



ISSN Print: 2394-7500
ISSN Online: 2394-5869
Impact Factor: 5.2
IJAR 2017; 3(5): 732-737
www.allresearchjournal.com
Received: 15-03-2017
Accepted: 16-04-2017

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Impact of school environment on academic achievement of secondary school students in Madurai district

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Abstract

This short-term research examined “impact of school environment on academic achievement of secondary school students in Madurai district. The sample of present study consists of 160 students taken from higher secondary student in Madurai district. A positive school environment is defined as a school having appropriate facilities, well-managed classrooms, available school-based health supports, and a clear, fair disciplinary policy. There are many hallmarks of the academic, disciplinary, and physical environments of schools with a positive climate. The teacher should try to provide healthy environment in the school because children spent most of their time over there. Children take up the ideals and traditions of the social group in which they live. Hence a proper social environment is a must for the development of children. It is only in a healthy social environment that children express their interest, likes and attitudes. A proper, rational, healthy atmosphere in the class room enables the child to develop rational habits and rational attitude towards society.

The findings from the present study, reveals that male students have better perception on school environment than the Female students. This is due to the fact that female students are y nature, calm and quiet in their character. So they feel school environment is very convenient for their studies. Male students make use of the library and the lab much better than the female students. boys students do not hesitate to clear the doubts in the studies than the girls students. The result also reveals that self-finance schools have better school environment than the aided and government school students. This may be due to the fact that self-finance schools offer more facilities for effective learning as bait to attract more admissions into their institutions. The result also indicates that boys school students have better school environment than the boys and co-education students. This is due to the reason that boys schools have better competitive spirit with regard to their academic performance. They are exposed to challenges with regard to academic performance. They also have better atmosphere for group study.

Keywords: School environment, secondary school students, academic achievement

Introduction

Environmental factors affecting secondary students

Learning takes place effectively only when congenial environment is provided for children in school which are parts of his social environment.

The school is a factor of tremendous importance in education. The more the emphasis on speeding up the learning process, the more will be the emphasis on good learning environment. Non-functional, meagerly equipped and unattractively decorated school plants have given place to plants with superior lighting, attractive decoration, comfortable seating, useful service facilities such as library, multipurpose room, functional playgrounds, and class-rooms with chalk and bulletin boards, sinks, work areas, filing and storage facilities and pupils’ lockers.

A. Facilities Related to Infrastructure

i. Class-rooms

In the secondary school it is desirable that each section of students should have a room, though in teaching, two sections or more can be accommodated in one big room designed to seat about 70 pupils. It is desirable that some rooms should accommodate as many as 70 and other 30-40 students. About one fourth to one fifth of the rooms should be larger and smaller than the average.

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The class-room should have not only space for good study but adequate space for using maps, charts, pictures, specimens, models, exhibits, reference books, tools, craft materials, experiment apparatus and the like. Every instructional room should provide a healthful living and working environment for pupils and teachers.

In addition to the class-rooms, the following special rooms are needed in a good school:

1. Library 2. A multi-purpose room with a stage and folding seats (auditorium) 3. Science Lab-Cum-Lecture Room, 4. Craft Room. 5. Art Room, 6. Home Economics Lab-Lecture Room for co-educational or girls school, 7. Music Room 8. Staff Room, 9. Principal's Room, 10. School Office, 11. Museum.

These rooms are not absolutely essential but they do facilitate and improve instruction when available and used efficiently. Where it is difficult to offer a pucca school, kacha walls covered with thatched roof can serve the purpose. It should not be necessary to spend all the funds on a few pucca rooms and starve the school in the matter of more important facilities like furniture, equipment, apparatus etc.

ii. Black-boards

Black-board is the necessary equipment of a class room and a handy apparatus at the hands of a teacher. A teacher who does not use his black-board is not an effective teacher. Black-boards are many and various and include painted areas of the wall, framed wall boards, swing slates and board rising and falling, wall-boards and the black-board and easel. Of all these, black-board with easel is the best for the reasons that it can be moved to any part of the classroom, that it can be raised as the teacher works downwards on it and that its angle can be instantaneously changed to meet a change of the angle of incidence of the light. Moreover, the board can easily be taken down for purposes of concealment of contents during a test and both sides of the board are available for use.

Black-boards should not be glossy; such as surface affects the eye-sight of the pupils. So the surface should be dull as far as possible. When black-boards become so shiny by constant use that they approximate more to the condition of mirrors, they should be painted.

iii. Cupboards

Every class-room should be provided with a cupboard for the accommodation of such stock as is issued daily in the class and for the safe keeping of models, specimens, apparatus etc. If this be a glass-fronted cupboard and part of it can be turned into a museum of specimens provided by the pupils, so much the better.

iv. Lighting

The increase of short-sightedness among children of school age imposes an additional responsibility on educationists for proper means of lighting the rooms. The light arrangements should be as much approximate as possible to creating conditions in the class-room with reference to light in it as one finds in the open air on a dull day. The light in the room should seem to come from no particular source but should be well diffused about the room and should cast no shadows. The light should come in only from the left so that no shadow is cast by pen or the pencil when the child is working at his desk. The desks, therefore, should be

arranged in such a manner as to take full advantage of the light coming from the left. If this consideration is disregarded, the light will either shine in the teacher's face or dazzle the children.

The arrangement of seats and desks with reference to the doors and windows, the position of the blackboard with reference to the class, the fitting and furniture inside the rooms should also be guided by hygienic considerations. Suitable curtains and screens should be provided to alter the intensity of light according to need. When artificial lighting is necessary, it should be so arranged that the room is uniformly lighted and there are no shadows.

v. Science Laboratories

The school must possess well-planned and equipped science rooms and laboratories to aid instruction and stimulate greater interest in science courses. The old practice of having separate lecture and practical rooms is now giving place to multiple-use room-a good size for an average school room is 24 feet by 42 feet. If service connection for gas, electricity and water are provided in the wall, it will be easy to use the movable tables in one position for class work and in another for laboratory. Built-in cupboards for storing chemicals and apparatus should be provided. They will save space and also assure a better look.

Science rooms, as in many other class-rooms, should include various types of instructional aides, such as projectors, screens and suitable electrical outfits for visual education. They also need growing beds for plants, cages for small animals, and cases for insects. Storage space should be provided for class-instructional material for each group and for individual pupils using the room. Delicate instruments and dangerous chemicals should be stored in separate compartments equipped with metal shelves.

vi. Library

Library is the hub of the academic life of a school. With the new techniques of teaching, library should be the centre of the school educational programme. When resources permit, reading room should be separate from the library hall, otherwise the square hall preferably 24x80 sq. ft. can serve both the needs. The secondary school library should be located so as to make it easily accessible to all class-rooms and near those departments that use it most, but remote from centers of noisy activities, such as the street or athletic field.

vii. Furniture

If the school plant is to function efficiently, suitable furniture and equipment has to be provided.

Furniture plays an extremely important part in the physical, moral and mental welfare of the scholars. Great care should be taken in providing the same for "education is the cultivation of a first and legitimate familiarity between the mind and the things" as is said by Bacon. Each and every thing in the school affixes its stamp upon the individuality of the child and "the whole efforts of a school ought to be directed making boys manly, earnest and true by everything around them, all they do and all that is done to them, being the best stamp". We can only have the best work-man if we accomplish him with the best tools. It is of course, true that fine teaching can be done with little furniture (the example of Santi niketan of Tagore) and very bad instruction can be given with a wealth of appliances. But this is also true that sufficient furniture, good apparatus and useful appliances in

the hands of a first class teacher can produce results which cannot be obtained under any other circumstances.

viii. Workshops and Sheds

Education is being vocationalised. A number of trades like carpentry, metal fittings, electrical works, repair of household gadgets and transistor assembling, masonry and repair of automobile have been introduced. Floors, walls, and ceilings of the workshops should be constructed to suit the different activities.

Special attention should be given to safety and health factors in planning school workshops. Some items needing special considerations are adequate area for each activity, visibility throughout the shops and adequate aisles between machines and various parts of the shop. Other important conditions effecting safety are light and ventilation, selection of floor-surface material and fire protection.

B. Facilities Related to Extra Activities

- i. Assembly Hall
- ii. Art room
- iii. Music Room
- iv. Medical Examination Room
- v. The Hostel
- vi. Museum

c. The School Play-grounds

The play-ground and few other smaller areas for different games must be considered at least as important for educational purposes as school building with their classrooms and other paraphernalia. A school which has no play-ground has no right to exist, for playground is said to be the cradle of democracy. If play is to be accepted as the natural agency for the education of the child up to the age of puberty, then the lower half or more of our school will have to think and act not in terms of rooms, seats or desks but rather in terms of activities, games or projects which can be conducted only in the open. Hence schools will have to adopt sensible, sound and satisfactory means for providing open spaces, garden plots, play areas, sufficient ground spaces under shady trees and so on for different types of school work.

Designs for environment favourable secondary schools

There are a number of types of designs for secondary schools in our country:

- i) The I type – consisting of a row of class-room.
- ii) The L type - I type an extension on one side.
- iii) The T type - I with extension on one side both ways.
- iv) The U type – Two I's joined on one side.
- v) The E type, and
- vi) The H type.

Recommendations of Indian education commission (1964-66) on construction of classrooms

The Indian Education Commission – 1964-66 has recommended the following:

1. In view of the present unsatisfactory position regarding school buildings, it is necessary to take steps to clear the backlog of unconstructed school buildings as well as to provide additional buildings for new enrolment.
2. Allocations for construction of school buildings should be increased in the Central and State budgets, and community resources mobilized on the basis of

equalization. Loans and grants-in-aid should be given on a liberal basis to private schools for the construction of buildings.

3. Reduction of Costs. The norms and guidance available as a result of the work of a number of committees appointed by the Central and State Governments and on behalf of Ministry of U.G.C. and Central Building Research Institute at Roorkee and the Indian Standards Institute, for spacing and planning of school buildings should be put into practice.
4. In view of the shortage of traditional building material and the cost involved, well-designed and constructed kacha structures should be accepted as a part of the school system.
5. In rural areas, efforts should be made to encourage local initiative and contribution in putting up school buildings. The “nucleus” approach suggested by the Ministry of Education is recommended for general adoption.

Academic achievement

Education is a dynamic process, which involves imparting knowledge, generating interests and curiosity, inculcating desirable attitudes and values and developing essential skills required for independent study. This is necessary for enabling students to be competent and socially useful citizens. The unique responsibility of the school is to impart and help children in the acquisition of scholastic skills of the several factors influencing academic achievement; school environment may be said to play a dominant role in the achievement of school students. Children with proper school environment have been found to be making greater effort for academic performance.

Impact of environment on academic achievement

According to Dewey (1926) ‘Education is a continuous process of experiencing and of revising or non-revising experiences. It is the development of all those capacities in the individual which enables him to control his environment and fulfill his possibilities’. The forces of environment begin to influence the growth and development of the individual right from the womb of the mother. Educational process of development occurs in physical, social, cultural and psychological environment.

A proper and adequate environment is very much necessary for a fruitful learning of the child. Especially the home and the school should provide the necessary stimulus for learning experience.

The child spends most of his time in school and here his environment is exerting a different influence on performance through curricula, teaching techniques, relationship.

Significance of the study

In this ever-growing competitive world everyone desires a high level of achievement as the mark of one's performance. The whole system of education is centered on academic achievement of students, making it a fertile ground for research work.

Learning takes places effectively only when proper and congenial environment is provided for children in classroom. Their learning environment plays an inherent role in molding the innate potentialities of the individual and school has always been regarded as an important factor in

the child’s education. The education of the child and his achievement is determined to a large extent by the varied and dynamic role of teachers and the facilities provided by them for the child’s education.

Since the environment influences on the academic achievement of the students, the investigator tries to find out the impact of school environment factors on achievement. Hence the investigator selected the topic.

Statement of the problem

The area of the study selected by the investigator is “impact of school environment on academic achievement of secondary school students.”

Operational definitions

Environmental factors

The teacher should try to provide healthy environment in the school because children spent most of their time over there. Children take up the ideals and traditions of the social group in which they live. Hence a proper social environment is a must for the development of children. It is only in a healthy social environment that children express their interest, likes and attitudes. A proper, rational, healthy atmosphere in the class room enables the child to develop rational habits and rational attitude towards society.

Academic achievements

A measure of knowledge gained in formal education usually indicated by test scores, grade, grade points, average and degrees. Here, the achievement level of the student is judged by the marks that the students have scored in the quarterly examinations.

Secondary school students

Students enrolled in a course of study in the school offering courses above primary level. It includes students of 9th & 10th only.

Objective

1. To find out whether there is any significant difference between boys and girls in their School environment.
2. To find out whether there is any significant difference among government; government aided and self-financed school students in their School environment.
3. To find out whether there is any significant difference between rural and urban students in their School environment.
4. To find out whether there is any significant difference among boys, girls and co-education school students in their School environment.
5. To find out whether there is any significant difference between boys and girls in their academic achievement.
6. To find out whether there is any significant difference among government; government aided and self-financed school students in their academic achievement.

Hypothesis

1. There is no significant difference between boys and girls in their School environment.
2. There is no significant difference among government, government aided and self-financed school students in their School environment.
3. There is no significant difference between rural and urban students in their School environment.
4. There is no significant difference among boys, girls and co-education school students in their School environment.
5. There is no significant difference between boys and girls in their academic achievement.
6. There is no significant difference among government; government aided and self-financed school students in their academic achievement

Null Hypothesis: 1

There is no significant difference between boys and girls in their School environment.

Table 1: ‘t’ value between boys and girls in their school environment

Sex	Mean	S.D	Calculated ‘t’ value	Remark at 5% level
Boys (N = 78)	81.25	22.78	2.431	S
Girls (N = 82)	72.43	23.07		

(At 5% level of significance the table value of t’ is 1.96)

It is inferred from the above table that there is significant difference between boys and girls in their School environment. That is, the boys (M=81.25) are better than the girls (M=72.43) in their School environment.

Null Hypothesis: 2

There is no significant difference among the government, government aided and self-financed school students in their School environment.

Table 2: ‘F’ value among government, government aided and self-financed school students in their school environment

Variable	Source of variation	Sum of squares	Mean square variance	Df	Calculated ‘F’ value	Remark
School environment	Between	5033.639	2516.819	2	4.870	S
	Within	81145.336	516.849	157		

(At 5% level of significance the table value ‘F’ is 3.03)

It is inferred from the above table that there is significant difference among government, government aided and self-financed school students in their School environment. Self-finance school (M=82.19) better than government (M=74.99) and Govt. aided (M=73.78) school.

Null Hypothesis: 3

There is no significant difference between rural and urban students in their School environment.

Table 3: ‘t’ value between rural and urban students in their school environment

Locality	Mean	S.D	Calculated ‘t’ value	Remark at 5% level
Rural (N = 78)	81.5122	23.30	2.713	S
Urban (N = 72)	71.7179	22.32		

(At 5% level of significance the table value of ‘t’ is 1.96)

It is inferred from the above table that there is significant difference between rural and urban students in their School environment. Urban students (M=16.21) better than rural students(M=15.38) in their School environment.

Null Hypothesis: 4

There is no significant difference among the boys, girls and co-education school students in their School environment.

Table 4: ‘F’ value among the boys, girls and co-education school students in their School environment

Variable	Source of variation	Sum of squares	Mean square variance	df	Calculated ‘F’ value	Remark
School environment	Between	4992.59	2496.29	2	4.83	S
	Within	81186.39	517.11	147		

(At 5% level of significance the table value ‘F’ is 3.03)

It is inferred from the above table that there is significant difference among boys, girls and co-education school students in their School environment. boys school(M=84.96) are better than girls (M=74.18) and co-Education schools(M=72.02) in their School environment.

Null Hypothesis: 5

There is no significant difference between boys and girls in their Academic achievement.

Table 5: ‘t’ value between boys and girls in their academic achievement

Sex	Mean	S.D	Calculated ‘t’ value	Remark at 5% level
Boys (N = 78)	81.25	22.78	2.431	S
Girls (N = 82)	72.43	23.07		

(At 5% level of significance the table value of ‘t’ is 1.96)

It is inferred from the above table that there is significant difference between boys and girls in their Academic achievement. That is, the boys (M=81.25) are better than the girls (M=72.43) in their Academic achievement.

Null Hypothesis: 6

There is no significant difference between rural and urban students in their Academic achievement.

Table 6: ‘t’ value between rural and urban students in their academic achievement

Locality	Mean	S.D	Calculated ‘t’ value	Remark at 5% level
Rural (N = 78)	834.60	109.59	2.92	S
Urban (N = 72)	784.17	105.74		

(At 5% level of significance the table value of ‘t’ is 1.96)

It is inferred from the above table that there is significant difference between rural and urban students in their Academic achievement. rural students (M=834.60) better than rural students(M=784.17) in their Academic achievement.

Interpretation

From the present study, ‘t’ test reveals that male students have better perception on school environment than the Female students. This is due to the fact that female students are by nature, calm and quiet in their character. So they feel school environment is very convenient for their studies. male students make use of the library and the lab much better than the female students. boys students do not hesitate to clear the doubts in the studies than the girls students.

‘F’ test reveal that self-finance schools have better school environment than the aided and government school students. This may be due to the fact that self-finance schools offer more facilities for effective learning as bait to attract more admissions into their institutions.

‘F’ test reveals that boy’s school students have better school environment than the girls and co-education students. This is due to the reason that boy’s schools have better competitive spirit with regard to their academic

performance. They are exposed to challenges with regard to academic performance. They also have better atmosphere for group study.

‘t’- test reveals that male students are better in their academic achievement. This is because boys have more concentration in studies than female. Males are more interested in playing and studying. In our culture most expected boys and this makes them sit and study for a longer time paving the way for their academic performance. Parents who are educated and those who earn more money will provide good education to their children in schools with proper environment

Recommendations

The investigator has studied the relationship between school and achievement of secondary students in terms of variables such as sex, location of students, type of school, nature of school.

From the above findings, to overcome the factors which affect the achievement of students, the following suggestions are recommended.

1. The students from rural area may be given better opportunity in the school to develop better study habits.

2. The government should take initiative to improve libraries and laboratories in all institutions.
3. A full time librarian and lab assistance should be appointed in all schools.
4. Co-curricular activities like discussion, seminar, and exhibitions should be organized in schools.
5. Adequate and relevant practical works should be given.
6. Guidance and counselling centres should be started in schools so that the students can be helped to solve their educational problems.
7. Teachers should adopt effective methods of teaching so that the students may develop interest in the subject.

Suggestions

1. A study of achievement in relation to school factors can be conducted in branches of science like chemistry, physics, biology etc.
2. The present study is conducted on secondary school students. A study can be done with higher secondary students.
3. Scholastic achievement of students to relation in participation of students in co-curricular and extra-curricular activities can be conducted.
4. Impact of mass media on the academic performance of school students can be explored.

Conclusion

From the present study it is found that secondary students have high level of school environment. It is found out that there is positive relationship between the school environment and academic achievement. To make the achievement to a high level, efforts must be taken to strengthen the school environment.

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