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Perception of High School Students about Sustainability School Learning Environment Using Rao's Student Inventory

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Abstract
The present research article aims to study students' perceptions about the school environment with regard to various aspects such as teachers, classmates, subjects, homework, co-curricular activities, and parental attitude. Assessment of students' feedback aids in identifying the pros and cons of the learning climate of students. The sample study includes both male and female students who are studying in eighth, ninth, and tenth classes. A simple random technique has been adopted. With a finite population, sample size has been determined using Cronbach's alpha. The research method is purely empirical in nature; data collection is done through the survey method using Rao's student inventory consisting of thirty items of all six variables. Statistical tools like factor analysis and item analysis have been used to study each item statement. The results of the student indicate there is not much difference of perception about the school environment among students of classes 8th, 9th, and 10th. Besides, around eight factors have been extracted, the first factor being school environment, parents, classrooms, head of the institution, academic activities, homework, classmates, and teachers. In conclusion, teachers are change agents in building the personality of a student, yet further, there are other factors beyond impacts on the growth of a student.
Key Words: *Students, Class, Perception, Variables, Teachers*

INTRODUCTION

In present education system, role of teacher besides student remains vital to improve the excellence of schooling as well as improve the competency levels of schoolchildren to face future challenges in achieving career goals. The first place of learning is school. Perhaps schools are said to be temples of learning; as such, the school education system lays down the basic foundation of a student in learning, unlearning, and relearning themselves to grow and develop. The school environment has a greater influence on the students in learning; a positive climate at school fosters growth of students in all academic and co-curricular activities, improving them at 360-degree levels. School climate plays a vital role in an individual's personality development. The climate in which a student studies has an influence on one's behaviour and attitude.

Several stakeholders, such as school management, teachers, parents, classrooms, classmates, and subjects taught, affect the students' academic performance. Continuous engagement in classroom activities, changing the pedagogy style of teaching techniques to avoid boredom of subjects, avoiding conflicts besides enabling healthy competition among fellow classmates, fewer academic rules and regulations, and good interpersonal interactions between teachers and students confirm significant performance among students, thereby making them feel like attending school regularly.

Literature Review:

Mayya (2011) identified top performers as having more positive perceptions towards teachers and school climate than underperformers, yet the score of females is comparatively less than males. Saputra (2002) found poor perception of students has an impact on academic performance.

Asiyai (2014) observed motivation helps students to actively engage in curricular activities and, besides, improve in attendance. Astuti (2015) highlighted two motivational factors: teachers' support and treatment, besides the selection of classroom activities, affect the learning environment.

Bempechat, 2004 Parental involvement in students' homework helps to achieve academic performance. Prior studies stated a direct relation exists between the student's homework and academic success. Hallatt et al., with the advancement of digital technology, the submission of homework and assignments declined among students in the digital era.

Kisango, B (2004), stated most of the school's lack funding for co-curricular activities and lack physical space and infrastructural facilities. Co-curricular activities aim to improve students' physical and mental fitness. Kamau et al. found students' active participation in co-curricular activities had a positive impact with respect to parental income status versus school category. Students' involvement and participation in sports and indoor and outdoor games help them socialize with fellow classmates and further improve their self-confidence and self-efficacy.

Lazaro and Qnney (2016) suggested the state governments need to provide adequate resources at the school level. Isuetkova et al. emphasized modern teaching methods where information technology is transforming the educational system

Suliswow et al. (2017) viewed teacher competence as the ability to teach varied subjects to students. Shochet et al. stated parental attitude towards students impacts the insight of students into the school environment.

Griffith (2000) explored significant positive results indicated by parents and students about school environment irrespective of school size. Kim, Fisher, and Fraser (2000) identified a difference of opinion between male and female students, besides males getting more support from teachers. Self-directed learning, learning through play, scenario-based learning, game-based learning, project-based learning, peer-to-peer instruction, Skype in the classroom, learning through projects, Problem-based learning, challenge-based learning, inquiry-based learning, and gamification. Shankar et al. explained that organizing small group activities that focus on problem-based learning environments attracts student attention in school.

Kamaruddin reported students' academic progress is associated with home climate as well as school climate and teachers' interaction in classroom learning. Bransford (2000) stated student teachers' interactions are influenced by several factors either individually or as a whole.

Gary et al. (2000) advocate that there exists a negative relationship between school size and student outcomes that has an impact on the enrolment of students in school. Bracy (2011). Studied how students' express feelings about schools laying down rules and punishments.

Pai et al. (2014) suggested the conduction of regular student counselling and workshops on teaching and learning helps to improve the learning atmosphere among students. Gietz et al. explored the significant association of school environment with the academic achievements of students. Literacy

Strategies. Write-Around, Four Corners, Accountable Talk, Fishbowl, Debate teacher-given "strategy—"fishbone" cause-effect analysis, Didactic, Personalized Concept Mapping (student-designed and personalized for their knowledge level and thinking patterns), Jigsaw Strategy, Content-Based Team-Building Activities.

Significance of the study: The present study aims to evaluate the perception of students towards the school environment, using a quantitative approach to measure the variables of the study. The Rao School Attitude Inventory has been used to assess the learning environment of the students in the school. The stratified sampling method without the proportionate method has been adopted to select the respondents from classes 8, 9, and 10.

Research Objectives: School is the foundation for learning for students in inculcating academics, sports, classmates, and co-curricular activities to engage the students, besides homework and subjects. The present research paper intends to study the perception view of the students across the variable of the study using Rao's inventory scale.

Research Methodology:

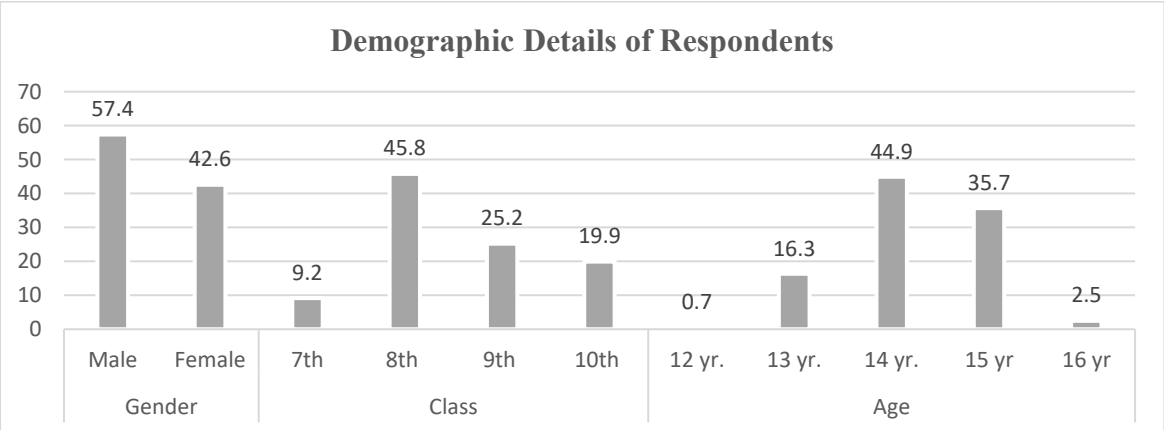
Sample Size determination: For the current study, Cochran's formula for finite population is calculated using the formula, where n_0 is an ideal size and N is the size of the total population.

Formula: n = $\frac{n_0}{1 + n_0 - 1/N}$ .... $equation\ 1$

The total sample size taken for the study was around four hundred and forty-eight, including classes from 7th, 8th, 9th, and 10th grades. The sample is collected from two private schools located in the Hyderabad area.

Instrument Design: The current questionnaire The Rao School Attitude Inventory was developed by Gopal Rao to find out the attitude of a student towards his school. There is no time limit, but Hardly; it takes fifteen minutes to fill out the questionnaire items. The school inventory suitable for level eight to eleventh students. The questionnaire consists of thirty questions covering various aspects of the school, such as teachers, school subjects, classmates, homework, co-curricular activities, and parental attitude to school as perceived by the students. Each question has five category responses, such as always, most often, frequently, sometimes, and never, out of which one needs to be checked. The test scoring is done based on summated ratings of the scale.

Data Analysis



The above graph 1 represents the demographic variables and their frequencies from the responses. Most respondents are aged between 12 and 16 years, representing a young group. Females make up 42.6 percent of the sample, slightly less than males at 57.4 percent, showing a close gender balance. The majority are from 8th grade at 45.8 percent, and 25.2 percent are from 9th grade. A few participants are from 7th and 10th grade. Over half of the participants, nearly 45 percent, fall into the age group of 14 years; on the other hand, 36 percent are from the 15-year-old age group, suggesting they are generally better off at the class level.

Table 1 Correlation analysis

Variable	**Te**	**SS**	**CF**	**HW**	**C0-A**	**PA**
Total Number of Items	6	6	4	4	4	5
Mean	18.1183	14.8817	9.6116	11.4844	11.4564	21.1964
Std. Deviation	3.29624	3.71849	2.83728	3.19672	3.45467	3.58992
Te	1					
SS	.138**	1				
CF	.189**	.305**	1			
HW	.285**	-.120*	.253**	1		
C0-A	-.070	**.501****	.153**	-.172**	1	
PA	.106*	-.003	.232**	.422**	.212**	1

*Te –Teacher, SS-School Subject, CF-class fellows, HW-Homework, C0-A co-curricular activities, PA-Parental attitude***.**

Among all the variables, co-curricular activities and school subjects are highly correlated (r=.501**). The mean value of parental attitude is higher comparatively among all other variables of school inventory.

Table 2 Mean Differences between male and female students.

	Male		Female			
Variable	Mean	SD	Mean	SD	F	Sig
Teacher	17.9572	3.30514	18.3351	3.28037	1.441	.231
School Subjects	14.8249	3.75579	14.9581	3.67614	.140	.708
Class Fellows	9.4086	2.94487	9.8848	2.66899	3.102	.079
Home work	11.5564	3.06022	11.3874	3.37742	.306	.581
Co-Curricular activities	11.3477	3.36187	11.6021	3.57900	.593	.442
Parental Attitude	20.8988	3.56599	21.5969	3.59236	4.172	.042

The mean values difference of each variable, comparatively parent's involvement in female students' studies is more as indicated in table 2.

The internal item consistency of Rao's school inventory scale has been examined with Cronbach's alpha test. The calculated coefficient for the aggregate sample of four hundred and forty-eight respondents overall is **α = .652,** which indicates the internal consistency among the variables is good.

Table 3 Teacher – Item inventory

S.No	Items	Item Mean	Item Rank
1.	Do you think that most of your teachers are kind of you?	2.5022	6

2.	Do you think that the principal of this school is too strict with the students?	3.0000	3
3.	Are you afraid of your teachers?	2.9484	4
4.	Do you dislike certain teachers in this school?	3.7701	1
5.	Do most of your teacher's command respect from student?	2.5338	5
6.	Do you feel that your teachers do not understand you?	3.3996	2

With regard to the perception views of students with regard to teachers in school, the item statement "Do you dislike certain teachers in this school?" reports a high mean score ($\bar{x}$= 3.7701). It indicates there is a need to improve the learning environment; teachers need to be more active in making the students learn creatively in the classroom. Besides another statement, "Do you feel that your teachers do not understand you?" scored the second-highest mean score ($\bar{x}$= 3.3996). As such, teachers need to interact with each and every student in the class. Spare a few minutes; daily interaction may not be possible, but at least during the counselling sessions, teachers have to keep up efforts to understand the student from a behavioural as well as an academic point of view.

Table 4 School Subjects – Item inventory

S.No	Items	Item Mean	Item Rank
1.	Do most of your teachers make the lesson interesting?	2.1004	5
2.	Do you think that your school prepares you for future occupation?	2.2567	3
3.	Do you feel that what you learn in the school would be useful even after you leave the school?	2.1857	4
4.	Do you like all the subjects you are taking in this school?	2.6183	2
5.	Do you find your studies dull and uninteresting?	3.7478	1
6.	Do you take pride in achieving well in your studies?	1.9777	6

Often school syllabi related to various subjects make the students attracted to study and involved in the classroom to the fullest extent. Students find their studies to be dull and uninteresting when the school subjects are not revised accordingly; the said statement scored a high mean value ($\bar{x}$ = 3.7478). Yet besides students like all the subjects offered in the schools ($\bar{x}$= 2.6183) due to the teaching-learning efforts imparted to them.

Table 5 Class fellows – Item inventory

	Items	Item Mean	Item Rank
1.	Have you found the students in this school friendly?	2.2612	3
2.	Do you like most of your classmates in this school?	2.4174	2

3.	Do you help your classmates in their subjects when they seek your help?	1.7679	4
4.	Do you feel that some of the students in your schools do not like you?	3.1652	1

Due to the busy class schedules during the day, very little time is available for the students to interact among themselves and know each other. "Do you feel that some of the students in your schools do not like you?" scored a value of 3.1652. On the other hand, the item statement "Do you like most of your classmates in the school?" ranked second highest ($\bar{x}$ = 2.4174). Indicating students prefer to enjoy playing with classmates more in a school environment.

Table 6 Homework – Item analysis

S.No	Items	Item Mean	Item Rank
1.	Do you think that your teachers give too much of homework?	2.9107	3
2.	Do you think that the "home work" is a burden on you?	3.1674	2
3.	Do you help your classmates in their subjects when they seek your help?	2.1029	4
4.	Do you feel that some of the students in your schools help you in homework?	3.3229	1

Quite often students feel stressed and overburdened with homework. It's not merely an assumption. Perhaps the statement "Do you think that your teachers give too much homework?" students gave ratings where the mean score was 2.9107. Is average related to the homework variable? Students in class, as they spend less time with friends, feel discomfort and assume their classmates do not like them, as per the statement "Do you feel that some of the students in your schools help you in homework?" (x = 3.3229).

Table 7 Co-Curricular Activities -Item analysis

S.No	Items	Item Mean	Item Rank
1.	Are you proud to be a student in this school?	2.2366	4
2.	Do you think that your success in life depends upon your success in school?	2.2612	3
3.	Does your school provide good opportunities for sports, games and dramatics?	3.8192	1
4.	Do you think that participation in sports, games and dramatics is more a hindrance than help to students?	3.1406	2

Apart from academics and regular classroom learning, students do exhibit their talent in co-curricular activities. Schools need to encourage and allocate sports hours, with respect Co-curricular activities: Most of the students stated that their schools provide good opportunities for sports, games, and dramatics, which is a good sign ($\bar{x}$ = 2.4174) for the overall growth of the personality of students.

Table 8 Parental attitude – Item analysis

S.No	Items	Item Mean	Item Rank
1.	Do your parents supervise your study at home?	1.9152	6
2.	Do your parents consider that sending you to school is a waste of money?	4.5804	2
3.			
4.	Do your parents place high hopes upon your education?	1.6652	5
5.	Do you feel that your parents send you to school just to get rid of your presence at home?	4.3973	3
6.	Do you get to the school because of the compulsion of your parents?	4.4866	1
7.	Do your parents want to change your school?	4.1611	4

Parents' involvement and continuous monitoring are very vital in the child's studies; leaving the child to complete school or leaving it to teachers is not correct. Review of the child's progress on a timely basis is essential. “Do you get to the school because of the compulsion of your parents?” Students rated the statement high: forcefulness should never be made on the child due to which the student feels burdened in learning. Learning takes place among the students at a slow pace; some students are fast learners while others are slow learners, due to which parents should never expect and say that sending them to school is a waste of money (= 4.5804). To get the positive results, parents’ guidance and support are necessary to make students understand their problems and come up with solutions.

Table 9 Comparison of mean values class wise.

	8^{th} class		9^{th} class		10^{th} class	
Variable	Mean	SD	Mean	SD	Mean	SD
Teacher	17.4537	3.17528	18.7965	3.69401	18.6517	3.43479
School Subjects	14.0780	3.03149	16.1327	4.47514	15.3258	4.27406
Class Fellows	9.4683	2.63744	9.5841	3.32395	9.2921	2.97032
Home work	12.0341	3.04602	10.4336	3.28110	10.6629	3.29581
Co-Curricular activities	10.4363	3.14836	12.2920	3.41395	12.8315	4.10995
Parental Attitude	21.2976	3.66278	21.0885	3.54954	20.4045	3.99351

Table 9 shows that there is a slight difference among the mean values between variables across the class levels. Kaiser-Meyer-Olkin helps to measure the degree of intercorrelation of the variables and thereby identifies whether the data is appropriate for factor analysis. The calculated KMO for the dataset is .757; it's good enough to carry out the factor analysis. Similarly, the significant value for Bartlett’s test of

sphericity is 0.000, and the chi-square value is 3748.737, highly significant (p ^ 0.000), indicating that the sample for application of factor analysis is significant statistically.

Table 10 Total Variance Explained – Factor Analysis

Component	Total	Initial Eigenvalues		Total	Extraction Sums of Squared Loadings		Total	Rotation Sums of Squared Loadings	
		% of Variance	Cumulative %		% of Variance	Cumulative %		% of Variance	Cumulative %
1	4.813	16.045	16.045	4.813	16.045	16.045	3.681	12.269	12.269
2	3.431	11.436	27.481	3.431	11.436	27.481	2.735	9.117	21.385
3	2.404	8.013	35.494	2.404	8.013	35.494	2.441	8.137	29.522
4	1.596	5.319	40.813	1.596	5.319	40.813	1.975	6.585	36.107
5	1.369	4.563	45.376	1.369	4.563	45.376	1.899	6.331	42.438
6	1.322	4.407	49.782	1.322	4.407	49.782	1.774	5.914	48.353
7	1.274	4.246	54.029	1.274	4.246	54.029	1.448	4.826	53.178
8	1.041	3.471	57.499	1.041	3.471	57.499	1.296	4.321	57.499
9	.989	3.298	60.797						
10	.965	3.217	64.014						
11	.911	3.037	67.051						
12	.898	2.995	70.046						
13	.808	2.694	72.740						
14	.779	2.596	75.336						
15	.704	2.345	77.681						
16	.668	2.226	79.907						
17	.617	2.056	81.963						
18	.586	1.954	83.917						
19	.552	1.839	85.756						
20	.546	1.819	87.575						
21	.500	1.667	89.242						
22	.469	1.564	90.807						
23	.453	1.511	92.317						
24	.430	1.434	93.751						
25	.375	1.251	95.002						
26	.374	1.248	96.250						
27	.326	1.086	97.336						
28	.307	1.023	98.359						
29	.265	.882	99.241						
30	.228	.759	100.000						

Extraction Method: Principal Component Analysis. Source: Spss output results

Factor analysis, total There are thirty item statements. The items were rotated through the varimax rotation method. After the rotation, the factors are classified into eight factors. The factor loadings and the total variance of each item are explained.

Factor 1, School Environment: Factor 1 is labelled as School Environment." The first factor accounts for 12.269 % of total variance, where the Eigen value is 4.813, and the factor loadings range from .716 to .389. In total, there are eight item statements in the factor. Do you think that your school prepares you for future occupations? *FL* (.716) has the highest loadings. Do you think that most of your teachers are kind to you? *FL* (.651), do you take pride in achieving well in your studies? *FL* (.644), does your school provide good opportunities for sports, games, and dramatics? *FL* (.637), do you think that your success in life depends upon your success in school? *FL* (.612), do most of your teachers make the lesson interesting? *FL* (.594), are you proud to be a student in this school? *FL* (.558), do you feel that what you learn in the school would be useful even after you leave the school? *FL* (.389) has the lowest factor loadings.

Factor 2: Parents' attitude is regarded as factor 2, accounting for 9.117% of total variance, and the Eigenvalue is 3.431; factor loadings ranged from .751 to .449. Do you get to the school because of the compulsion of your parents? *FL* (.751), do you feel that your parents send you to school just to get rid of your presence at home? *FL (.743). While another statement is,* do your parents consider that sending you to school is a waste of money? FL (.742), do your parents want to change your school? FL (.626), and at last, do you think that the "homework" is a burden on you? FL (.449) has low factor loadings. Overall, factor 2 has a total of five statement items.

Factor 3 Classroom: Variable has been considered as factor 3 and includes three item statements where the statement Have you found the students in this school friendly? It has the highest factor loadings (.841). Besides, there is another statement. Do you like most of your classmates in this school? Scored (.773) factor loadings. Why do you feel that your teachers do not understand you? has a low score of factor loadings (.385). Factor 3 accounted for 8.137 total variance while the eigenvalue is 2.404.

Factor -4 Head of the Institution: Factor 4 is categorized as head of the institution. The item statement Do you think that the principal of the school is too strict with the students?" has factor loadings of .635, while Do you dislike certain teachers in the school? scored .604 in loadings. There are only two item statements in this factor.

Factor -5 Academic activities: the total items included are four statements, the statement Do you feel that some of the students in your schools do not like you? FL (.783), next, do you feel that some of the students in your schools help you with homework? FL (.720), Are you afraid of your teachers? FL (.449), do you find your studies dull and uninteresting? Has scored low factor loadings FL (.286).

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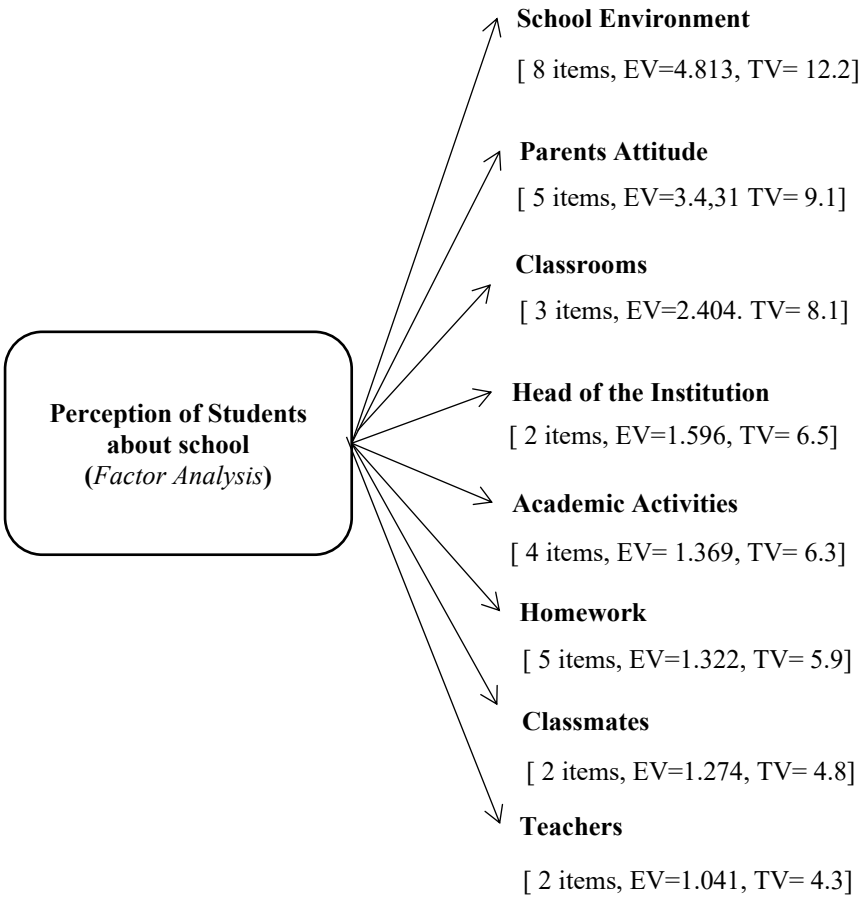

Figure 1: Extraction of Factors through factor analysis.

Factor -6 Homework: The sixth factor is with regard to homework; this variable accounted for a total variance of 5.914 with an Eigenvalue of 1.322. In this factor, items such as Do you think that participation in sports, games, and dramatics is more of a hindrance than a help to students? FL (.656) highest loading, do your parents supervise your study at home? FL (.535) Do you like all the subjects you are taking in this school? FL (.512), and the lowest factor loadings are Do your parents place high hopes upon your education? FL (.235).

Factor -7 Classmates: The seventh factor is characterized as classmates accounting for total variance for 4.826, where the Eigen value is 1.274; it includes only two item statements. Do you help your classmates in their subjects when they seek your help? FL (.875), and do your classmates help in your subjects when you seek help? FL (.589).

The last factor extracted was factor -8, figured as teachers. This factor includes only two items where the statement Do most of your teacher's command respect from students? FL (.742), besides Do you think that your teachers give too much homework, FL (.308), where the total variance accounts for 4.321, and the eigenvalue is 1.041?

Discussion: Several research studies focus on studying the infrastructure, teaching methods, and academic curriculum; however, few studies focus on understanding the thoughts, views, and experiences of students about the school environment. The climate of the school has a major impact on learning and gaining knowledge. Talking about technology, the use of audio-visual aids and online learning aids

does not always make a child grow. Encouragement of co-curricular activities and sports games, besides academics, and the bonding between teachers, principals, and students will leave long-lasting memories for the students.

Conclusion: Students need to be more engaged in cognitive activities to develop and further increase their mathematical and logical analysis. A nutritional diet is essential for the students to develop cognitive, analytical, and logical skills. Organizing seminars and interactions with parents and conducting counselling sessions with students could help in a better way to improvise the learning spirit. Dancing classes, yoga, and meditation build life skills. School is the second place, while home is the first place where the children learn the values; therefore, continuous involvement of parents, support, and encouragement are necessary for skilling up to make the child reach scalable heights.

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