

Effect of Activity Based Instruction on Multiple Intelligences of Underachievers in English

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Abstract:

The study aimed to find out the effectiveness of activity based instruction (ABI) on multiple intelligences of underachievers in English, in comparison to the behaviourist method of teaching (BMT). The non-equivalent pre-test post-test control group design was adopted for the study, wherein two groups of underachievers in English, separated statistically by using the regression method from a larger sample of 447 ninth grade students, were assigned to control group (n = 41) and experimental group (n = 44). Pedagogic intervention consisted of three selected units (36 lessons) of the prescribed English textbook was given to the control group by employing traditional behaviourist method and to the experimental group by employing the ABI method. Pre-testing and post-testing of the multiple intelligences were done by administering the Multiple Intelligences Scale for Secondary School Students, developed by the investigators. Statistical analysis by employing one-way ANCOVA exposed that activity based instruction is more effective than behaviourist method of teaching in strengthening the verbal-linguistic intelligence, intrapersonal intelligence and interpersonal intelligence of underachievers in English. The ABI and BMT are almost alike with respect to the remaining seven multiple intelligences of underachievers in English.

Index Terms: Activity based instruction, Behaviourist method of teaching, Multiple intelligences, Underachievers in English.

1. INTRODUCTION

In spite of the ever increasing need for functional proficiency of English in the globalized society, low achievement and underachievement are phenomenal in English as a school subject. The discrepancy between learners' potential to acquire English as a foreign language/second language and his/her actual achievement in English classroom is termed as Underachievement in English. Compared to other school subjects, underachievement in English is more pronounced among English as foreign language/second language learners (Ronquillo, 2015). Many scholars have pointed out lack of learning motivation and study strategies as a factor contributing significantly to underachievement in second language classes (eg: Dornyei & Ushioda, 2011; Doro, 2010; Crosling, Edwards & Schroder, 2008; Guilloteaux & Dornyei, 2008). 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. The success of activity based instruction (ABI) in optimising the school outcome of underachievers have been well documented in research literature (e.g.: Okoro, 2019; Coskun & Eker, 2018; Hansraj, 2017; Cakmak, 2016; Madkour & Mohammed, 2016; Saricoban & Karakurt, 2016; Yurt & Polat, 2015; Kim, Songsook & Young, 2015; Hussain, Anwar & Majoka, 2011). Studies have identified the potential of ABI in promoting critical thinking and creative ability in learners (Anwer, 2019; Cheng, 2011). However, this method will not function properly if students are not motivated enough to achieve their actual potential. Fundamental difference exists between underachievers and overachievers the relationship between their ability and achievement. The impact that an ABI class leave on an underachiever and an overachiever will, therefore, be different in their magnitude, direction or in both.

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 includes the notion that each learner is smart in all different types of intelligences. Every learner is smart to varying degrees of expertise in each of the intelligences, stronger in some ways and less developed in others. The heredity influences the way the brain is neurologically wired, but it is the exposure to educational environment that determines to what level each of these intelligences should grow and flourish. If the learning environment is appropriate for the flourishing of a given component intelligence, the individual will turn out to be stronger in that particular component of the multiple intelligences. An active classroom with diversified learning experiences will foster different intelligences to different extent depending upon the level of neurological basement laid down by individual's heredity. Researches in the area of multiple intelligences shows that a learner can become more intelligent in more ways, a learner can become more skilful in all component intelligences. This is possible by providing a planned cycle of learning experiences and opportunities which foster each and every component of multiple intelligences, and by making these experiences and opportunities available to each learner in the classroom. It reveals that, rich and active classroom experiences will not only take the learner to improved achievement, but also strengthen the multiple intelligences of learner. Since no much systematic investigation has been done in this direction, the present study is a modest attempt to investigate the effect of ABI on the multiple intelligences of underachievers in English.

2. OBJECTIVE OF THE STUDY

The major objective of the study is to find out the effect of activity based instruction on multiple intelligences of underachievers in English.

3. HYPOTHESIS OF THE STUDY

The null hypothesis formulated for the study is stated as follows: “Activity based instruction has no significant effect on the multiple intelligences of underachievers in English”.

4. METHODOLOGY

4.1 Method

The study adopted a quasi-experimental (non-equivalent pre-test post-test control group) design.

4.2 Population

Underachievers in English studying in 9th grade in schools affiliated to the Board of Secondary Education, Govt. of Kerala, is the population of the study.

4.3 Participants

The participants of the study were underachievers in English (ninth grade) from two conveniently selected schools from Aluva Educational district in Ernakulam revenue district, Kerala (India). The schools were randomly assigned as control school and experimental school with 41 underachievers in English in the control group and 44 underachievers in English in the experimental group.

4.4 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.
- c) **Lesson Transcripts for Activity Based Instruction:** The investigator developed a series of 36 lesson transcript based on three selected units from the English textbook prescribed for ninth grade students. The unit covers two autobiographies, two poems, and one each of short-story, play and anecdote. The ABI Lesson Transcripts were developed by synthesising the guidelines put forth by different educational agencies and researchers, instead of strictly adhering to any one.

4.5 Procedure

Identification of underachievers in English in the control group and experimental group were 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 underachievers, overachievers and normal achievers. The pre-testing of the multiple intelligences in both the groups were done by administering the MIS prior to the experimentation. The selected content area of the prescribed English textbook was taught to the students of the control school in 36 classes each of 40 minutes duration by following the traditional behaviourist method with the help of the four-column Herbartian lesson plans. The same content area was taught to the students of the experimental school in 36 classes each of 40 minutes duration by following ABI method with the help of ABI Lesson Transcripts developed by the investigators. The pre-test and post-test scores of MI of underachievers in both control group and experimental group were consolidated and subjected to statistical analysis with SPSS.

5. ANALYSIS AND INTERPRETATION

The control group and experimental group were compared with respect to the pre-test scores of multiple intelligences to see the significant differences, if any, between the groups prior to the intervention. Table 1 presents the result of the one-way ANOVA performed to in this connection.

Table 1: Comparison of control and experimental groups with respect to pre-test scores of MI components of underachievers (Summary of ANOVA)

Sl. No	Dependent Variables (MI Components)	Type III Sum of Squares	df	Mean Square	F	Sig.
1	Verbal-linguistic intelligence	0.545	1	0.545	0.034	.854
2	Logical mathematical intelligence	3.847	1	3.847	0.193	.662
3	Visual-spatial intelligence	28.623	1	28.623	2.341	.130

4	Bodily-kinaesthetic intelligence	34.229	1	34.229	2.814	.097
5	Musical intelligence	1.710	1	1.710	0.170	.681
6	Intrapersonal intelligence	23.866	1	23.866	2.146	.147
7	Interpersonal intelligence	9.532	1	9.532	0.745	.390
8	Naturalistic intelligence	0.987	1	0.987	0.072	.789
9	Existential intelligence	3.232	1	3.232	0.729	.396
10	Moral-ethical intelligence	3.698	1	3.698	0.127	.722

The results of the one-way ANOVA show that none of the F-values estimated are significant. It exposes that the control group and experimental group do not differ significantly with respect to the pre-test scores of any of the factors of multiple intelligences. In another words, there is no significant difference between the control group and the experimental group regarding different components of multiple intelligences prior to experimentation. This finding further indicates that the data are amenable to one-way ANCOVA.

The effect of teaching English through ABI method on the multiple intelligences of the underachievers are now explored by comparing the post-test scores of each MI components of the experimental group with those of the control group, after controlling the effect of pre-test (covariate), by employing one-way ANCOVA. The results of the analyses carried out in this context is summarised in Table 2.

Table 2: Summary of ANCOVA of the post-test scores of multiple intelligences of underachievers in control and experimental groups

Sl. No	Dependent Variables (MI Components)	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
1	Verbal-linguistic intelligence	173.598	1	173.598	68.150	.000	.454
2	Logical mathematical intelligence	.616	1	.616	.179	.673	.002
3	Visual-spatial intelligence	.975	1	.975	.254	.616	.003
4	Bodily-kinaesthetic intelligence	1.184	1	1.184	.344	.559	.004
5	Musical intelligence	.756	1	.756	.198	.657	.002
6	Intrapersonal intelligence	40.605	1	40.605	10.499	.002	.114
7	Interpersonal intelligence	25.830	1	25.830	6.474	.013	.073
8	Naturalistic intelligence	6.495	1	6.495	.352	.555	.004
9	Existential intelligence	7.508	1	7.508	2.383	.126	.028
10	Moral-ethical intelligence	.107	1	.107	.027	.870	.000

The results of the ANCOVA show that the F-values obtained on comparing the post-test scores of verbal-linguistic intelligence, intrapersonal intelligence and interpersonal intelligence for the control group and experimental group, after partialling out the effect of corresponding pre-test scores, are significant. In another words, there is statistically significant difference between control group and experimental group with respect to the post-test score of verbal-linguistic intelligence ($F = 68.150$; $p < .001$), intrapersonal intelligence ($F = 10.499$; $p < .01$) and interpersonal intelligence ($F = 6.474$; $p < .01$) when adjusted for the pre-test scores. It exposes that the activity based instruction is more effective than behaviourist method of teaching in promoting verbal-linguistic intelligence, intrapersonal intelligence and interpersonal intelligence of underachievers in secondary school English.

6. CONCLUSIONS

The results of the analysis shows that no significant difference was noticed between control group and experimental group of underachievers in English with respect to their multiple intelligences before the pedagogic intervention. Teaching of the three units of the English textbook through 36 classes of activity based instruction brought about significant improvement in the verbal-linguistic intelligence, intrapersonal intelligence and interpersonal intelligence of the learners in experimental group, when compared to the control group intervened with behaviourist method of teaching. While the behaviourist method of teaching English relies mostly on "skill and drill" exercise to provide the consistent repetition necessary for effective reinforcement of response patterns, the activity-oriented method provides multiple linguistic activities in which learners partake rigorously and bring about efficient learning outcomes. Hali (2017) have reported that activities such as telling story, arguing, discussion, interpreting, speaking and writing about literature, submitting report etc. are capable of sharpening the verbal-linguistic intelligence of learners. Shero, Allo and Mohammedzadeh (2018) have observed that activity-based teaching equips learners with skills to manipulate syntax of the language and understand the practical use of language, which motivate the learner to use the language in different situations.

Cakır (2014) found motivational, attitudinal and classroom factors as critical for underachievers. According to Behjat (2012), intrapersonal intelligence causes learners to discriminate their diverse feelings and hold a better knowledge of their self. The diversified teaching-learning activities in the 'activity-oriented classroom' will leave the question in learners: "What does all this have to do with my life?" in order to answer the question, the learner explores his/her inner self. The learner come out with a personally relevant answer by making connections between what is being taught and his/her personal life. The ABI enables the underachievers to improve their introspective and self-reflective capacities, ability to explore their inner resources, feelings and experiences and set realistic goals for themselves. The improvement in intrapersonal intelligence in activity-oriented classroom is an outcome of communicating about self-interests and habits at the stage of self-reflection, as well as through articulating questions or writing personal experiences related to the topic of study. Moreover, the ABI provides the underachievers with opportunities that enable them to recognize own strength and weaknesses in using English, correct the shortcomings and weaknesses and then try to improve themselves and appreciate the improvement s/he made. Interpersonal intelligence involves the ability to communicate and work with others. It permits the learner to understand and communicate with others, helps to maintain relationship with others, and also to know that there are varieties of roles within a group. Activity based teaching in English classroom offers plenty of opportunity to know the feelings and intentions of others. The cooperative and collaborative learning experiences given through group works, discussions, debates, sharing sessions, roleplay, group projects, teamwork, group study, brainstorming etc. will enable the learners in the English class to expand the horizons of their social relationship and sharpen their social skills. Earlier researchers like Pratiwi, Rochintaniawati, and Agustin (2018), DeNevers (2014), Zarei and Mohseni (2012) etc. have reported the improvement of interpersonal intelligence in classrooms dominated by activity-based teaching and learning.

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