the highest range estimated for the Overachievers are for logical mathematical intelligence (Range = 19). In Underachievers, the lowest score (12) obtained is for existential intelligence while the highest score (37) is for moral-ethical intelligence. In Overachievers, the lowest and highest scores were obtained for existential intelligence (12) and verbal-linguistic intelligence (38). The distributions of all the multiple intelligences, except verbal-linguistic intelligence, in Underachievers are positively skewed. In Overachievers, the distributions of intrapersonal intelligence and bodily-kinaesthetic intelligence are negatively skewed, while the remaining MI components are positively skewed. Since the skewness of all the MI components in both Underachievers and Overachievers lie between –½ and +½ , the distributions are normal.

Inferential Analysis

The underachievers and overachievers in English were compared with respect to different components of their multiple intelligences, so as to find out the significant difference, if any, between the discrepant achievers. The data and results of the independent sample t-tests performed in this context is presented in Table 2.

Table 2: Comparison of the Multiple Intelligences of Underachievers (UA) and Overachievers (OA) in English

No.	MI Component	Groups	Statistical Indices			t-value	Sig.
			N	M	SD		
1	Verbal-linguistic intelligence	UA	85	26.40	3.99	3.369	.01
		OA	77	28.55	4.12		
2	Logical-mathematical intelligence	UA	85	22.02	4.44	1.271	NS
		OA	77	22.84	3.69		
3	Visual-spatial intelligence	UA	85	26.24	3.52	2.658	.01
		OA	77	27.74	3.68		
4	Bodily-kinesthetic intelligence	UA	85	23.36	3.53	0.432	NS
		OA	77	23.13	3.37		
5	Musical intelligence	UA	85	20.32	3.16	0.204	NS
		OA	77	20.21	3.70		
6	Intrapersonal intelligence	UA	85	20.33	3.36	4.998	.001
		OA	77	23.13	3.77		
7	Interpersonal intelligence	UA	85	23.52	3.57	2.615	.01
		OA	77	24.99	3.57		
8	Naturalistic intelligence	UA	85	25.72	3.68	3.217	.01
		OA	77	27.65	3.96		
9	Existential intelligence	UA	85	16.81	2.10	0.660	NS
		OA	77	17.06	2.76		
10	Moral-ethical intelligence	UA	85	24.09	5.36	1.383	NS
		OA	77	25.13	4.005		

The t-values obtained on comparing the Underachievers (UA) and Overachievers (OA) in English with respect to the five MI components are significant. These multiple intelligences components are: Verbal-linguistic intelligence (VLI: $t = 3.369$; $p<0.01$), Visual-spatial intelligence (VSI: $t = 2.658$; $p<0.01$), Intrapersonal intelligence (IAP: $t = 4.998$; $p<0.01$), Interpersonal intelligence (IEP: $t = 2.615$; $p<0.05$), and Naturalistic intelligence (NAI: $t = 3.217$; $p<0.01$). In all the above instances the Overachievers excelled the Underachievers. No significant differences were found to exist between the Underachievers and Overachievers in rest of the multiple intelligences components, that is, Logical mathematical intelligence (LMI: $t = 1.271$; $p>0.05$), Bodily-kinaesthetic intelligence (BKI: $t = 0.432$; $p>0.05$), Musical intelligence (MUI: $t = 0.204$; $p>0.05$), Existential intelligence (EXI: $t = 0.660$; $p>0.05$), and Moral-ethical intelligence (MEI: $t = 1.383$; $p>0.05$).

Tenability of the Hypothesis

The results of the independent sample t-tests performed to compare the Underachievers and Overachievers with respect to the different components of multiple intelligences revealed that the groups differ significantly in five out of the 10 multiple intelligences components, while no significant difference was observed between the discrepant achievers in the remaining five MI components. The hypothesis formulated in this context, viz., "*there is no significant difference between underachievers and overachievers in English with respect to their multiple intelligences*" is, therefore, partially substantiated.

CONCLUSION

Underachievers and Overachievers in English differ significantly in their Verbal-linguistic intelligence ($t = 3.369$; $p<.01$), Visual-spatial intelligence ($t = 2.658$; $p<.01$), Intrapersonal intelligence ($t = 4.998$; $p<.001$), Interpersonal intelligence ($t = 2.615$; $p<.01$), and Naturalistic intelligence ($t = 3.217$; $p<.01$). The overachievers excel the underachievers in all the five components of multiple intelligences. The underachievers and overachievers in English are almost alike in their Logical-mathematical intelligence ($t = 1.271$; $p>.05$), Bodily-kinesthetic intelligence ($t = 0.432$; $p>.05$), Musical intelligence ($t = 0.204$; $p>.05$), Existential intelligence ($t = 0.660$; $p>.05$), and Moral-ethical intelligence ($t = 1.383$; $p>.05$). These findings go in agreement with the observations of the earlier studies such as those conducted by Iniesta, Lopez, Corbi, Perez and Castejon (2017), Dittrich (2014), Lu, Weber, Spinath and Shi (2011). Gardner (2011) and Armstrong (2009) have pointed out the capacity to use language effectively in oral and written form as a limiting factor in school achievement in spite of one's cognitive intelligence. The differences in verbal-linguistic intelligence enables students to love words and use them as a primary way of thinking and solving problems. Learners smart in learning and using vocabulary and phrases will have the advantage of solving multifaceted problems concurrent with higher achievement in English. The study of Erlina et al. (2019) supports this observation. Learners with higher sensitivity to spoken and written language and the ability to use language to accomplish learning goals will score more in language class compared to learners who trail behind in such abilities. Visual-spatial intelligence enables learners to understand and remember the spatial relationship among objects. Learners with increased ability for spatial organization and visual manipulation of scenes, images and themes will able to assimilate the content of English textbook better than those who drop back in such abilities. Pishghadam (2009) consider intrapersonal intelligence as ability that allows a person to understand and work with oneself, and interpersonal intelligence as ability that enable the person to know feelings, desires and motives of others. Differences in the level of intrapersonal and interpersonal intelligences are likely to cause achievement discrepancy in language due to differences in the manner the learners understand the feelings, emotions, desires, goals and motives of various characters depicted in the stories, poems, episodes, plays, narrations etc. in the English Textbooks.

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