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The Status of Science Education in Schools of Zunheboto District: Perception and Role Analysis of Stakeholders

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ABSTRACT
Zunheboto district of Nagaland like many districts of India has only one higher secondary school with a science stream available for students. The information portrays the status of science education in the district. In the present study, the researcher aims to find stakeholders' perceptions about the status of science education in higher secondary schools of Zunheboto district. It also explored their role-playing to improve their status. The researcher followed a descriptive research method. A total of 104 samples were collected purposefully from different stakeholders. The researcher used two self-developed research tools namely; a perception scale and an interview questionnaire to collect the data. According to the findings, most stakeholders have shown a moderately positive perception towards the status of science education in higher secondary schools of Zunheboto district. Among the different stakeholders, the school administrators showed highly positive perceptions while the civil society organization (CSO) had the least. Only the parents had a negative perception about the status of science education. It was found that the stakeholders in the Zunheboto district played a crucial role. The role of the CSOs in particular was found to be very efficient while the role of the parents was found to be very less. Despite having a negative perception about the status of science education in school the parents' collective effort to improve it is missing. Central civil organizations are playing a commendable role in improving the status and setting an example.
Keywords: *Science Education, Stakeholders, Perception, Role Analysis.*

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INTRODUCTION

In today's era of science and technology, the importance of enhancing science education is more crucial than ever. To advance in the realm of science and technology, ensuring high-quality science education from an early age is essential. This fosters a scientific mindset and curiosity in students, who are the assets of the nation. Effecting positive changes in society necessitates a collective effort on the part of stakeholders, particularly in the field of education.

Zunheboto District is located at the heart of Nagaland and is predominantly inhabited by the Sumi tribe. According to the 2011 Census, the district has a population of 114,014.

The schools in the Zunheboto district come under the Nagaland Board of School Education (NBSE). According to the 2024 NBSE, the distribution of schools in the district is as follows-

Table 1. Distribution of Schools in Zunheboto District

Level	Private	Government	Total
Secondary level	**26**	**15**	41
Higher Secondary level	**5**	**5**	**10**
Total	**31**	**20**	**51**

Among the 10 higher secondary schools, 6 schools are situated in the urban part of the districts. Out of those 6 schools, only 1 school is the provider of science education in the districts at the higher secondary level. The situation depicts the insufficiency of the education system. The perception of the stakeholders regarding the status and the role played by them in improving the status is crucial to effect a change.

There are some international studies that showed one of the biggest challenges faced was getting effective participation from stakeholders in the process of developing science policies (Jekabsone,2019).

The studies conducted in the Indian context observed a decline in science education at school and college levels. One of the major reasons was the way the parents and students perceived the career options in science education as not being attractive as compared to other subjects in terms of employment opportunities for science students (Garg and Gupta, 2003). A study was conducted on science education in Meghalaya's secondary schools. The study concluded that poor infrastructure; heavy workload on science teachers, and lack of training are contributing factors to poor science education in schools. The study revealed that science graduates no longer consider the science teaching profession a lucrative option due to the income gap. There is a shortfall in the research on school-level science education. It prompted the researcher to undertake the following objectives of the study-

- To study the status of science education in higher secondary schools of Zunheboto district.
- To find out the perception of the stakeholders towards the status of science education in higher secondary schools of Zunheboto district.
- To study the role of the stakeholders towards the quality of science education in higher secondary schools of Zunheboto District.

MATERIAL AND METHODS

The present research followed the descriptive research method. The investigation was done through qualitative as well as qualitative inquiry. A total of 104 respondents were selected purposefully for the study which includes 23 students, 28 Teachers, 20 parents, 13 school administrators, and 20 CSOs. Among these 104 respondents, the researcher took 50 respondents to conduct the interviews. All 104 (**Male 52, Female 52)** respondents were taken for administering the perception scale. The present research used different types of tools for data collection. The researcher used a perception scale to investigate the perception of stakeholders toward science education. The researcher also used a questionnaire for the interview. Tools and Techniques were developed and administered by the researcher after validating the tools from the experts.

RESULTS

Objective 1: To study the status of science education in higher secondary schools of Zunheboto district

It was found that in Zunheboto town there are 6 higher secondary schools. Among these 6 higher secondary schools only 1 higher secondary school is offering a science stream. It implies the whole district is served through only one school namely; Government Higher Secondary School, Zunheboto. The data shows there are only 2 classrooms dedicated to science education. There exist no science laboratories in the school. The school has no ICT facilities. There are 6 teachers and 3 lab technicians who are providing science education in the school. The teachers of the school are trained. There seems to be no use of innovative teaching methods in the school, only the traditional lecture method is in use for imparting science education.

Table 2. Zunheboto Government Higher Secondary School NBSE HSSLC HS Science Result of the past ten years

YEAR	ENROLMENT	APPEARED	PASS	FAIL	PASS %
2024	4	4	2	2	50%
2023	1	1	1	0	100%
2022	1	1	1	0	100%
2021	1	1	1	0	100%
2020	4	4	1	3	25%
2019	6	6	1	5	16.66%
2018	13	11	2	9	18.18%
2017	14	11	1	10	9.09%
2016	9	9	6	3	66.66%
2015	8	7	3	4	42.85%

The researcher collected information regarding students who enrolled in science education from 2015. The data is given in the above table. From the above table, we see the decrease in the number of enrolments in the science stream in the past ten years. We also see a decrease in the percentage of passed students in the science stream.

Objective 2: To find out the perception of the stakeholders towards the status of science education in higher secondary schools of Zunheboto district

The researcher administered the perception scale to different stakeholders; teachers, students, school administrators, parents, and CSOs. The data is given in the following table.

Table 3. Perception of the stakeholders towards the status of science education in higher secondary schools of Zunheboto district

Score	Perception	Overall	Student	Teacher	Admin	Parent	CSO
20-47	Negative perception	0.96%	0%	0%	0%	5%	0%
48-75	Moderately Positive Perception	89.42%	91.30%	92.85%	84.61%	80%	95%
76-100	Positive Perception	9.61%	8.69%	7.14%	15.38%	15%	5%

From the above table, we see that 0.96% of the stakeholders have a negative perception, 89.42% moderately positive perception, and 9.61% positive perception about the status of science education.
The researcher then studied the perception level of all the stakeholders towards science education separately. From the above table, we see that out of 23 student respondents, 0 % have a negative perception, 21 respondents have a moderately positive perception which is 91.30%, and 2 respondents which is 8.69% have a positive perception.
We can see from the table that out of 28 teachers who responded, 0% had a negative perception, 26 respondents which are 92.85% had a moderately positive perception, and 2 respondents which are 7.14% had a positive perception.
We see that out of 13 school administrators who responded, 0% had a negative perception, 11 respondents which are 84.61% had a moderately positive perception and 2 respondents which are 15.385% had a positive perception.
From the above table we see that out of 20 parents who responded, 1 respondent which is 5% has a negative perception, 16 respondents which is 80% is moderately positive and 3 respondents which is 15% have a negative perception.
We also see that out of 20 CSOs who responded, 0% had a negative perception, 19 respondents which is 95% have a moderately positive perception and 1 respondent that is 5% has a negative perception.
The researcher tried to investigate whether there exists any difference in the perception of male and female stakeholders towards science education. For this purpose, the researcher conducted a t-test. The result is given in the following table:

Table 4. Mean difference between Male and Female Stakeholders perception towards Science Education

Variables	N	Mean	Var	SD	t-value	t_c	P-value	df	0.05 level
Male	52	66.17	69.17	8.31	0.13	1.98	0.89 p>0.05	102	Accepted /Rejected
Female	52	66.36	34.90	5.90	$t<t_c$				

From the above table, it can be seen that the average level of perception towards science education of male stakeholders is 66.17 with SD 8.316 and the average level of perception towards science education of female stakeholders is 66.36 with SD 5.90. The t-value is 0.13 with a critical value of 1.98. The p-value obtained from the t-test is 0.89 which is greater than 0.05. This means there is no significant difference between the male and female stakeholders with respect to their perception about the status of science education in Zunheboto district.

Objective 3: To study the role of the Stakeholders towards the quality of science education in higher secondary schools of Zunheboto district.

From the interview conducted, teachers and school administrators opined that the Involvement of the parents towards the quality of education, in general, was very little or no involvement at all. One of the respondents opined that the parents leave the entire responsibility to the school and visit the school only at the time of admission. For the child's education, there should be a collective effort from the school, the pupil, and the parents which they said was missing on the part of the parents.
Over the years the number of students enrolment in the science stream has been very low, the problem being a lack of interest from the students and the financial status of the parents. To help the prospective students, the Zunheboto Range Students Union (ZRSU) sponsored the admission of 20 students in the science stream. This was done to help the students who are interested in pursuing science education but whose parents cannot help. This action of the ZRSU is laudable and shows the keen interest and involvement of the Stakeholders to improve the quality of Science Education in particular and the education in general.

DISCUSSION

From the research conducted we see that the status of science education in higher secondary schools of Zunheboto district is not up to the mark when it comes to quality. The continuous failure to produce good

results is one sign that shows its dying quality. It is also very evident from the fact that when there is a lack of basic infrastructure such as the laboratory which is an inseparable component in science education, the quality offered is questionable. There is no doubt in the ability of the teachers as all the teachers are appointed through government-conducted exams but when basic amenities are not available there is nothing much that the teachers can do. However, we also cannot sideline the importance of teachers updating themselves in every way. With internet facilities the information and resources available are humongous and teachers can take positive advantage of it in equipping themselves as well as bettering their skills.

The students on the other hand should also be responsible in their education. Equal interest should be shown from the part of the students to ensure that they make the best use of the education privilege that they are receiving.

Most of the parents of the students studying in Government schools are from economically weaker sections of the society. With reference to education, some students are first generation learners and so the active involvement of the parents cannot be expected. The students here can act as a bridge between the school and the parents in such cases. The schools and CSOs should also provide awareness programs for such parents.

It also came to light during the research that most of the students play the role of parents, taking care of their siblings because the parents stay in the village for the livelihood, while some students live with other family as domestic helpers. In such cases, the students don't get sufficient time to study or do academic works at home.

The CSOs should monitor such students who live with other families as domestic helpers, ensuring that they are not ill treated and are given sufficient time to study.

There are no libraries, museums, science centres or even a good book store in the district. CSOs can come together in providing such facilities which will not only benefit the science students but the whole community.

Although the involvement of the stakeholders in education especially that of the CSOs is commendable, there still needs lots of improvement and revamp in the status of science education in the district.

CONCLUSION

Science represents a highly pragmatic and down-to-earth discipline, tightly interwoven with the daily existence of individuals. It serves as the conduit through which we comprehend the diverse phenomena of nature and the environment that envelops us. The recognition of the significance of science education dates back to antiquity, yet its pertinence in contemporary times is more pronounced than ever. In our fast-paced, technology-driven world, where nearly every facet of life relies on science and technology, it is imperative to nurture students' scientific capability. In essence, science is far from being an abstract concept confined to textbooks and classrooms; it is a tangible, practical discipline that underpins the very fabric of our lives. As we navigate an era defined by constant scientific and technological advancements, the role of science education becomes ever more pivotal. The role of stakeholders in quality science education is enormous and therefore they should be conscious and active in improving the quality of science education and bettering society.

REFERENCES

1. Badmus, O. Omosewo, E. (2018). Improving science education in Nigeria: The role of key stakeholders. *European Journal of Health and Biology Education*. 7(1). https://doi.org/10.29333/ejhbe/87086
2. Cheung, A.C K. Keung. C.P.C. and Mak, B.S.Y. (2019). Examining the key stakeholders' perceptions of student learning: towards a paradigm shift in secondary education in Hong Kong. https://doi.org/10.1080 /02188791.2019.1604318
3. Gamede, B.T. Uleanya, C. (2021). Review of the impact of stakeholders' participation in rural school education. https://doi.org/10.5281/zenodo.4734190
4. Garg, K.C. and Gupta, B.M. (2003). Study on decline in science education in India – A case study at + 2 and undergraduate level. *Current Science*, Vol. 84, No. 9 pp. 1198-120.
5. Halim, L. Abd Rahman, N. Zamri, R. and Mohtar, L. (2018). The roles of parents in cultivating children's interest towards science learning and careers. *Kasetsart Journal of Social Sciences*, 39(2), 190–196. https://doi.org/10.1016/j.kjss.2017.05.001
6. https://dcmsme.gov.in/old/dips/DIPR-ZUNBEHETO-Final.pdf
7. https://nbsenl.edu.in/result-downloads
8. Kawlni, L, Mishra. L. (2020). Perceptions of stakeholders on quality of higher education in Mizoram. https://doi.org/10.36713/epra5891
9. Ravi, R.V. Dharmaraj. P and Ramesh. S. (2021). Stakeholders' participation in school development case studies from rural Tamil Nadu. MJP Publishers, Triplicane, Chennai

10. Remya, V.R and Chavan, C.U. (2022). Present status of science education in secondary schools. international journal of scientific and engineering research. *International Journal of Scientific and Engineering Research.* 5(1).1163-1166
11. Spector. B, Greely. T, Kingsley. G. (2004). Engaging stakeholders in productive meetings to reform science education. *Science Educator*. Vol 13. No1.
12. Singh, G.P and Imam, A. (2014). Effect of gender, attitude towards science, parental education and family size on science achievement of secondary school students of central U.P. *International Journal of Advancements in Research & Technology*. Vol.3(.2). pp12-18.