International Journal of Science and Research Archive
eISSN: 2582-8185
Cross Ref DOI: 10.30574/ijsra
Journal homepage: https://ijsra.net/

(RESEARCH ARTICLE)

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The influence of teacher efficiency on the academic performance of grade 5 students in primary schools in Valikamam Education Zone, Sri Lanka

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International Journal of Science and Research Archive, 2025, 15(03), 1869-1876

Publication history: Received on 15 May 2025; revised on 23 June 2025; accepted on 25 June 2025

Article DOI: https://doi.org/10.30574/ijsra.2025.15.3.1922

Abstract

Our main national need is development. Quality improvement and management activities are essential for the development of any country. Education plays an important role in this and quality management is its result. Many major Asian countries, including Japan, which have recently developed rapidly, confirm that the country can be developed through proper educational activities even though natural resources are dwindling. Although a large amount of human and physical resources is invested in the education system as inputs, it is difficult to achieve a corresponding quality improvement. It is necessary to have an educational management process aimed at character development within the school system and a powerful continuous evaluation process as its main component. In that regard, the need for this study is felt as no studies have been conducted so far on the topic of the influence of teacher efficiency on ensuring educational quality. This is a quantitative study. Questionnaires were administered to 100 teachers teaching in Primary III 1 in 92 schools in the Valikamam Education Zone. Data were collected through interviews with principals, in-service teacher advisors, and primary education assistant education directors; they were organized and interpreted using descriptive statistics findings of the study are There is no difference between the categories regarding planning, implementation and evaluation of formal curriculum activities. That is, these are cited equally in all categories. There is a difference in carrying out formal curriculum activities according to the types of schools. That is, it can be concluded that there is no equality. The tendency to do the homework given to the students is seen to be low. The school community and education authorities should take the lead in developing the subject expertise of teachers. Subject expertise influences the effectiveness of teachers.

Keywords: Education; Quality Assurance; Systematic Curriculum Management; Teacher Efficiency

1. Introduction

Education for all has been the educational goal of Sri Lanka for more than fifty years. In the early years of the twentieth century, education was free in vernacular government schools. Thus, as participation in education becomes more inclusive, the objectives of education change. The result of learning and teaching at the primary levels of education is to create a foundation for learning at the higher levels. A solid foundation is the foundation of a solid building; if the foundation is broken, the building itself will fall. Similarly, primary education is the foundation and basis for a child's lifelong education. Therefore, it is the need and mandatory service of the educational world for primary education teachers to instill the need for primary education in their minds, formulate solid principles within themselves, and successfully carry out classroom activities. Under these circumstances, the quality of education in schools should be ensured in the future. For this, primary schools in the Valikamam Education Zone and schools affiliated with primary education were included in the study. Currently, the quality standards used in the self-development process in the educational process are: Student achievement, Learning and teaching assessment, Systematic curriculum management,

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Co-curricular activities, Student welfare, Leadership and management, Physical resource management, School and community. These are new evaluation areas for ensuring quality.

The concept of quality has a long historical continuity. The ancient Greeks emphasized quality in their rhetoric. The modern quality movement began in 1990. It was pioneered by an agriculturist named Donal A. Fisher. The Japanese consider quality development as a task for everyone. This quality was developed in education. Following that, the Japanese and the United States jointly developed the principles of quality management. Maintaining quality is considered a special goal in the educational process. Both concepts of quality and standard are important in terms of education. Both of these should be achieved from a social perspective and from an equality perspective. Therefore, it is everyone's duty to create a quality-oriented culture in education. This responsibility lies with the teachers in the school system. However, the quality development of education has not occurred as expected. Therefore, since 1990, with the aim of creating a "quality society through quality life the quality development of education has been talked about Gunawardena (Ministry of Education and Higher Education 2000) states that primary education reform is aimed at achieving universal primary education and improving the quality of primary education and further proposes that it is important to study the current situation of primary education and identify the critical issues that hinder progress. In the case of Jaffna district, there are schools in the Valikamam Education Zone itself that cannot meet the learning needs due to the displacement of a large number of teachers and students, schools with less than 100 students, and rural schools with poor facilities. Therefore, there is a need to study this area as there is a need for quality assurance in education.

1.1. Research Question

- What is the status of quality assurance in primary schools in the valikamam Education Zone?
- What is the status of the relationship between proper curriculum activities and teacher effectiveness?
- What is the relationship between student achievement and teacher effectiveness?
- Finding ways to improve teacher effectiveness for quality assurance.

2. Literature Review

A literature review helps to conduct the study in depth and provides background and clarity about other studies. That is, it is to search and obtain the necessary references from all publications such as journals, books, notes, circulars and various documents related to the study. By conducting a literature review, the information and data required for a specific study can be obtained from the previously conducted study. The researcher can also clearly know to what extent they will help in conducting the specific study properly. The following issues are emphasized in the declaration issued by UNESCO on World Teachers' Day 2005 on October 05. Quality teachers for quality education, quality teacher training for a strong teaching force, quality education, improving the status of teachers, teacher training has long-term effects on quality education. "Schools must become learning experiences for both teachers and students. Today's teachers must assume a new role in schools. They must also become subject matter experts and skilled enough to teach students from diverse backgrounds. (National Institute for Educational Advancement, USA, 1996). Teaching aids can be used by teachers in classroom teaching to enhance learning effectiveness. When a video is used in teaching, an event in a real classroom situation or in a simulated environment is recorded and the teacher presents the lesson with the help of them, it becomes a lively teaching. In addition, independent learning, collaborative learning and the use of teaching aids are factors that provide motivation for learning, so teachers should use them in classroom teaching and learning (Karunanidhi, 2000). Teaching aids have brought about many changes in school learning and teaching methods today. The blackboard, whiteboard and teacher's lecture have gradually replaced the classroom activities Students taking responsibility for their own learning and directing, acting and engaging themselves are gaining importance in today's schools. (Chandrasekaran, 2008). In the student-centered approach, the level of achievement is declining due to the unsatisfactory teacher-student interaction (Sarojini, 2013). The impact of teacher-related factors in assessment approaches has an impact on student outcomes (Jayalakshmi, 2015). Teaching is seen as a spiritual profession. A teacher should be a follower of spiritual matters in the classroom. That will improve the quality of his spiritual (Shajat, 2012). Teachers face a successful and enjoyable environment by using educational technology in classroom learning-teaching activities (Dharmalingam, 2005).

3. Research methodology

Educational issues are often conducted as quantitative research. Such studies help to identify the factors related to a particular problem in the field of education, understand the pros and cons of their interrelationships, find solutions and take action based on them (Shinnathambi,2007). This study is conducted based on primary schools and schools affiliated with primary education in the Valikamam Education Zone in the Jaffna District. Study adopted to descriptive

survey design. There are 124 schools providing primary education in the Valikamam Education Zone. These are classified as 1UTE 1UE Wulin2Wulin3 and operate in four zones respectively. Here, 92 schools were selected as samples according to the Krijee morgan table. Since the study is conducted on the basis of the data and information required for the study, the data and information collected should be reliable, correct and usable for the study. Here, data was collected at the following stages. Questionnaire - It is found to consist of closed questions and open questions. Teachers - A questionnaire was given to the teachers teaching in Primary Three in the Valikamam Education Zone. Schools affiliated with the primary education and the information was collected Documents - Data and information were obtained through documents related to 111 students of the Valikamam Education Zone, Jaffna School Primary Education. Interview - Formal and informal interviews were conducted with principals, in-service advisors, primary education assistant education teachers, etc. Eligibility - Appropriate data collection tools - Three-dimensional Reliability of data Reliability refers to the stability and reproducibility of measurements in quantitative research. Here hypotheses are formulated to find out the relationships between dependent variables and independent variables.

4. Discussion and findings

Table 1 Cornbrash Reliability test

Reliability Statistics	Cronbach's Alpha	N of Items
	0.877	65
Reliability Statistics (Dependent variables)	0.701	27
Reliability Statistics (Independent variables)	0.825	38

The provided reliability statistics offer insights into the internal consistency of the measurement instruments used in the study. Cronbach's Alpha is a widely accepted coefficient for assessing the reliability or internal consistency of a set of scale or test items. Values closer to 1 indicate higher reliability, with coefficients above 0.7 generally considered acceptable for social science research. In this case, the overall Cronbach's Alpha is reported as 0.877 for a total of 65 items. This high value suggests that the entire instrument demonstrates excellent internal consistency, indicating that the items are reliably measuring the underlying construct. Such a result provides confidence that the data collected through these items is consistent and dependable.

Further, the reliability statistics are broken down for dependent and independent variables separately. The dependent variables show a Cronbach's Alpha of 0.701 across 27 items, which is acceptable and indicates that these items are sufficiently consistent in measuring the dependent constructs. The independent variables display an even higher reliability coefficient of 0.825 over 38 items, signifying strong internal consistency among the independent measures. Overall, these reliability statistics demonstrate that the instruments used are reliable for capturing the intended constructs. High internal consistency enhances the validity of subsequent analyses, as it reduces measurement error. Researchers can confidently use these scales to interpret relationships and effects within their study, knowing that the measures are internally coherent and dependable.

Below table point out that there is a difference in planning formal curriculum activities between school types

Table 2 Test of Homogeneity of Variances

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	15.706	3	5.235	36.061	0.000
Within Groups	13.937	96	0.145		
Total	29.643	99			

This table presents the results of an ANOVA (Analysis of Variance) test, which is used to determine whether there are statistically significant differences between the means of multiple groups. The key components include the sum of squares (SS), degrees of freedom (df), mean square (MS), F-value, and significance level (Sig.). The "Between Groups" sum of squares is 15.706 with 3 degrees of freedom, indicating variability among the group means. The mean square for between groups is calculated as 5.235 (15.706 divided by 3). The F-value for this source of variance is 36.061, which compares the variability between group means to the variability within groups.

The "Within Groups" sum of squares is 13.937 with 96 degrees of freedom, reflecting variability within individual groups. The mean square within groups is 0.145 (13.937 divided by 96). The total sum of squares across all data points is 29.643 with 99 degrees of freedom, representing overall variability in the data. The F-value of 36.061 is quite high, suggesting that the differences between group means are substantial relative to the variation within groups. The significance (Sig.) value is .000, which is less than the typical alpha level of 0.05. This indicates that the differences among the groups are statistically significant, and we would reject the null hypothesis that all group means are equal.In summary, the statistical analysis shows strong evidence that at least some of the group means differ significantly from each other, pointing to meaningful differences across the groups studied.

Table 3 Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.750	3	96	0.162

Guidelines for Conducting a Chronological Lit Degrees of freedom for the denominator (df2) is 96. The significance (Sig.) value is .162. Since the p-value (.162) is greater than the common alpha level of 0.05, we fail to reject the null hypothesis. This suggests that the variances across the groups are approximately equal. In the table of the table of contents, the significance value at the 0.05 significance level is 0.000. This is less than the significance probability level. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. There is a difference in planning formal curriculum activities among school types. This can be concluded that there is no equality. There is no significant difference in implementing formal curriculum activities according to school types. It is equal. There is a significant difference in implementing formal curriculum activities according to school types. Both are not equal.

Table 4 Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.274	3	96	0.844

Table 5 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.202	3	1.067	8.739	0.000
Within Groups	11.724	96	0.122		
Total	14.926	99			

In the table of the table of contents, the significance value at the 0.05 significance level is 0.000. This is less than the significance probability level. Therefore, the null hypothesis is rejected and the alternative hypothesis is accepted. That is, there is a difference in planning formal curriculum activities among school types. This can be concluded that there is no equality. There is no significant difference in implementing formal curriculum activities according to school types. It is equal. There is a significant difference in implementing formal curriculum activities according to school types. Both are not equal.

Table 6 Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
.274	3	96	0.844

Table 7 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.202	3	1.067	8.739	0.000
Within Groups	11.724	96	0.122		
Total	14.926	99			

In the Table of contents, the significance value at the 0.05 significance level is 0.000. This is less than the significance probability level. Therefore, the null hypothesis that there is no significant difference in the implementation of formal curriculum activities according to school types at the 0.05 significance level is rejected and the alternative hypothesis is accepted. That is, there is a difference in the implementation of formal curriculum activities among school types. This can be concluded that they are not equal. There is no significant difference in the evaluation of formal curriculum activist according to school types. It is equal. R3 There is a significant difference in the evaluation of formal curriculum activities according to school types. It can be concluded that both are not equal.

Table 8 Test of Homogeneity of Variances

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	5.030	3	1.677	13.024	0.000
Within Groups	12.359	96	0.129		
Total	17.389	99			

In the table of contents, the significance value at the 0.05 significance level is 0.000. This is less than the significance probability level. Therefore, the null hypothesis that there is no significant difference in the evaluation of formal curriculum activities according to school types at the 0.05 significance level is rejected. The alternative hypothesis is accepted. That is, there is a difference between school types in the evaluation of formal curriculum activities. This can be concluded that there is no equality. Educational sectors planning formal curriculum activities H0 - There is no significant difference in the planning of formal curriculum activities according to educational principles. Both are equal R4 - There is a significant difference in the planning of formal curriculum activities according to educational principles. Both are equal

Table 9 Test of Homogeneity of Variances

Levene Statistic	**df1**	**df2**	**Sig.**
1.234	3	96	0.302

Table 10 ANOVA

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	0.412	3	0.137	0.451	0.717
Within Groups	29.231	96	0.304		
Total	29.643	99			

Between Groups: The sum of squares is 0.412 with 3 degrees of freedom, leading to a mean square of 0.137. The F-value is 0.451, and the significance (Sig.) is 0.717. Within Groups: The sum of squares is 29.231 with 96 degrees of freedom, resulting in a mean square of 0.304. The overall sum of squares is 29.643 with 99 total degrees of freedom. Since the p-value (Sig.) is 0.717, which is much higher than the common alpha level of 0.05, there is no statistically significant difference between the groups. This suggests that any observed differences in means are likely due to random variation rather than a true effect. The significance value in the table is .717. This is higher than the significance level. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected. Therefore, there is no significant difference between the theories in planning formal curriculum activities. That is, there is equality between the theories.

4.1. Implementing Formal Curriculum Activities

H0 - There is no significant difference according to the educational theories in implementing formal curriculum activities. Both are equal. R5 - There is a significant difference according to the educational theories in implementing formal curriculum activities. Both are not equal

Table 11 Test of Homogeneity of Variances

Levene Statistic	df1	df2	Sig.
1.212	3	96	0.310

Table 12 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.355	3	0.118	0.779	0.509
Within Groups	14.571	96	0.152		
Total	14.926	99			

The significance level of the significance level in the table is .509. This is higher than the 0.05 significance level. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected. Therefore, there is no significant difference between the categories in implementing formal curriculum activities. That is, it is equal. In evaluating formal curriculum activities there is no difference between educational systems in evaluating formal curriculum activities. There is a difference between educational systems in evaluating formal curriculum activities

Table 13 Test of Homogeneity of Variance

Levene Statistic	df1	df2	Sig.
2.357	3	96	0.077

Table 14 ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	0.645	3	0.215	1.233	0.302
Within Groups	16.744	96	0.174		
Total	17.389	99			

The significance value at the 0.05 significance level in the table is .302. This is higher than the 0.05 significance level. Therefore, the null hypothesis is accepted and the alternative hypothesis is rejected. There is no significant difference between the four categories in evaluating the formal curriculum activities. That is, it is equal Teachers' educational qualification. There is no significant difference between the scores of students who scored above 70 points in grade 5 according to the teachers' educational qualifications. That is, it is equal There is a significant difference between the scores of students who scored above 70 points in grade 5 according to the teachers' educational qualifications. That is, it is not equal

Table 15 Test of Homogeneity of Variances

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1159.274	2	579.637	1.159	0.318
Within Groups	48004.230	96	500.044		
Total	49163.504	98			

Here in the table of the Yuzheya, the significance value at the 0.05 significance level is .739. This is more than 0.05. Here the null hypothesis fails to be rejected. That is, it is accepted that there is no significant difference between the scores of students above 70 marks in the 5th grade according to the service period of the teachers. That is, it is equal.

4.2. Gender difference of teachers

There is no significant difference between the scores of students above 70 marks in the 5th grade according to the gender difference of the teachers. That is, it is equal. There is a significant difference between the scores of students above 70 marks in the 5th grade according to the gender difference of the teachers. That is, it is not equal.

Table 16 Independent Samples Test

	Levene's Test for Equality of Variances				**t-test for Equality of Means**				
	F	**Sig.**	**t**	**df**	**Sig. (2tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
								Lower	**Upper**
Equal variances assumed	6.806	0.061	2.023	97	0.036	9.85348	4.87155	0.18479	19.52216
Equal variances not assumed			2.456	83.301	0.016	9.85348	4.01250	1.87320	17.83376

The confidence interval suggests that the true mean difference is between approximately 2.46 and 17.83, which does not include zero, supporting significance ANOVA indicates no significant difference among multiple groups overall. However, pairwise t-tests show a significant difference between specific groups, with one group having a higher mean by about 9.85 units Variances across groups are roughly equal, validating the use of the standard t-test.

Table 17 Independent Samples Test

		Levene's Test for Equality of Variances				**t-test for Equality of Means**				
		F	**Sig.**	**t**	**df**	**Sig. (2tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
MAR	Equal variances assumed	6.806	0.061	2.023	97	0.036	9.85348	4.87155	0.18479	19.52216
	Equal variances not assumed			2.456	83.301	0.016	9.85348	4.01250	1.87320	17.83376

Here the mean of 21 boys is 83.21. The mean of 70 girls is 73.36, however, this is an acceptable difference. At the 0.05 significance level, the significance values of .036 and .016 are both less than 0.05. Therefore, the hypothesis is rejected. The hypothesis is accepted. That is, there is a significant difference between the scores of students above 70 marks in grade 5 according to the gender of the teachers. That is, it is accepted that there is no equality.

5. Conclusion

There is no difference between the categories regarding planning, implementation and evaluation of formal curriculum activities. That is, these are cited equally in all categories. There is a difference in carrying out formal curriculum activities according to the types of schools. That is, it can be concluded that there is no equality. The tendency to do the homework given to the students is seen to be low. The school community and education authorities should take the lead in developing the subject expertise of teachers. Subject expertise influences the effectiveness of teachers. Although the relationship between teachers and the community is good, the interaction between the school community and the outside community should be continuously strengthened. A comprehensive study can be conducted not only in the Valikamam zone but also in the Jaffna district. A study can be conducted on the factors influencing the increase in the number of students who receive scholarships from a score of more than 70 points. Those who design the curriculum should focus on measures to strengthen the professional development activities of primary education teachers from time to time. The school community and education authorities should take the lead in developing the subject expertise of teachers. Since teaching is considered a professional profession today, the factors that influence the effectiveness of teachers should be identified and their effectiveness should be further strengthened. By implementing assessment and evaluation programs in classroom activities, the student can be actively involved in the assessment process by identifying his strengths and weaknesses and engaging him in the assessment process. By incorporating the wonders and developments of the modern technological world into the classroom teaching process, student achievement can be increased.

References

[1] Adegbile, J. A., & Adeyemi, B. A. (2008). Enhancing Quality Assurance through Teachers' Effectiveness. Educational Research and Reviews, 3(2), 61-65. https://www.researchgate.net/publication/237635166_Enhancing_quality_assurance_through_teachers'_effectiveness (Accessed on 15 June 2023).

[2] Arulmozhi, C. (2008). Educational Research Methods. Evergreen Printers, Batticaloa.

[3] Chinnathambi, M. (2009). Making Teachers Effective. Semamadu Press, UG50, People's Park, Colombo.

[4] Erdogan, M., & Kurt, A. (2015). A review of research on classroom management in Turkey. Procedia-Social and Behavioral Sciences, 186, 9-14. https://www.scirp.org/reference/referencespapers?referenceid=3311590 (Accessed on 10 May 2023)

[5] Kop, Y., Tasdan, M., & Alibeyoglu, A. (2017). Relationship Level of Individual Value Perceptions and Competence Beliefs of Classroom Teachers. Educational Research and Reviews, 12(21), 1046-1055. https://academicjournals-org.webpkgcache.com/doc/- /s/academicjournals.org/journal/ERR/article-abstract/6A00B4966532 (Accessed on 5 March 2024)

[6] Malini, M. and Rajanayakam, J. (2024 April 20)." Factors influencing the effectiveness of female teachers". P.

[7] Ministry of Education, (2002), Competency-Based Assessment for Quality Improvement in the Educational Process, Battaramulla: Ministry of Human Resource Development, Educational and Cultural Affairs, Evaluation and Quality Assurance Unit.

[8] Ministry of Education, (2005), New Education Reform Guideline, Sri Lanka: Government Printing Office.

[9] Ministry of Education, (2006), New Education Reform Guideline, Sri Lanka: Government Printing Office.

[10] Ministry of Education, (2010), Character Development in School Education 111. Sri Lanka: Leadership and Quality Assurance Unit.

[11] Nwalado, S. H. QUALITY ASSURANCE FOR EFFECTIVE TEACHING AND LEARNING OF BUSINESS EDUCATION AT COLLEGES OF EDUCATION. Journal of Assertiveness: ISSN, 2276, 9684. https://www.globalacademicgroup.com/journals/assertiveness/Simiku%20Helen.pdf (Accessed on 20 October 2024)

[12] Purnami, A. S., Mulyanto, M., & Utomo, S. (2021). Teaching factory, internal quality assurance system, and vocational teacher quality culture. Journal of Education and Learning (EduLearn), 15(3), 406-413. https://www.researchgate.net/publication/353925442_Teaching_factory_internal_quality_assurance_system_and_vocational_teacher_quality_culture. (Accessed on 5 June 2024)