Utilization of Resources Available in School and its Effect on Academic Achievement among Higher Secondary Students

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Abstract: *The effective use of school resources plays a significant role in enhancing the quality of education and student learning outcomes. Educational institutions are equipped with various physical, instructional, and technological resources such as libraries, laboratories, digital tools, textbooks, and qualified teachers. However, the impact of these resources depends largely on how efficiently they are utilized. The present study investigates the extent of resource utilization and its influence on academic achievement among higher secondary students. The study revealed that utilization of resources does not significantly differ based on gender or medium of instruction. However, significant differences were observed with respect to the type of school. Furthermore, the findings indicated that utilization of resources does not show a significant relationship with academic achievement. The study recommends strengthening resource management strategies and ensuring purposeful integration of learning materials to improve educational outcomes.*

Keywords: School Resources, Resource Utilization, Academic Achievement, Higher Secondary Students, Learning Environment, Educational Management

1. Introduction

Education is fundamental to individual growth and national development. Schools provide structured environments where students acquire knowledge, skills, and competencies essential for their future. The presence of adequate facilities such as classrooms, laboratories, libraries, and technological tools contributes to the overall effectiveness of the teaching-learning process. At the higher secondary level, students encounter advanced academic demands that require conceptual clarity, analytical thinking, and independent learning. Proper utilization of available resources enhances comprehension, encourages exploration, and supports skill development. Nevertheless, the mere availability of resources does not guarantee improved performance; strategic and meaningful usage is essential to achieve academic excellence.

2. Significance of the Study

The study on *Utilization of Resources Available in School and Its Effect on Academic Achievement among Higher Secondary Students* holds great importance in the present educational context. Schools are equipped with various physical, human, and technological resources such as libraries, laboratories, smart classrooms, teaching aids, experienced teachers, and digital learning materials. However, the mere availability of these resources does not guarantee improved academic performance. Their effective utilization plays a crucial role in enhancing students' understanding, skills, and overall achievement. This study is significant as it helps to identify how properly using school resources influences students' academic outcomes at the higher secondary level, which is a critical stage for career and higher education decisions. The findings may assist school administrators, teachers, and policymakers in understanding gaps in resource usage and implementing strategies for optimal utilization. Furthermore, the study contributes to educational planning and management by emphasizing the need for better allocation, maintenance, and monitoring of school resources. It also encourages teachers to adopt innovative and resource-based teaching methods to make learning more engaging and effective. Ultimately,

Utilization of Resources in Schools
Recent research strongly confirms that effective utilization of school resources plays a crucial role in improving students' academic achievement. Studies highlight that the availability of well-equipped classrooms, libraries, laboratories, digital tools, and qualified teachers significantly enhances students' learning experiences when these resources are properly used. International assessments conducted by the Organisation for Economic Co-operation and Development emphasize that meaningful integration of technology and teaching materials into classroom instruction leads to higher student engagement, better problem-solving skills, and improved academic outcomes. Contemporary findings also stress that a supportive physical and psychological learning environment positively influences motivation, concentration, and performance. However, researchers consistently note that mere availability of facilities is not sufficient; proper planning, teacher competence, monitoring, and equitable access to resources are essential for achieving desired educational goals. Overall, recent updates clearly indicate that quality utilization of physical, human, and technological resources remains a key determinant of academic success among higher secondary students.

Objectives of the Study
To find out the significant mean score difference with regard to gender., medium. types of school and to find out the relation between Utilization of Resources & Academic Achievement among higher secondary students.

Hypotheses of the Study
- There is no significant mean score difference between boys and girls among the selected higher secondary students in their Utilization of Resources

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- There is no significant mean score difference between medium among the selected higher secondary students in their Utilization of Resources
- There is no significant mean score difference between types of schools among the selected higher secondary students in their Utilization of Resources
- There is no significant relationship between Utilization of Resources and Academic Achievement of higher secondary students.

3. Methods and Procedure

Sample

The sample for the present study consisted of 492 Higher Secondary students studying in Class XI from selected Government, Government-Aided, and Private schools located in rural and urban areas of Trichy district. The sampling technique adopted was Stratified Random Sampling to ensure proper representation based on gender, locality of school, medium of instruction, and type of school. This method helped the investigator to obtain a representative sample and ensured that the findings of the study could be generalized to the larger population.

Tools for the Present Study:

The tool used for the present study was a self-made structured questionnaire titled *Utilization of Resources Scale*, developed and standardized by the investigator.

Initially, 30 items were prepared for the pilot study, and after item analysis, 25 items were retained for the final administration. The tool consisted of 25 statements measured on a 5-point Likert rating scale: Always (5), Most of the Time (4), Sometimes (3), Rarely (2), and Never (1). The reliability of the instrument was established using Cronbach's Alpha method, and the coefficient value (0.82) indicated high internal consistency. The validity of the tool was ensured through Face Validity and Content Validity based on expert opinion.

Data Collection

The data for the study were collected directly from the selected schools after obtaining formal permission from the respective principals. The structured questionnaire was administered to the students in person, and clear instructions were given to ensure accurate responses. Confidentiality and privacy of the respondents were strictly maintained. The collected data were then coded, tabulated, and prepared for statistical analysis using appropriate quantitative techniques.

4. Analysis of Data

Hypothesis 1:

There is no significant mean score difference between boys and girls among the selected higher secondary students in their Utilization of Resources

Variables	Mean	Standard Deviation	N	't' value	Two-Tailed Table Value	Remarks at 0.05 Significance Level
Male	53.64	14.76	275	-0.0824	1.9651	Accept Ho
Female	53.75	14.67	217			

Utilizaion of resources Score based on Gender

The calculated t-value (-0.0824) was less than the critical table value (1.9651) at the0.05 level of significance. Since the obtained t-value falls within the acceptance range, the null hypothesis was accepted. This indicates that there is no significant difference between male (Mean = 53.64, SD = 14.76, N = 275) and female students (Mean = 53.75, SD = 14.67, N = 217) in their utilization of school resources. The findings show that gender does not influence the level of resource utilization among higher secondary students.

Hypothesis 2:

There is no significant mean score difference between medium among the selected higher secondary students in their Utilization of Resources

Variables	Mean	Standard Deviation	N	't' value	Table Value	Remarks at 0.05 Significance Level
Tamil	52.76	15.62	216	-1.236	1.9654	Accept Ho
English	54.41	13.93	276			

Utilization of resources Score based on Medium of Instruction

The calculated t-value (-1.236) was less than the critical table value (1.9654) at the 0.05 level of significance. Therefore, the null hypothesis was accepted. There is no significant difference between Tamil-medium (Mean = 52.76, SD = 15.62, N = 216) and English-medium students (Mean = 54.41, SD = 13.93, N = 276) in their utilization of school resources. This indicates that medium of instruction does not significantly influence resource usage.

Hypothesis 3:

There is no significant mean score difference between types of schools among the selected higher secondary students in their Utilization of Resources

Variables	Mean	Standard Deviation	N
Government	51.44	13.5	171
Government-Aided	56.41	16.95	148
Private	53.59	13.42	173

Utilization of resources Score based on Type of School

Source ofVariation	Sum of Squares	Degrees ofFreedom	Mean Square	Calculated F-Value	TableValue	Remarks at P= 0.05
Between Groups	1,962.38	2	981.190	4.605	3.0718	Reject Ho
Within Groups	104,192.548	489	213.073			

Utilization of resources Score based on Type of School – ANOVA

The calculated F-value (4.605) was greater than the critical table value (3.0718) at the 0.05 level of significance. Since the obtained F-value exceeded the table value, the null hypothesis was rejected. This indicates that there is a significant mean difference in utilization of resources among Government (Mean = 51.44, SD = 13.50, N = 171), Government-Aided (Mean = 56.41, SD = 16.95, N = 148), and Private school students (Mean = 53.59, SD = 13.42, N = 173).

The findings reveal that Government-Aided school students showed the highest mean score in utilization of resources, followed by Private school students, while Government school students recorded the lowest mean score. Therefore, type of school significantly influences the level of resource utilization among higher secondary students.

Hypothesis 4:
There is no significant relationship between Utilization of Resources and Academic Achievement of higher secondary students.

Variables	Mean	Standard Deviation	N	't' value	Remarks at 0.05 Significance Level
Utilization of resources	53.69	14.70	492	-0.0821	Accept Ho
Academic achievement	53.64	14.76	492		

Academic Achievement Score based on Utilizaion of resources

The calculated **r-value** was found to be very low and not significant at the 0.05 level of significance. Since the obtained r-value was less than the critical table value required for significance, the null hypothesis was accepted. This indicates that there is no significant relationship between utilization of resources (Mean = 53.69, SD = 14.70, N = 492) and academic achievement (Mean = 53.64, SD = 14.76) among higher secondary students. The findings suggest that although school resources are utilized to some extent, their usage alone does not have a statistically significant influence on students' academic performance.

5. Conclusion

The present study examined the utilization of resources available in schools and its effect on academic achievement among higher secondary students. The findings revealed that there is no significant difference in the utilization of resources based on gender and medium of instruction, indicating that both male and female students, as well as Tamil and English medium students, utilize school resources at a similar level. However, a significant difference was observed with respect to the type of school, where Government-Aided school students demonstrated higher utilization of resources compared to Government and Private school students. Further, the study found no significant relationship between utilization of resources and academic achievement among higher secondary students. Although schools provide various physical, instructional, and technological resources, their utilization alone was not found to significantly predict academic performance. This suggests that academic achievement may depend on multiple factors such as teaching effectiveness, student motivation, home environment, and study habits in addition to resource usage. In conclusion, while resource availability and utilization are important for creating a supportive learning environment, effective planning, teacher guidance, and strategic implementation are essential to translate resource usage into measurable academic outcomes. Educational institutions should focus not only on providing resources but also on ensuring their meaningful and goal-oriented utilization to enhance overall student development and achievement.

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