

## A Study to Evaluate the Availability and Utilization of Physical and Instructional Facilities in Secondary Schools of Bajaur Agency (Pakistan)

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### Abstract

Educational facilities play a vital role in the output of educational institutions in terms of achieving educational objectives. These facilities also help in improving the quality as well as the quantity in education. This study was an attempt to evaluate the availability and utilization of physical and instructional facilities in secondary schools of Bajour Agency. In order to accomplish the desired study 15 secondary schools, 15 heads of the secondary schools, 130 teachers teaching at secondary level and 150 students studying at secondary level were considered as the sample of the study. Three questionnaires, one each for the heads, teachers and students were developed and data was collected, data was analyzed by using MS Excel in terms of frequency and percent. The study found that instructional facilities were not available in majority of the schools, teaching aids were not available in majority of the schools, science laboratories and the relevant equipments were not available according to needs in majority of the schools.

**Key Words:** Physical, instructional, facilities, availability, utilization, secondary schools, Bajour agency

### Introduction

One of the very basic and undeniable rights of every human being is Education. It is to develop the innate tendencies, capacities, qualities and power of a child to the full. It plays an important role in socio-economic development. It is not only delivering information but developing complete personality of a child. System of education has various stages and education at secondary level (9th and 10th) is very important as it is to prepare students for higher education.

It is well known fact that policies, curricula, methodologies, environment and educational facilities play a vital role in the performance of any educational institution. Of many

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crucial factors the educational facilities are the most important, which play a significant role in improving the quality of education and performance of any educational institution. The educational facilities are generally categorized into two main groups, physical facilities and instructional facilities (Farooq, 1993).

Physical facilities comprise of school building, facilities in the building, water supply, play ground, toilets, furniture, science laboratories and library (Ali & Ali 1982, Fatima 1998 & Afzal 1982, Government of Pakistan 1959, Saleem 1994, SEARAT 1998, Viswanathan, 1962). Instructional facilities includes teaching staff, teaching kits, charts, flash cards, teaching aids such as audio visual aids pictures, televisions, radios, over head projectors, televisions and media ( Bishop 1986 & Aggarwal 1997, Farooq 1990, Qaisarani & Khawaja 1989).

These facilities bring desired improvement in teaching-learning processes by making it effective to the maximum for cognitive, affective and psychomotor aspect of the people. It also makes the classroom teaching easy, clear, interesting and scientific. But unfortunately these facilities are not available in many secondary schools and those schools where these facilities are available; the teachers are not interested in proper utilization of these facilities. Many teachers are not properly trained for utilizing these facilities.

It is presumed that adequate availability and proper utilization of instructional and physical facilities improve the performance and output of the institutions. The institutions fully equipped with educational facilities give a better result as compared to the institutions having inadequate educational facilities. Such institutions fail to attract the students, which affects the enrolment ratio resulting in wastage of time and resources.

The quality education and teacher can bring a massive change and lead to rise educational standard and education as a result ensures the welfare, progress and prosperity of the nation. We have increased the number of schools, colleges and universities, but our output is not satisfactory. We have failed to improve the quality of education and provide skillful persons to the country. The standard of education is falling day by day, because our government is unable to provide full educational facilities to all institutions.

Educational facilities play a vital role in improving the output of educational institutions in terms of achieving educational objectives. These facilities also help in improving the quality as well as the quantity in the field of education. Importance of educational facilities for the sake of teaching learning and its role in the development of child's personality is very vital. Without these facilities it is not possible to impart effective knowledge.

This study was designed to collect relevant data and information about the availability of educational facilities and their utilization in secondary schools. Information gathered were about the major facilities such as school building, classroom, laboratories, library, furniture, toilets, drinking water, cooling (fans) and heating (heaters), lighting and ventilation, teachers and their qualification and instructional facilities such as black board, charts, maps, models, globe, projectors, televisions, tap recorders, radios, computers, teaching kits, etc. On the basis of this data, workable recommendations were made for the improvement of secondary education in Bajaur Agency both qualitatively and quantitatively.

### **Objectives of the Study**

1. To find out the status of availability of physical and instructional facilities in secondary schools of Bajaur Agency.
2. To find out the extent of utilization of the available facilities by the teachers in secondary schools of Bajaur Agency.
3. To assess the need of physical / instructional facilities in secondary schools of Bajaur agency.
4. To make viable recommendations in the light of findings of the study for improvement in the quality of education.

### **Methodology**

#### **Research Design**

The study was descriptive in nature and survey approach was used.

## **Population**

The population of study consisted of 23 secondary schools for boys in Bajaur Agency, 23 heads of the secondary schools for boys in Bajaur Agency, 250 teachers teaching at secondary level (9th and 10th classes) in the schools for boys in Bajaur Agency and 1258 students studying at secondary level (9th and 10th classes) in the schools for boys in Bajaur Agency

## **Sample**

The sample of the study comprised of fifteen boys from secondary schools for boys in Bajaur Agency, fifteen heads of the secondary schools for boys in Bajaur Agency, 130 teachers teaching at secondary level (9th and 10th classes) in the schools for boys in Bajaur Agency, 150 students studying at secondary level (9th and 10th classes) in the schools for boys in Bajaur Agency

## **Research Tools**

Three questionnaires were developed after reviewing the concerned literature regarding availability and utilization of the physical and instructional facilities and were administered on the sample.

5. Questionnaire for the head of the institutions.
6. Questionnaire for the teachers teaching at secondary level.
7. Questionnaire for the students studying at secondary level.

## **Pilot Testing**

A pilot testing of the research instruments (Questionnaires) was carried out in two schools prior to actual data collection. The pilot testing helped in refining the research instruments. It also ensured the validity of the research instruments and helped in identifying the method to be used for.

### Findings

The following table indicates that in maximum number of schools for boys in Bajaur Agency the instructional materials were not available as per requirement and where available were not being utilized comprehensively.

**Table 1.** Showing availability and utilization of instructional material

INSTRUCTIONAL MATERIAL	AVAILABILITY				UTILIZATION		N
	Not Available	Sufficient	Short	Maximum	To Some Extent	Not at all	
Chalk Boards	1 6.6%	11 73%	3 20%	3 20%	10 66.6%	2 13.3%	15
White Boards	14 93.3%	1 6.6%	-	-	1 6.6%	14 93.3%	15
Bulletin Boards	12 80%	3 20%	-	-	1 6.6%	14 93.3%	15
Display Boards	11 73.3%	3 20%	1 6.6%	1 6.6%	1 6.6%	13 86.6%	15
Chart Stands	15 100%	-	-	-	-	15 100%	15
Charts	7 46.6%	4 26.6%	4 26.6%	4 26.6%	1 6.6%	10 66.6%	15
Maps	7 46.6%	4 26.6%	4 26.6%	4 26.6%	1 6.6%	10 66.6%	15
Models	8 53.3%	4 26.6%	3 20%	4 26%	1 6.6%	10 66.6%	15
Filmstrips	15 100%	-	-	-	-	15 100%	15
Over head projectors	15 100%	-	-	-	-	15 100%	15
Screens	15 100%	-	-	-	-	15 100%	15
Radios	13 86.6%	2 13.3%	-	1 6.6%	-	14 93.3%	15
Tape Recorders	15 100%	-	-	-	-	15 100%	15
Televisions	14 93.3%	1 6.6%	-	-	-	14 93.3%	15
V C R	15 100%	-	-	-	-	15 100%	15
Video Tape Recorders	15 100%	-	-	-	-	15 100%	15
Computers	4 26%	6 40%	5 33.3%	4 26.6%	7 46.6%	4 26.6%	15
Printers	10 66.6%	3 20%	2 13.3%	2 13.3%	3 20%	10 66.6%	15
Type Writers	3 20%	6 40%	6 40%	6 40%	7 46.6%	2 13.3%	15
Globes	8 53.3%	5 33.3%	2 13.3%	2 13.3%	1 6.6%	12 80%	15
Pictures	12 80%	1 6.6%	2 13.3%	2 13.3%	1 6.6%	12 80%	15
Duplicating Machines	15 100%	-	-	-	-	15 100%	15
Teaching Kits	11 73.3%	2 13.3%	2 13.3%	2 13.3%	-	13 86.6%	15

The above table indicates that black board is available in 73% schools, white boards in 6%, Bulletin boards in 20%, display boards in 20%, charts in 26%, maps in 26%, radios in 6%, TV in 6%, Computers in 40%, printers in 20%, type writers in 40%, globes in 33%, pictures in 6% and teaching kits in 12% are available in schools. But filmstrips, overhead projectors, screens, VCRs, duplicating machines and video tape recorders were not found in any school. The table shows that instructional materials are not available and not utilized in majority of the schools in Bajaur Agency.

**Table 2.** Showing availability and utilization of furniture

FURNITURE	AVAILABILITY				UTILIZATION			N
	Not Available	Sufficient	Short	Maximum	To some extent	Not at all		
Officer / Teacher Table	1 6.6%	9 60%	5 33.3%	14 93.3%	-	1 6.6%	15	
Office / Teacher chair	1 6.6%	10 66.6%	4 26%	13 86.6%	-	2 13.3%	15	
Bench	2 13.3%	9 60	4 26%	13 86.6%	-	2 13.3%	15	
Desk	1 6.6%	10 66.6%	4 26%	14 93.3%	-	1 6.6%	15	
Student Chairs	3 20%	10 66.6%	2 13.3%	12 80%	-	3 20%	15	
Student Table	7 46.6%	6 40%	2 13.3%	8 53.3%	-	7 46.6%	15	
Student Arm Chairs	5 33.3%	8 53.3%	2 13.3%	10 66.6%	-	5 33.3%	15	
Stools	5 33.3%	3 20%	7 46.6%	8 53.3%	1 6.6%	6 40%	15	
Laboratory Table	6 40%	5 33.3%	4 26%	8 53.3%	1 6.6%	6 40%	15	
Cupboard	1 6.6%	9 60%	5 33.3%	12 80%	2 13.3%	1 6.6%	15	
Computer Table	8 53.3%	7 46.6%	-	7 46.6%	-	8 53.3%	15	
Cabinet	11 73.3%	3 20%	1 6.6%	4 26%	-	11 73.3%	15	
Library Table	14	-	1 6.6%	1 6.6%	-	14	15	
Library Chairs	13 86.6%	2 13.3%	-	2 13.3%	-	13	15	

The above table reveals that office table is available in 60% of the schools, office chairs in 66%, bench in 60%, desk in 66%, students' chairs in 66%, students' tables in 40%, students' arm chairs in 53%, stools in 20%, library tables in 33%, cupboard in 60%, computer tables in 46%, cabinet in 20% and library chairs were available in 13% schools. It shows that

furniture is available in 50 to 60% schools and majority schools report maximum utilization.

Keeping the analysis in view following findings were made.

- Majority of the respondents reported that instructional facilities were not available in majority of the schools. Only chalkboards were found sufficient in number in majority of the schools. Modern instructional facilities such as computer, television, projector, V.C.R, tape recorder, and other audio-visual aids were not available in majority of schools.
- Teaching aids were not available in majority of the schools. Globe was available in 53 % schools, charts were in 46 %, and models were in 53 %, display boards were in 20 %, pictures were in 6 % and teaching kits were available in 13 % schools only.
- Majority of the respondents reported that furniture was available in majority of the schools, but heads of schools reported that some items such as, desks, benches, students tables, stools, library chairs were insufficient.
- 80 % heads of schools, 70 % teachers and 48 % students reported that books and other materials were not sufficient in libraries. Respondents also reported that Teachers and students both do not utilize library facilities.
- It was also reported that science labs and their equipments were not available according to the needs. In 46 % laboratories, equipments were not available
- In 41 % schools there were inadequate and only 13 % schools had adequate materials.
- Most of the respondents reported that building facilities were adequate but the heads of different schools indicated that library rooms, laboratory, auditorium, work shops and computer labs, were not available as per requirement in majority of the schools.

- Physical facilities such as toilets were available in 66 % schools, telephone in 53 %, water supply in 73 %, electric supply in 86 %, Boundary walls in 93 % and playground in 26 % schools.
- All respondents demanded instructional materials for effective learning.

### **Discussion**

- In this modern era students need to know the importance of both groups of study; science and general group. Teachers and parents also play their role in this regard. The enrolments for the last three years 2002, 2003, 2004 indicate that for science group it is increasing whereas the enrolment for general group is not increasing accordingly. It seems that students are taking interest in science subjects or understand the demands of the modern age. The pass out or result of last three years is also 50 to 60 % only which is not satisfactory.
- Schools need amount to meet the requirements. For this purpose a specified budget is allocated to each school and the administration is allowed to utilize that budget to meet the needs of the institution. Budget allocation and its utilization for the last three years shows that majority of the schools utilized their assigned budget. During this study, some schools also indicated that their expenditures are more than their budget. They can not fulfill their requirements by the budget only, specified for the school. They have created other sources to fulfill the needs.
- Total number teachers, teaching to class IX & X, were 130 in sample institutions. Out of these teachers 80 were M.A/ M.Sc., 28 were B.A/ B.Sc., and 22 were F.A/ F. Sc. Majority of the staff was professionally trained in which 21 were M.Ed., 63 were B. Ed., and 29 were C.T. Majority of the teachers had teaching experience from 6 to 15 years. It seems that the number of teachers and their qualification is enough to fulfill the needs of these classes.



- Audio- Visual aids are supportive to the teaching as they create interest in students to learn. It is considered that students learn better by seeing or observing as compared to only listening teacher's lessons. Majority of the respondents reported that instructional facilities were not available in majority of the schools. Only chalkboards were found sufficient in majority of the schools. Modern instructional facilities such as computer, television, projector, V.C.R, tape recorder, and other audio-visual aids were not available in majority of the schools. It can be one strong reason for low level of learning in the students in their lower grades.
- Teaching aids were not available in majority of the schools. Only 50% schools were having charts, globes or models. Other teaching materials like: teaching kits or pictures were not available for the teachers to enhance the learning of the students. A high %age of the respondents (70-80%) showed that libraries were not equipped with books and other related study material which can be the alternative to the teacher or it can minimize the deficiency in teaching. If libraries are well equipped with sufficient study material, students and the teachers will be able to upgrade their learning and teaching but most of the respondents indicated that students and the teachers both did not utilize the library materials/ facilities.
- There were some unfulfilled basic needs of all the institutions regarding teaching and learning. These facilities create learning environment in the school. Heads of schools were not satisfied with these facilities. They were of the view that some items such as, desk, bench, students table, stool, library chairs were insufficient. Majority of other respondents reported that furniture was available in majority of the schools. There was a contradiction between the opinions of both types of the respondents may be due to the difference of preferences. There are many other facilities which are considered basics in schools as: building, library room, laboratory, and auditorium, work shop, computer lab and class rooms. Majority of the respondents were satisfied but again heads of the institutions were not. They were of the view that these facilities were not sufficient, more such facilities must be provided in schools. It seems that heads of the schools have a broader vision to

enhance the capabilities of the schools as compared to other respondents. For example science laboratories and related equipments are necessary for the schools where science subjects were offered. Only 50% schools were provided with science laboratories according to this study which was not satisfactory.

- Very basic Physical facilities such as toilets were available only in 66 %, telephone in 53 %, water supply in 73 %, electric supply in 86 % of schools. It seems that schools' administration need to focus its attention towards water and sanitation system in schools which is also necessary for the students' health. As it is said that healthy mind is only possible in a healthy body. Playground was not available in more than 70% schools though they are necessary for the students to keep them healthy and active throughout their career. Most of the schools do not focus on playgrounds and consider them as secondary need of the students but it is a misconception on the part of those schools or their administration.
- No doubt audio-visual aids are important to increase the interest of students in studies but they need skilled hands to use them. Teachers' profiles showed that all teachers are competent to use the A.V. aids but students reported that majority of the teachers do not use the instructional facilities in teaching. Even if they had computer in their schools they do not know how to use them. The teachers had not been encouraging the students to use computers. How can a teacher encourage the students to use the same material which he/she cannot use by himself/herself? This issue focuses the attention towards training of the teachers to use different types of materials in their classes.
- Majority of the respondents reported that co-curricular activities were not organized in the schools. Curricular activities are necessary during teaching but co-curricular activities are supportive for curricular activities as they made students active and confident. They also develop many other skills among students regarding their personality which is further useful for them in their practical life. But this area needs further attention of the administration.

- The criteria for the recruitment of teachers in our country are not proper. It should be kept into consideration that teaching profession is the most sacred and intellectual profession and only those teachers should be appointed who are really interested to join this profession as it can develop or ruin personalities of the students. Majority of the respondents reported that teachers were properly posted according to the needs and it is the criterion which can be the reason for teachers' lack of interest in pedagogy. Respondents were further of the view that teachers were overloaded and the working condition of the schools was not adequate for the teachers to work satisfactorily.
- Finally, all respondents demanded instructional materials for effective learning. So it can be said that teachers, students and the administration equally felt the need for teaching/instructional material for the enhancement of students' learning. No doubt teaching/ instructional material is necessary but it is also necessary to train teachers to use this material skillfully to make them effective for learning.

### **Conclusions**

The conclusions of the present study are as follows.

Enrolment in science subjects is increasing day by day. The budget was found insufficient to meet the needs because expenditures of some schools were more than budget. A significant number of teachers in sample institutions were professionally trained and experienced. But qualified science teachers were required. Teachers were not posted according to the needs.

Availability of instructional facilities was not satisfactory. Modern A.V aids were not found in any school. Majority of the schools were found with insufficient physical facilities such as auditorium, laboratory, library, toilets, play ground and computer laboratory. Equipments and materials in library and laboratory were found to be inadequate. The utilization of instructional and library facilities by teachers and students were unsatisfactory. Majority of the school were facing the shortage of furniture, only a few items of furniture were available. Co-curricular activities were not organized in majority

of the schools. Availability of playground and provision of sports instruments and game were also found unsatisfactory. Majority of the respondents felt the need of instructional material for effective learning.

### **Recommendations**

Keeping in view the findings and conclusions, following Recommendations are made:

There is a need to provide more and better facilities in the schools. These facilities should be provided according to their requirements. In-service training should be provided so that teachers can have the knowledge to operate and utilize the modern instructional facilities. Proper furniture should be provided to the institutions to meet the needs. Separate room for library and provision of more books should be made possible to produce study habit among the students. All institutions should be equipped with adequate laboratories for science teaching.

More instructional facilities should be provided and proper checking and guidance is required by high authorities to use these facilities properly. Trained and qualified science teachers should be provided to all the schools. Playground and sports facilities should be provided to attract the children. Teachers should be encouraged to use instructional facilities to improve their teaching. Repair of the existing schools buildings should be arranged to protect the building from further damage. New schools should be established according to the modern, recent necessities.

There should be a simple and proper policy to utilize school funds because administration does not utilize funds due to the fear of audit and inquiries. To meet the modern challenges, teachers should encourage the students to use computer. For the said purpose, computer labs should be established in the schools and qualified computer teachers should be appointed.

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