

Comparing student achievement in single and multi-grade classes

Moslem Pesarakloo

Shahid beheshti Farhangian University, Gonbad, Golestan, Iran; Postal code: 497194693
pesarakloom432@gmail.com

Abstract: This paper aims to deal with the definition of multi-grade classes, its history in Iran and the world, learning objectives of these classes, the causes of using these classes in Iran, teaching style in these classes considering the presence of special students, problems, limitations, and disadvantages of this type of classes, the need for this type of classes regarding the demographic situation, roles and responsibilities of teachers in these classes, and the goals of these classes.

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1. Introduction

Studying the history of education show us the background of multi-grade classes refers to education in groups, before qualitative and quantitative changes in new manner of classic and planned education in modern format, training and educational affairs had been followed in different way based on the common values and needs in any period of times and affected or dominated by governments, systems, communities, factions or even families (Allison Ong, W., J., and T. M. Haladyna. (2000). previously, education was not world-wide and just covered the noble and was different in any region and geographical governmental or factional areas without complete cohesion. The number of courses that should be passed for a particular academic degree was a very limited and in most cases there was no specific location for the classes and meetings were held in every situation. School students in where no right would be lost and everyone would advance depending on his ability and talent. The multi-grade classes were obvious as an inevitable reality because limited number of teacher, not restriction in education starting and finishing time, creating personal advancement chance for every student necessitated practically these types of classes and occasionally brings about desirable results (Burns, Robert and DeWayne A. Mason (2002). Teaching and education apparently lose its importance as a technique or art in the minds, judgments and perceptions due to broadness of activity domain and public comprisal and sometimes it leads to invalidity such that everybody allows involve in the affairs directly and indirectly (Mariano, Louis T. and Sheila N. Kirby (2009) .

1.1. Research Project:

1.1.1. Research subject: A comparison between the student achievement in single and multi-grade classes.

1.1.2. Objectives: Comparing two groups of single and multi-grade classes.

1.1.3. Variables: On above subject, it can be said that grade in two levels of single and multi-grade single are independent variables and the academic achievement are dependent variable.

1.1.4. Operational definition:

1.1.4.1. Grade: The class in which students are studying.

1.1.4.2. Single-grade class: A class which is set up by attending the students with the same grade in a classroom who are taught or managed by teacher.

1.1.4.3. Hypothesis: academic achievement in single grade classes is better than multi-grades.

1.1.4.4. Method: In this project, the causative-comparative method and comparing the average scores of two groups are used.

1.1.5. Research necessity:

Given that economic, social and political growth in any country depends on the investment on R&D, so the accurate and basic investigation and research is necessary to all sided advancement and a precise planning be conduct to grow and develop the country, according to primary statistic after Islamic Revolution, R &D in our country was 3 percent and less than the most of the countries. However, if want to properly realize our research, the education for our children would be a learning without pain. As well as they should know how can make themselves sensible by fostering their thought and reason and maximum use of wisdom and reason and based on his ability and capacity, also he should learn how can be aware of mankind scientific findings from other parts of the world, exploit the materials and other God-given tradition change them, making them dynamic, invent and discover by his innovation. According to the bitter facts and troubles in education affairs in developing countries including Iran, it is important and necessary to examine the single and multi grade

classes in regard to students' achievements (Rule, G. (1983). Research on the issue can be a suitable key and patterns to achieve to the desired results in the following fields:

- 1- Innovation and creativity of teachers and students in teaching and learning process
- 2- Optimum use of human and material resources inside the country
- 3- Practical exercises of life in school
- 4- Accelerating and facilitating learning and achieving to ambitious goals
- 5- Reinforcing self-learning with respect to future population growth and lack of educational space

According to the above model, it is intended to accelerate achieving the final goals of education and adopt methods to foster creativity and innovation in students and facilitate learning, increase the unity and cooperation between teachers and students in planning and ultimately the real meaning of development is attained.

1.1.6. Limitations

As we know it is important to recognize the limitations of the research method, paying attention to these limitations make the researcher more to defend the findings.

There are limitations in this study and other studies including:

- 1- Limitations that researcher cannot cope with them such as the limitation in selecting the samples, lack of ability in controlling all assistant variables in an investigative situation and limitations in accuracy of tool and materials that can be problematic in research process.
- 2- The limitation that are controllable by researchers, in the other word the limitation that is considered by researcher such as decision making on the number of people who takes apart in practice and testify groups, single and multi grade classes, subjects gender (female or male), determining the age of subjects, determining the scope of research field.

1.1.7. Definition of Research

The research literally means to make right and straighten, finding the fact of investigation is to investigate and examine, however there are various scientific definitions, in this context we rely on just some of them.

1.1.8. Research:

It is a combination of practices or procedures and design idea used for the discovering the truth.

1.1.8.1. Research:

It is searching for acquiring new and true knowledge via scientific methods. The research and inquiry is a natural desire of any human, children are inquisitive from prime of life, intending to know the

affairs, discovering the facts of secrets, understanding the final facts are instinctive and natural in human, later the research will be acquisitive and ends to problem solving and attempts to answer the question and determining the relationship between variables. Briefly, we can say research is an attempt to find the fact or discovering an unknown or answer a question. It is clear the developing and underdeveloped nations inevitably should try, invent and optimally utilize the God-given gifts. Shortage of training equipment, true method of teaching, competing with other nations in acceptable level, lack of minimum technology to explore God-given resources are considered as a basic problem of underdeveloped and backward nations in which unfortunately the Muslim nation are included.

Training and practice the proper use of natural resources must be addressed by education policy makers. Today issue is whether the learnt knowledge or content knowledge is effective for the next 10 or 20 of learners.

The issues and the matters like these have attracted the trainers and teachers' attraction for so many years, on the other hand, findings of Developmental psychology and revolutionary learning create teaching and training method in the context of (how to teach) and how to look at humans physical and mental aspect and how to instruct.

A method had been used by teachers as a good approach about 70 years ago, was criticized now. On the other hand, observing the humanness rules calls for selecting a training approach to facilitate learning and in which learners could learn without pain and change them.

1.1.8.2. Research Design

In the research, comparative causative method was used in which the score of mathematics, experimental science, geography, history and dictation in addition to their total average were examined for every fifth grade students in single and multi grade elementary schools of Golestan province-Iran in academic year of 2008-2009 by using statistical indexes.

1.1.8.3. Research population

Fifth grade students in elementary schools from single and multi grade schools of Golestan – Iran are included.

2. Material and Methods

First 47 single-grade classes and 47 multi-grade classes were chosen from Golestan – Iran by observation and their educational record student by using regulatory forms were studied by research group, then the mean score were extracted for each course of mathematics, science, geography, history and Persian dictation for every based single and multi-grade schools.

2.1. Statistical methods

The diffusion, indexes, median, standard deviation, Table T, and mean of total average of scores of five courses were used.

2.2. Statistical Analysis

Table 1: comparing and the mean fifth elementary class in single and multi grade schools in academic year of 2008-2009.

description	Mathematics	science	geography	history	Dictation	Total annual average
Single-grade average	13.99	15.97	16.73	15.31	16.59	17.59
multi-grade average	12.03	15.38	15.24	17.14	15.94	15.64
mean difference	1.96	0.59	1.49	1.14	0.65	1.95

2.2.1. Mathematic

According to the mean of mathematic in two levels of single and multi grade and differences between the means in two levels which indicated 1.96, there is a significant difference and indicates the single grade school have more achievement in the courses than multi-grade schools.

2.2.2. Experimental science

According to the mean of experimental science in two levels of single and multi grade and differences between the means in two levels which indicated 0.59, there is not a significant difference and show the equality of students in both levels.

2.2.3. Geography

According to the mean of geography in two levels of single and multi grade and differences between the means in two levels which indicated 1.49, there is a significant difference which is thinkable and shows the strength of student in multi grade classes and it may be for more opportunities and teachers' attention or geographical maps.

2.2.4. History

According to the mean of history in two levels of single and multi grade and differences between the means in two levels which indicated 1.14, there is a significant difference that is thinkable based on it the single grade schools shows their important active role in faster development of students.

2.2.5. Spelling (Dictation)

According to the mean of dictation in two levels of single and multi grade and differences between the means in two levels which indicated 0.65, however the difference was less than other courses except experimental science, there is a significant difference due to experienced teacher in first grade that help students to be more proficient in knowing Persian alphabet than multi grade students

who are in a classroom and whose teacher have less years of services.

2.2.6. Annual total average

According to the mean of annual total average in two levels of single and multi grade and mean differences which indicated 1.95, there is a significant difference and approve the hypothesis as same as other mentioned five courses and shows the single grade school have more achievement in the courses than multi-grade schools.

3. Discussions

The students of single grade have appreciably better position than the multi grade students because of: Single grade, more supervision of teachers, better utilization of better educational facilities, adequate opportunities for teachers in teaching method and timely catechizing, educational qualification and experience or literacy of teachers and parents.

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Corresponding Author:

Moslem Pesarakloo
Shahid beheshti Farhangian university, Gonbad, Golestan, Iran.

Postal code: 497194693

Email: pesarakloom432@gmail.com

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