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Effectiveness Of Multi-Grade Teaching And Monograde Teaching At Elementary Stage - A Comparative Study

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Abstract: Multi-grade schools are schools with only one or two teachers teaching more thanone class/grade/age group students at a single time. Developing countries, with dearth of human and financial resources, have to opt for this type of schools specially in remote rural areas, where population is very scarce. For developing nations it is not even wise to appoint more teachers, in schools with strength less than 60/70. Such schools are found to be boon for ensuring Education For All (EFA). The work of teachers in such schools become very heterogeneous, as they have to handle more than one class/age group/grade at a single time. So a research question arises, whether to what extent is teaching effective in such school set- ups? Should such practice be adopted to educate the future generation of a nation? Can they contribute meaningfully in the development of a nation? There may be a prevalent notion thatsuch schools can not do justice to the education of their children. Especially when it is measured in terms of their academic achievement. The present study attempts to gauge the effectiveness of teaching in such schools. The study is conducted on a sample of total 397 students both in monograde and multi-grade schools. The effectiveness is measured in terms of academic achievement of students in terms of three main subjects viz. Hindi Language, Social Studies and Math. The findings support fact that is contrary to the prevalent belief.

Introduction:

Developing Countries like India, Philippines, Thailand, Sri Lanka, Vietnam Alaska and even some developed countries like Japan and France are trying to expand primary education as a constitutionally committed promise for universal, free and compulsory education. The acute shortage of resources both material as well as skilled teachers, especially in rural areas pose a serious impediment in the fulfillmentof this commitment. Many villages in India have a population below 500 or 300. In such villages the number of school going children is so less that it is not practically possible and even wise for a nation with dearth of skilled teachers, to appoint five teachers for five classes, where the strength of whole school is 70 or 80. In such schools, provision has been made under operation BB Norms to have only two teachers, one preferably female. In these schools only two teachers jointly fulfill the goal of providing primary education to all class pupils like organization and classroom management, completion of prescribed syllabus, organizing cocurricular activities etc. Thus Multi-grade schools are those schools where one teacher teaches/handles more than one grade/class/age groups, at a single time in such a way that all classes are kept busy by him/her in some learning work or cocurricular activities. "..... two classes are being conducted at the same time in a single, small room. The children sit in rows, with one group facing one wall with a chalkboard and the others facing the opposite way. Both groups are involved with similar kinds of activities such as loudly reciting poems or reading texts aloud, and one wonders how any of the students could be learning anything at all". **Nicole Blum Rashmi Deewan,**(2007). This makes the work of teaching very heterogeneous. Though there are known ways how a teacher can handle if he/she happens to be in a multi-grade

school setting. But teacher training Institutions seldom provide any such training to the prospective teachers.

Contrary to this, mono grade schools are those schools, which have several classes and several teachers (following the prescribed teacher student ratio), make one teacher in - charge of one class. A single teacher has to deal with a single class/age group/grade at a time. He/she is considered as class teacher of a particular class. Such schools are normal schools prevalent in big cities and towns and are most popular. In present study such schools are titled as mono grade schools.

Researches on multi-grade teaching, across the world, have been conducted to see the effectiveness of teaching in such settings. **P. Kadivar, Shokooh Navabi Nejad, Zahra Madadi Emamzade** in their study titled as 'Effectiveness of multi-grade classes: Cooperative Learning as Key Element of Success' in review of literature found that contrary to the prevalent attitude and perception towards multi-grade schools, such schools are doing a great job. **EleniPistioli** (2018) in such of his research also found that the students in multi-grade school settingsdo not differ significantly in terms of most of the areas of their self-concept and self-esteem as compared to their counterparts in single grade schools. **V.Motamendi, Fateme Khajouie** (2020) in their comparative study on multi-grade and single grade school set up, in Bandar Abbas city, found that there exists no significant difference between self-esteem of the students in multi-grade and single grade schools. Rather the findings showed that the students in multi-grade schools were better in social skills and social development. Though single grade studentswere found to be better in terms of educational efficacy but no significant difference was foundwhen the students were compared in terms of promotion and repetition rate.

Conclusion: Though multi-grade schools are spread worldwide but very few researches have been conducted on multi-grade schools and that too to see their effectiveness. The researcher did not find ample studies on multi-grade schools in India hence decided to undertake the study.

1. Delimitation of the study:

1.1 The study is delimited to Meerut Region of Uttar Pradesh, India

1.2 The effectiveness of both types of schools is measured in terms of academic achievement of the students.

1.3 For academic achievement only three subjects viz. Maths, Hindi Language and Social Studies only have been included.

1.4 The study is delimited to basic primary schools run by basic education council.

1.5 Only IVth grade students have been included in the study.

1. Objectives of the study:

- To compare the academic achievement in Maths of IVth class male students taught through multi-grade and monograde modes of teaching of Meerut region**.**
- To compare the academic achievement in Hindi of IVth class male students taught through multi-grade and monograde modes of teaching of Meerut region**.**
- To compare the academic achievement in Social Studies of IVth class male students taught through multi-grade and monograde modes of teaching of Meerut region**.**
- To compare the academic achievement in Maths of IVth class female students taught through multi-grade and monograde modes of teaching of Meerut region**.**
- To compare the academic achievement in Hindi of IVth class female students taught through multi-grade and monograde modes of teaching of Meerut region**.**
- To compare the academic achievement in Social Studies of IVth class female students taught through multi-grade and monograde modes of teaching of Meerut region**.**

1.1 Hypothesis:

HO 1. The male students taught in multi-grade and monograde schools do not differsignificantly in terms of their academic achievement in Maths.

HO 2. The male students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Hindi

HO 3. The male students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Social Studies.

HO 4. The female students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Maths

HO 5. The female students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Hindi.

HO 6. The female students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Social Studies.

1.2 Sampling Technique:
Random and cluster sampling techniques have been used to select schools and students respectively.

1.3 Sample Size:
201 students from 12 multi-grade schools and 196 students from 9 monograde schools constituted the sample in the present study.

1.4 Universe: All basic primary schools run by basic education council of Meerut region.

1.5 Data Gathering Tools:
Achievement Tests of Maths, Hindi and Social Studies were constructed by the researcher. Content by Behaviour Blueprint with Teaching Objectives was created. For this purpose Maths, Hindi and Social Studies books, being used by these schools, were taken into consideration. This blueprint ensured that testing includes all the content areas covered in the curriculum guide and text and all the behaviour that represent important learning needs.

The tests had objective type test items with four alternative answers. 25 items were written for Maths and 50 items each for Hindi and Social Studies were constructed. A separate sheet for rough work in Maths was also included in Maths test.

Applicability Index of Dr. Edwin Harper was used to select the test items. Items below 20 and above 80 functional value were left.

Discriminating index was calculated by using Dr. Edwin Harper formula. The items having D.I. lower than .30 were left.

Reliability was calculated using Spearman's Rank Difference method. The items having .65 and above P value were retained in the tests.

For the calculation of validity expert opinion was sought.

1.6 Statistical Techniques Used: **'t'** test was used to find the significance of difference between the academic achievement of the students of the two types ofschools.

2. Data Analysis:

Objective 1: To compare the academic achievement in Maths of IVth class male students taught through multi-grade and monograde modes of teaching of Meerut region**.**

HO 1. The male students taught in multi-grade and monograde schools do not differ significantly in terms of their academic achievement in Maths.

Table 1 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	x	S.D.	CR Value	Subject
1.	Monograde	Male	106	7.349	5.876	4.527**	Maths
2.	Multi-grade		108	11.111	6.277		

**** significant at .01 level**

Obtained 't' value indicates significant difference between the academic achievement of male students of multi-grade and monograde schools. The academic achievement ofmulti-grade male students is significantly higher than those studying in monograde schools.

Hence HO 1 is rejected..

Table 2 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	x̄	S.D.	CR Value	Subject
1.	Monograde	Male	106	13.292	11.069	6.041**	Hindi
2.	Multi-grade		108	22.991	12.390		

**** significant at .01 level**

Obtained 't' value indicates significant difference between the two types of schools' academic achievement of boys. The learning outcome of male students studying in multi-grade schools in Hindi language is significantly higher than those studying inmonograde schools.

Hence HO 2 is rejected.

Table 3 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	$\bar{x}$	S.D.	CR Value	Subject
1.	Monograde	Male	106	11.981	7.947	5.573**	Social Studies
2.	Multi-grade		108	18.713	9.656		

**** significant at .01 level**

Obtained 't' value indicates significant difference between the two systems of schools. Multi-grade schools' male students learning outcome in Social Studies is significantly higher than the male students of monograde schools.

Hence HO 3 is also rejected.

Table 4 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	$\bar{x}$	S.D.	CR Value	Subject
1.	Monograde	Female	90	8.50	6.286	4.839**	Maths
2.	Multi-grade		93	12.710	5.437		

**** Significant at .01 level**

The data provided in table 4 indicates that the academic achievement of female students of multi-grade schools in Maths differs significantly from those in monograde schools. Thus the observed difference is true which is not attributable tochance or sampling error.

Hence HO 4 is rejected**.**

Table 5 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	$\bar{x}$	S.D.	CR Value	Subject
1.	Monograde	Female	90	8.500	6.285	4.839**	Hindi
2.	Multi-grade		93	12.710	5.437		

**** Significant at .01 level**

The information provided in table 5 indicates that the academic achievement of multi-grade schools' female students in Hindi differs significantly from those in monograde schools. The academic achievement in Hindi of female students in multi-grade schools is significantly higher than those in monograde schools. Thus the observed difference is true and is not attributable to chance or sampling error.

Hence HO 5 is also rejected**.**

Table 6 Difference Result ('t' result)

S.N.	Data-field	Sex	Count	x̄	S.D.	CR Value	Subject
1.	Monograde	Female	90	16.011	9.912	2.344*	Social Studies
2.	Multi-grade		93	19.194	8.363		

*** Significant at .05 level.**

In order to be significant CR for N 90/93, 't' value should be 1.99 and 2.63 at .05 and .01 levels of significance respectively. Table 6 reveals that 't' value is significantat .05 level of confidence but it is insignificant at .01 level of confidence. Hence with95% level of confidence we can say that the academic achievement of female students of multi-grade schools in Social Studies is significantly higher than their counterparts in monograde schools.

Thus HO 6 is rejected at .05 level.

3. Discussion and Conclusion:

The study reflects quite amazing results contrary to the belief that a school with less numberof teachers might not be doing well in terms of students academic performance**.** The mean academic achievement of both male and female students in multi-grade teaching is found to be higher than those in monograde schools' male and female students**. Souphanh Thephavongsa** (2018) also opines that Although teaching in multi-grade set up is more challenging even than this is an unavoidable sin as multi-grade teaching are considered to bethe best strategy to achieving access to Education For All (EFA) specially in rural areas.

Cornish, Linley, Jensen,V (2006) express the same viewpoint while considering it a way to include girl child into education system. Due to constant efforts to deal with diverse groups of students, the teachers in multi-grade teaching have opportunities to develop flexible grouping models which enable them to enhance their ability to deal with heterogeneous group of students. **Breed Murphy** (2018) in his studies titled as ' The Influence of Multigrade Teaching On Students' Academic Achievement' also is of the same view. In his study conducted on multi-grade teaching he also found that the students' academic performance in multi-grade teaching is not inferior to those in monograde teaching. **Vincent, Susan, Ed** (1999) in their review of the research on multi-grade instruction also verified the fact that academic achievement, attitude and student affect does not get negatively affected.

Muhammad Shahzad Ashfaq, M. Inran Yousuf and M. Arshad Dahar (2018) found that most teachers prefer monograde teaching methodology. **P. Kadivar, Shokooh Navabi Nejad,Zahra Madadi Emamzada** in one of such of study also found significant difference between the two groups in terms of social skills, and academic achievement in Maths. Though no significant difference was establish with regard to sel-esteem of the students of two systems.They found that the students in multi-grade teaching were significantly better than those in monograde schools**. Angela Little** (1995) while reviewing related literature concludedthat out of thirty such studies thirteen showed undecided results in terms of cognitive outcome of the two systems, ten favored multi-grade classes and findings of five were in favor of monograde schools. Out of these thirty studies eight were doctoral dissertations. Out of these eight, five generated inconclusive results, one showed that cognitive outcomes in monograde were better and two favored multi-grade schools.

Implications of the Study:

Thus the researcher got ample number of studies to support her findings. Hence, it can be concluded that it is a myth that multi-grade teaching may be poor in terms of students' academic performance. In fact, if paid more attention and proper teaching strategies are included in teachers' training institutes to teach them how to handle a multi-grade classes, these schools can play significant role in increasing education, specially in rural areas, where population is small. This may help in combating the problem of scarcity of human as well as financial resources. On the basis of findings of the study, the researcher is of the opinion thatmore attention should be paid to multi-grade system of teaching.

References

1. V. Motamedi, Fateme Khajouie (2020) 'Comaparative analysis of the results of multigrade and singlegrade classes based on indicattors of educational productivity andefficacy: A case study of Bandar Abbas city primary and secondary schools' retrieved from https://www.semanticscholar.org/paper/Comparative-analysis-of-the-results-of- multigrade-A-Motamedi-Khajouie/05c5d6796232e7d80895eb1601e57b59ef2fa16a
2. Breed Murphy (2018), 'The Influence Of Multigrade Teaching On Students' Academic Achievements' Conference ECER 09.03. 2018 ERG SES D 08, Academic Achievementand Education retrieved from https://eera-ecer.de/ecer-programmes/conference/23/session/13678/
3. Eleni Pistioli (2018), 'Self-Concept in Specific Areas of Students attending Multigrade and Single Grade Elementary Schools. Comparative Approach' International Journal of Learning, Teaching and Educational Research, retrieved from https://www.semanticscholar.org/author/Eleni-Pistioli/114154637
4. Muhammad Shahzad Ashfaq M. Imran Yousuf; M. Arshad Dahar (2018), 'Effects of Multi-grade Teaching and Learning at Primary Level Schools' Journal: International Journal of Advanced Research (Vol.6, No. 6) Publication Date: 2018-07-25
5. Nicole Blum & Rashmi Deewan (2018), 'Small, Multigrade and Incresing Access to Primary Education in India: National Context and NGO Initiatives' Research Monograph No 17, International Journal of Learning, Teaching and Educational Research Vol. 17 No.4, pp. 71-87, April 2018 retrieved from https://doi.org/10.26803/ijlter.17.4.5
6. Souphanh Thephavongsa (2018), 'Enhancing the Teaching Skills of the Multi-Grade Teachers through Lesson Study', International Journal of Learning, Teaching and Educational Research, Vol 17 No 4 retrieved from https://www.ijlter.org/index.php/ijlter/article/view/1134
7. Cornish, Linley, Jensen (2006), Multi-grade teaching: A tool for getting girls into school' retrieved from https://rune.une.edu.au/web/handle/1959.11/2469
8. Vincent, Susan, Ed (1999), 'The Multigrade Classroom: A Resource Handbook for Small,Rural Schools' Book 1: Review of the Research on Multigrade Instruction, retrieved from https://eric.ed.gov/?id=ED448978
9. Angela little (1995), 'Multi-grade teaching-A review of research and practice' (Book) Educational Research Paper No. 12, 1994, 63 p. serial No. 12 retrieved from er950012
10. Kadivar, Parvin, Shokooh Navabi Nejad and Zahra Madadi Emamzade. "Effectiveness ofMulti-Grade Classes : Cooperative Learning as a Key Element of Success." retrieved

from https://www.semanticscholar.org/paper/Effectiveness-of-Multi-Grade-Classes-%3A-Cooperative-Kadivar-Nejad/d77646fc5f444e1c058d79d31890cf795d45fedc

11. Parvin, Shokooh Navabi Nejad and Zahra Madadi Emamzade, 'Effectiveness of Multi-Grade Classes : Cooperative Learning as a Key Element of Success.' Retrieved from https://www.semanticscholar.org/paper/Effectiveness-of-Multi-Grade-Classes-%3A- Cooperative-Kadivar-Nejad/d77646fc5f444e1c058d79d31890cf795d45fedc