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STATUS OF SCIENCE EDUCATION AT SECONDARY STAGE IN HIGH SCHOOLS OF BOLANGIR MUNICIPALITY

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ABSTRACT

The main need of this study was to investigate the status of science education in Bolangir Municipality in the year 2017. In this age of scientific and technological advancement everybody should have at least some basic knowledge of science for making effective and useful contribution to life. A citizen of modern world sees manifestations of science all around him. There is no sphere of man's life today which has not been influenced by science in one way or the other. This is because we are living in an age of "scientific culture." Science has shrunk the world and it has totally changed the human outlook. Modern science is no longer confined to the surface of this globe.

A critical appraisal of Science Education Programme at the secondary level is highly essential because of its ever changing nature to evaluate the relevance of curriculum to assess the status of laboratory facilities and teaching methodology and overall performance of science teacher in secondary schools. The study explores different facets of problems related to science teaching in secondary schools of Bolangir Municipality

BACKGROUND TO THE STUDY

A common rationale given for studying science subjects in school is the achievement of scientific literacy. The science achievement of secondary school students has long been of concern to parents, academicians, policymakers, and the general public. Policymakers are inspired to inquire about the standing of their country relative to other countries with respect to students' achievement. School performance in primary and secondary school does not depend on a student's mental and physical abilities alone; other factors also have an important role. It is appropriate in this context , to consider at once factors affecting the achievement in science such as

attitude towards computer and multimedia, socio-economic background, personal variables (like gender, religion, participation in school sponsored activities, subject choice, computer and internet access etc.), language as a medium of instruction, various institutional factors, etc.

These factors are of utmost theoretical and practical importance in developing curricula and designing educational programmes to suit the needs of pupils with varied backgrounds. Further the study of these factors assumes special significance in view of their implications in respect of day-to-day curriculum planning on part of the curriculum teacher.

REVIEW OF LITERATURE

Veerapa (1958) conducted a study to examine the position of science education in India and assessed the developing trends on the basis of the observations done in USA, UK etc. **Singh** (1988) did a study on 'Attitudes of secondary stage students towards science curriculum and its relationship with achievement motivation'. **Shrivastava** (1988) made 'An investigation into the scientific aptitude of higher secondary science students in relation to their cognitive style.' **Darchhingpui** (1989) did 'A study of science achievement, science attitude and problem- solving ability among secondary school students in Aizawl'. **Ghosh** (1989) in his 'Critical study of scientific attitude and aptitude of the students and determination of some determinants of scientific attitude' A five year project entitled "Teaching Science Scientifically in the High Schools of Orissa" sponsored by the **Ministry of Education, Government of India (1959)** was undertaken at **Radhanth Training College, Cuttack** during the period 1954-59. **Mishra (1977)** studied the efficacy of inquiry teaching for developing scientific concepts over the traditional method of teaching. **Pradhan (1978)** evaluated the different aspects of the text-book rating its suitability and recommended for its improvement. **Mishra (1980)** examined the curricular validity of examination in general science conducted by Board of Secondary Education, Orissa.**Behera (1981)** conducted an evaluation of text in Science with reference to different objectives. **Jena (1982)** investigated into the problem of science teachers and science teaching and library, laboratory status in secondary school.**Rout (1982)** assessed the quality of instruction imparted in our schools and to find out the various instructional facilities available. He reviewed the relationship between instruction and achievement.**Dash (1983)** assessed the attitude of girl students towards science teaching. He found that girl students had favorable attitude towards Science Education.**Mishra (1985)** studied the attitude of secondary school students towards science. **Sarangi (1983)** presented the status of school Science Education in Orissa in the historical perspective with an objective to improve it. **Tripathy (1986)** examined the problems of science teachers and physical facilities for Science Education. Mohanty (1987) examined the problems of science teaching and improve the status of Science Education through improvement of laboratory, library and other physical facilities. **Mishra (1987)** examined the system of examination and importance of objective type achievement test. Also attitude of girls towards Science Education was studied by him. **Haque (1987)** evaluated the importance of open book test and achievement in Science Education.**Mishra (1990)** studied the status of

Science teaching in Secondary Schools.

STATEMENT OF THE PROBLEM

The current situation of science teaching and learning in Bolangir Municipality is a concern to all including government and the society at large. Research indicates that many students found science to be difficult, boring and not interesting to them. Large class sizes, inadequate funding, insufficient curriculum resources, poor teaching skills and lack of supports for teachers among other factors further limit the quality of science teaching and learning in secondary schools of Bolangir Municipality, To solve these lingering problems one needs to develop a realistic picture of what is currently happening in the teaching and learning of science in Secondary schools and also to identify the factors that are limiting the quality of science education. Furthermore, one needs to develop a reasonable ideal picture for which the nation can strive towards within the existing resource limitations.

OPERATIONAL DEFINITION OF TERMS

The term "Secondary Stage" used in the present study has been operationally defined as:"A School having classes- VIII, IX and X was designated as secondary stage".

RESEARCH OBJECTIVES

The main objectives of the study are:

- To ascertain the status of teaching Science at the secondary level across Bolangir Municipality.
- To find out how the process of teaching science in class Xth
- To find out the deficiencies in the Science teaching programme this is in vogue to meet the requirement of secondary school.
- To identify the strengths and good practices in the system.
- To pool the views and suggestions of the teachers, supervisors and educationists to suggest remedies for removed of the deficiencies.

SCOPE OF THE STUDY

The Study was limited to the secondary schools of Bolangir Municipality. The study was limited to the Odia medium secondary schools affiliated to the Board of Secondary Education, Odisha. The study was limited to Class-X students.

METHODOLOGY

After a careful deliberation, the investigator opted for the descriptive method of survey. This method is mainly used to describe and interpret what exist at present. Although it does not tell the reason why things are the way they are, by looking at the current situation indicated by the data collected beforehand, an investigator, by

making use of this method can find out a number of facts that form the characteristic of a given situation and enables him or her to understand the practices in the given area.

Since this study was focused on the status of science education in secondary schools of Bolangir Municipality, the population for this study comprised of all secondary schools in Bolangir Municipality.The information regarding the number of high schools was obtained by the investigator after consulting the District Education Officers of all Bolangir district. At the time of the study, their records showed that there were 14 high schools. All of these schools offered science as a subject. Only 8 of these schools affiliated to Board of secondary education were considered as sample while collecting data for the present study.

Since the population for the present study was spread only over Bolangir Municipality, a study of the location of schools was made. It was found that secondary schools were spread in the urban area. On the basis of the information covered out of the 14 high schools (which formed the population), 8 of these schools were selected as sample for the study. Accordingly, it was worked out. For the present study, both primary as well as secondary sources were utilized in the collection of vital information regarding schools in Bolangir Municipality.

To find out the teachers profile at various high schools the incumbent records kept by District Education Officers and that of Directorate of School Education, Directorate of Higher and Technical Education were utilized.

For finding out the various conditions as well as norm of practical work at various stages, the investigator made use of a checklist that was distributed to all the high schools. Besides this, an interview schedule was also prepared to find out a number of information that could not be covered by the checklist. A questionnaire was developed by the investigator was used for the collection of data pertaining to science education

RESULT AND DISCUSSION

From the present study on science education which spanned four months, the investigator concluded that in secondary education level, science education has slowly but steadily shown an improvement within the town. However, it was apparent that that Bolangir has much growing to do inscience education.

Till the last academic session covered by the study, the secondary stage had not had a specific policy for science education, no proper monitoring system to check the practical work on science and a very low enrolment in science education was seen. The student teacher ratio at secondary school level was not at all safe. On the other hand, the almost equal number of teachers and students at the college level indicates just how expensive science education was for the state during the time the study was conducted. The uneven distribution of theory and practical work was highly undesirable. The poor condition of the Science Promotion Wing also showed the absence of active support in this field.

All these strongly indicated the need for a major boost to be given to science education taking into consideration the major areas that needed to be improved starting from human resources and including better infrastructure. The study did reveal that there was a good distribution of teachers in terms of age at under study. This balanced blend of mature and young minds was a valuable situation that the state should definitely utilize. However, the uneven distribution of male and female teachers from high school to college level was not a beautiful sight to see in a state where the society appeared so positive to female education.

As shown by the checklist which was meant to find out information with regards to the status of practical classes, it was clear that secondary schools and higher secondary schools are far from satisfactory in maintaining adequate laboratories for science education. As such, equal distribution of laboratory facilities was not found.

EDUCATIONAL IMPLICATIONS

Based on the findings, the investigator would like to that further research be done on thefollowing subjects:

1. A study on Attitude and Perceptions of Teachers, Students toward Science Education.
2. Science education in Bolangir: Issues and Concerns.
3. A study on scientific aptitude of students at different levels of education.
4. A study on achievement in science in relation to cognitive, affective and socio-cultural characteristics of students..
5. A comparative study on the teaching learning process and evaluation in science at different levels ofeducation.
6. A study on the gender and regional imbalances in the field of science education in Bolangir.
7. A critical analysis of State Government spending on science, technical and general education inBolangir
8. An analysis of curriculum of science education at secondary level of education.
9. A critical study of attitudes of science students in rural and urban areas within Bolangir district

REFERENCES

1. Alexander, Benny, (1990). A study of the relationship of critical thinking, science aptitude and socio-economic status to the science achievement of second year PUC. students. M.Phil., Edu. Bangalore Univ.
2. Burman (2004) as quoted in Pienju, K. ‘A study of the Status and Development of Science Education at High and Higher Secondary School Level in Nagaland since its Statehood. Ph. D thesis (unpublished). Nagaland University.
3. Cheriyan, Molley. (1988). Facilitations amid hindrances to the modernisation of chemistry teaching in the schools of Kerala. Ph.D., Edu. Univ. of Kerala.
4. Durani, P.K. and Sarma, A.L.N. (1982). Know the life between tide marks. Independent study. Bhubaneswar: Regional College of Education.
5. Joshi, B.P. (1981) . Development of Science Education For Upper Primary Classes based on the Environmental Approach. S.I.E. Rajasthan..
6. Malhotra, V.K. (1988). Critical Study of the Existing Facilities of Science Teaching and Construction of Evaluation Instruments for its Supervision in Different types of Secondary in India. Ph.D. Delhi University .

7. Mohanty, S.(1988). An appraisal of teaching science in the high schools of Cuttack City. Ph.D., Edu. Utkal Univ.
8. National Policy of Education -1968. New Delhi . Ministry of Human ResourcesDevelopment.
9. National Policy of Education – 1986. New Delhi. Ministry of Human ResourcesDevelopment.
10. Rao, K.N. and Gupta (1990). Study of Science laboratories in Secondary Schools in Selected States. NCERT.(ERIC funded).
11. Rao, K.N. and Gupta, M.K.(1990). Study of science laboratories in secondary schools in selected states. Independent study. National Council of Educational Research and Training.
12. Raza, M. (1986). Educational Planning-A long term Perspective. NIEPA. New Delhi. ConceptPublishing .
13. SCERT (2013-2014). Annual Reports. State Council of Educational Research and Training,Odisha
14. Sharma, H.L (1984) . A Critical Study of The Development of School Science Education in India from 1947 to 1977. Ph.D. Edn . Jamia Malia Islamia .
15. Veerapa, (1972-1978).as quoted in the Second Survey of Research in Education . NCERT.
16. A study of relationship between attitude towards and achievement in general science of Class IX students of Cuttack city. Ph.D., Edu. Utkal Univ.