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Exploring the Influence of Parameters of Teacher-Student Interaction on Science Learning

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ABSTRACT

Teachers and students are the two main stakeholders in building the teacher-student relationship. Correspondingly, there are many parameters that affect teacher-student interaction. Hence, this study was conducted to explore the impact of parameters of teacherstudent interaction on Science learning. The objectives of this study were to recognize the effects of teacher-student interactions on science learning in O/L students and to develop a role model for better teacher-student interactions in science learning. To achieve this goal, a study was conducted using G.C.E. (O/L) students from 21 selected schools in the Badulla Education Zone, Sri Lanka. Schools were selected based on their geographical distribution in Badulla Educational Zone to have a well-distributed sample. A stratified random sampling technique was used in selecting the students' sample (n=300). Similarly, all science teachers who teach at the selected schools were used as the teachers' sample (n=25). Data were collected from two separate questionnaires and observations. The gathered data were analyzed using both descriptive and inferential statistical methods. The results indicated that there were significant positive associations between the parameters of teacher-student interaction and science learning ($p \le 0.05$). In addition, parameters such as teacher performance (x_1 , r = 0.744, p=0.000) and the teaching-learning process (x_3 , r=0.796, p=0.000) were closely and positively associated with students' science scores. Parameters such as students' temperament (x_2, r) =0.267, p =0.000) and learning environment (x₄, R=0.138, p =0.021) were positively but poorly correlated with Science scores (y). The effect of teacher-student interaction parameters can be expressed in the regression equation; $y = -15.65 + 6.489 x_1 + 15.27 x_2 + 6.037 x_3 +$ 1.573 x_4 . ($R^2 = 71.43$). The present study reveals that strong teacher-student relationship can improve students' science learning. Findings of this study can be used to guide students' education toward an effective and successful path.

Keywords: Teacher Performance, Students' Temperament, Science Learning, Teacher-Student Interactions

INTRODUCTION

Education for Life

Education has a significant impact on the personal and professional lives of individuals in the modern competitive world. Through this continuous and secure educational process, an individual is able to effectively reduce challenging living conditions through his or her own experience and knowledge. (Stephenson, 1998). A good education benefits life in numerous ways such as accelerating personal advancement, uplifting social status, increasing social health, and resulting economic progress. On the other hand, school education plays a prominent role in everyone's life. Efforts of parents and teachers have a great impact on one's primary education. (Bhardwaj, 2016). Primary education prepares the base which helps throughout life, secondary education prepares the path for further education and higher secondary education prepares the ultimate path of the future and whole life.

Learning Science for Life

Science is dealt with the natural world and the natural phenomena in our immediate environment and even beyond. Besides Science knowledge is essential to understand living and non-living things, macro-organisms, and micro-organisms. Furthermore, it is essential to understand human beings anatomically. Similarly, some complex concepts are also explained through a scientific view. Simple instruments like pens and the latest instruments like flat curved televisions are developed through scientific knowledge. (Reiss, 2005). Hence, students' clear scientific knowledge is very important to understand their own lives as well as the entire world.

Importance of Teacher-student Interaction

A teacher is a person who helps people who want to acquire knowledge, skills or values, and the student initially enters a school or other educational institution and acquires the appropriate skills for the subject under the guidance of an instructor (Furlong and Maynard, 2012). Newton et al. (1999) noted that students easily build strong relationships with friendly assistant teachers and are more interested in the courses that those teachers teach. Additionally, supportive and effective teachers spend more time interacting with students, encouraging students' live participation and decision making, and playing a key role in creating a joyful classroom and building a strong teacher-student interaction. Furthermore, Pianta (1999) stated that teacherstudent interaction has a high impact on improving student skills and knowledge. He said that when teachers teach with kindness and patience, students learn willingly and respect the values and opinions of teachers. However, students need to feel that the teacher is caring and supportive. Also, a caring teacher tries to inculcate confidence in the student. Sagayadevan and Jeyaraj (2012) stated that the effective teacher-student relationships are critical to developing students' academic self-concept, enthusiasm and success, and ultimately skills development. It also has a significant impact on classroom facilities, student attitudes, tastes and values. Furthermore, Downey (2008) explained that students need teachers to build strong interpersonal relationships with students. These interactive relationships should be based on respect, trust, care and coexistence. In addition, teaching is an art and that teacher interaction is important for its effectiveness.

Background of the Research

As a Science teacher, the researcher has personally come across some questions according to varied understanding and interest levels of Science subject in students while different teachers instruct. In such events, some students complained that they could not understand some concepts of the subject when they were taught by particular teachers and requested that if the school management appointed the specific teachers requested by them for those subject areas they could achieve higher scores for those subjects. The majority of parents wish for higher educational performance from students in their school lives. Further Science is one of the important subjects out of the main subjects. Hence, parents were also involved in this scenario and went up to the extent of forwarding the same request; to appoint the teachers requested by their children for the particular subject. This scenario planted seeds for the researcher to conduct the research. The researcher planned to elucidate whether teacher-student interactions affect Science education and thereby as a Science teacher whether active engagement of findings would enhance my quality of teaching and the students' learning process.

This research was conducted to investigate the effects of the teacher-student relationship on Science learning. Moreover, various researchers' prior findings have identified student temperament, teacher performances, teaching-learning process, and classroom environment as main parameters that influencing teacher-student interactions.

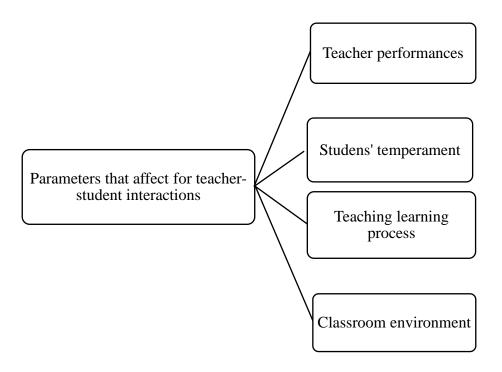


Figure 1: Parameters that affect teacher-student interaction

Significance of the Study

To enhance the quality of the teaching-learning process it is essential to recognize the teacherstudent interactions and their effectiveness for students' achievements in the context of the Sri Lankan education system. But the availability of evidence in this regard is limited. Thus this study will explore and attempt to understand the effect of the teacher-student relationship in education related to Science as a subject. The researcher's goal in conducting this study is to provide more specificity and greater empirical groundings for how these relationships affect education. Identifying specific parameters associated with teacher-student interactions will provide valuable information to an educational learning community. Research findings can provide insights towards understanding the effects of the student-teacher relationship on students' motivation and academic achievement. Findings would also contribute to the field of teacher education and teaching and contribute to the theoretical knowledge of the student-teacher relationship. Further, this study will encourage and influence the teacher to formulate the new teaching techniques and reconsider their views and strategies to build a positive relationship with students. Recognizing the impact of the teacher-student relationship on the learning environment can provide valuable information for an educational learning community. At the same time, the researcher attempts to discuss the attributes of a role model for the teachers, so that the teachers can look up to that role model to enhance student achievements and for their self-improvement as teachers.

Research Questions and Hypothesis

- How do the parameters of the teacher-student relationship affect Science learning?
 H1: There is a positive linear correlation among parameters of teacher-student relationship and the student Science learning.
- 2. What will be the role model for better teacher-student interaction in Science learning?

Objectives

- 1. To recognize the effects of teacher-student interactions for science learning in O/L students
- 2. To develop a role model for better teacher-student interactions in science learning

METHODOLOGY

Ethical Consideration

The approval from the Director, Zonal Education Office, Badulla was obtained to conduct the research in the targeted schools of the zone. This was followed by obtaining permissions from school Principals of targeted schools. Participants' consents were obtained during the data collection process.

Population

Based on an educational perspective, those districts are further divided in to "Educational Zones and Educational Divisions". Schools in Badulla district are categorized into six Educational Zones such as Badulla, Bandarawela, Walimada, Mahiyanganaya, Passara and Viyaluwa. A total of 72 schools which have ordinary level classes are located in Badulla Educational Zone. Moreover, there are 2,988 students studying in those classes in Badulla Educational Zone.

There were two populations used as student population and the teacher population for this study. They were 2,988 students who are studying in ordinary level classes of 1AB, 1C and 2 type schools in the two divisions of Badulla Educational Zone and 147 teachers who teach Science as a subject in these schools.

Sample

There were two groups used for this research study; ordinary level student group (2019 O/L) and the science teachers' group.

There were 747 ordinary level students and 25 science teachers from selected 21 schools in Badulla Educational Zone. A total of 21 schools, out of the 72 available schools were selected based on their geographical distribution in Badulla Educational Zone.

Sampling method

The minimum sample size was calculated using a sampling size calculator (https://stattrek.com/survey-sampling/sample-size-calculator.aspx) and it amounted to 254 students. However, a total 300 students (Table 1) and 25 teachers were selected as the sample in order to avoid incomplete questionnaires in the analysis. Fortunately, all the students had answered the questionnaires. Stratified sampling technique with proportionate allocation method was used when deciding the number of students that needed to be selected from each school and those students were selected using simple random method.

Table 1: Details of the sample population (21 schools under the Badulla Educational Zone)

Schools	Situated Division	Students group	Sample Size
Sc 1		97	39
Sc 2		20	8
Sc 3		40	16
Sc 4	D 1 11	20	8
Sc 5	Badulla	60	24
Sc 6		68	27
Sc7		110	44
Sc 8		12	5
Sc 9		30	12
Sc 10		38	15
Sc 11		10	4
Sc 12		8	3
Sc13		24	10
Sc 14		12	5
Sc 15	Hali-ela	18	7
Sc 16		16	7
Sc 17		40	16
Sc 18		18	7
Sc 19		20	8
Sc 20		40	16
Sc 21		46	19
Total		747	300

All science teachers who taught in the above 21 schools selected were used as the teachers' sample. In addition, population and sample percentage were illustrated as shown in table 2.

Table 2: Table of sample percentage out of population

Category	Population	Sample	Sample percentage %
School	72	21	29
Students	2988	300	10
Teachers	147	25	17

Data Collection Method

Pilot study

A Pilot study was conducted to test the accuracy and efficiency of the designed questionnaire. Randomly selected 15 students in ordinary level classes and 5 teachers in a selected school were used for the pilot study and the questionnaire was reorganized and restructured as suitable based on their feedback and problems arose while filling the questionnaire.

Primary data collection

Instrumentation: This research was a quantitative method study.

Quantitative approach: Data Collection Instrument used for the primary data collection of quantitative approach was a pre-tested survey questionnaire. Two separate questionnaires were used for students and teachers' groups.

Students' Questionnaires: Before starting answering the questionnaire, the written consents to participate in the survey were taken from the students. The participants were given the freedom to withdraw from the survey at any time. Instructions and information on the questionnaire were given to the students before it was distributed. Further clarifications were made upon request of the students.

Students were given questionnaires and retrieved after a sufficient period of time with the support of the teachers. Many instructors allocated time to fill the questionnaires within their teaching time. Anyhow most of the teachers were of immense support. After collecting the completed questionnaires, 300 completed questionnaires were chosen as samples for both divisions of Badulla educational zone. There were 171 students from Badulla division and 129 from Hali-ela division.

These students' questionnaire had five separate sections; namely, A, B, C D and E. In addition to that extra space (E) was given for any special comments. First section (part A) of this questionnaire contained basic information of students such as students' health, parents' support, interest in the science subject, interest in the practices and active participation. Second section (B) included information about teachers' performances such as teachers' communication skill, punctuality, friendly nature and patience, management skills and knowledge of the subject.

Third section (C) of the questionnaire intended to gather information about teaching learning process as practices in teaching, positive and negative reinforcement, teaching methods, materials, feedback and methods of evaluation. Forth section (D), of the questionnaire collected information about classroom environment. All questions of the sections A, B, C, and D of the questionnaire were on "Likert scale" with 5 scales as follows, strongly agree (4), Agree (3), Undecided (2), Disagree (1) and Strongly Disagree (0). The scores were reversed for negative statements.

Teachers' Questionnaires: On the other hand, other pretested questionnaires were used for teachers' sample and 25 teachers were included in this sample as shown in Table 4. These teachers' questionnaires had four separate sections; namely A, B, C, and D. Section A of the questionnaire collected data about teachers' basic information such as age, sex, educational and professional qualifications, teaching experience, training programs attendance and etc. Section B of the questionnaire gathered information about teaching learning process. Section C of the questionnaire collected details about classroom environment. The last part (D) of the questionnaire asked extra details about teaching process. Most of the questions in this questionnaire were on "Likert scale" with 5 scales as, strongly agree (4), Agree (3), Undecided (2), Disagree (1) and strongly disagree (0). The scores were reversed for negative statements. Few questions are different from the "Likert scale" and they were multiple choice questions.

Table 3. Details in Student Sample distribution of two divisions of Badulla Educational Zone

Division	Medium	Number of schools	Number of students
D 1 11	Sinhala	06	122
Badulla	Tamil	02	49
Hali ala	Sinhala	11	84
Hali-ela	Tamil	02	35
То	tal	21	300

Table 4: Teachers' sample distribution of two divisions of Badulla Educational Zone

Division	Medium	Number of teachers
Badulla	Sinhala	10
	Tamil	02
Hali-ela	Sinhala	11
	Tamil	02
Total		25

Secondary data collection

Secondary data was gathered from students' information books, teacher information records, term test mark sheets (average score calculated by using test marks of three terms), internet and previous studies.

Analysis Methods

Descriptive analysis

After collecting the completed questionnaires, those data were entered in two excel sheets for students and teachers. Then answers were analyzed using bar charts and pie charts in the form of descriptive data of both samples of students and teachers.

Further Analysis

Most of the questions of questionnaires were prepared under the "Likert scale" type with 5 scales as follows,

Strongly Disagree	(0)
Disagree	(1)
Undecided	(2)
Agree	(3)
Strongly agree (4)	

There were five answers in those questions and few questions are multiple choice answer questions. Those data were analyzed using statistical packages specially Excel, Minitab and SPSS. Similarly, the calculation of averages, and creation of charts and graphs were done using Microsoft Excel and reliability analysis, regression analysis and correlations analysis were conducted using Minitab and SPSS.

RESULTS AND DISCUSSION

The responses given by both student and teacher samples for the two questionnaires were analyzed to discover the objectives of this research. In addition, a regression analysis was conducted to achieve the objective of creating a model for better teacher-student interaction in Science learning. Moreover, the results of the research questions were presented by using relevant discussions.

Teacher Performances

Performance can be simply defined as the report of results produced on a specific job task or activity over a specific period of time. Also, Teachers' performance is important in achieving job goals. (Sad, 2015). Furthermore, Subroto (2013) stated that the performance of teachers' skills or competencies is important in creating a communication learning environment between teachers and learners.

The analysis of the teacher sample was presented below. Considering the sample of teachers, the diversity in their age, gender, professional and educational qualifications, job satisfaction and teaching experience can be seen. It is an expression of the diversity of teachers who typically work in the Sri Lankan teaching profession.

• Age and gender distribution

The present study included teachers in different age groups. The majority of teachers (48%) were belonged to 20-30 age group followed by 24% in, above 50 age group, 12% in 41-50 age

group and 16% in 31-40 age group (Figure 2). Hence, it reflected that majority of Science teachers were young. Figure 3 shows the gender distribution of Science teachers in Badulla Education Zone. Accordingly, 92% of Science teachers were females and 8% were males. The Final Report of Annual School Census of Sri Lanka in 2018 mentioned that there were 74% female and 26% male teachers working as teachers under the Ministry of Education.

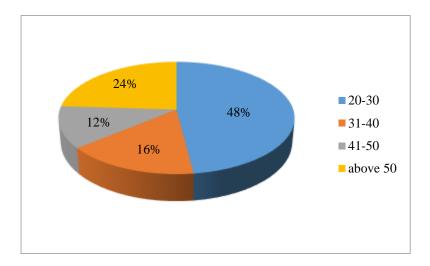


Figure 2: Age distribution of Science teachers in Badulla Education Zone

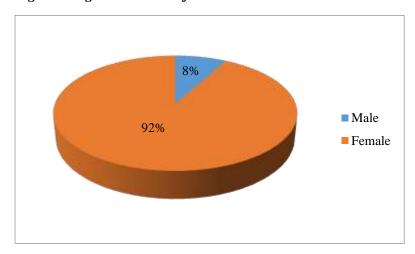


Figure 3: Gender distribution of Science teachers in Badulla Education Zone

• Variety of Professional and educational qualifications of teachers

Teachers had different levels of professional and educational qualifications as shown in Figure 4 and Figure 5. Most of them (48%) had completed the Post Graduate Diploma in Education (PGDE) as a professional qualification. However, 4% of Science teachers in Badulla Education Zone had not fulfilled any professional qualification. But many of them were graduate teachers.

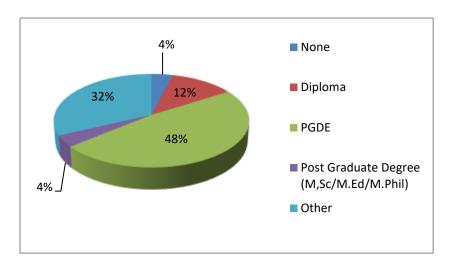


Figure 4: Professional qualifications obtained by the Science teachers in Badulla Education Zone

Figure 4 shows the highest educational qualification of the respondents. Majority of Science teachers (48%) had completed a Bachelor's degree, whereas 36% of the respondents only had the Advanced Level (A/L) qualification.

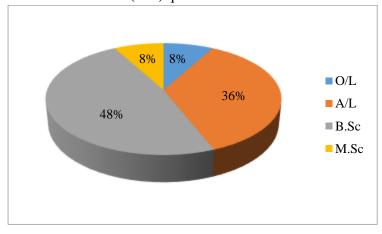


Figure 5: Highest educational qualification of Science teachers in Badulla Education Zone

The combination of educational and professional qualifications of the teachers in Badulla Education Zone can be summarized as shown in Table 5. According to Table 5, most graduate teachers (i.e 36%) had completed a postgraduate diploma as a professional qualification.

Table 5: The combination of both educational and professional qualification of teachers in Badulla Education Zone

Combination of Educational & Professional	Number of	Percentage
Qualification	teachers	(%)
GCE O/L and Other	2	8
GCE A/L and Diploma	3	12
GCE A/L and Other	7	28
BSc and PGDE	9	36
BSc and MSc	1	4
MSc and PGDE	2	8
BSc and None	1	4
Total	25	100

Experience in teaching and teaching Science

When teaching experience was considered, 60% of the respondents had 6-10 years of service and 16% of teachers had 11-20 years of service (Figure 6).

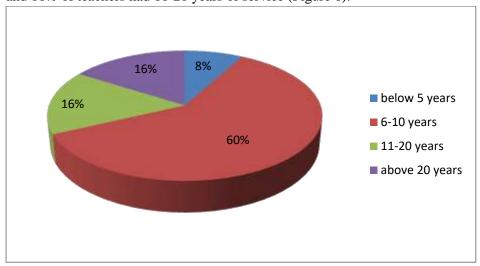


Figure 6: Teaching experience of the Science teachers in Badulla Education Zone

A summary of teachers' experience in teaching Science is given in Figure 7. Accordingly, 67% of teachers had 11 to 12 years of experience, 25% of teachers had 6 to 10 years of experience, and 8% of teachers had less than 5 years of experience in teaching Science. That is, some teachers seem to had taught another subjects other than Science. Furthermore, Figure 8 shows the relationship between the median value of the scores obtained by students in different classes at the class level and the experience of teaching Science subject.

Here the x-axis 1,2,3 symbolized the experience of science teachers. Less than 5 years was listed as 1,6-10 years as 2, and 11-20 years as 3. Consequently, it was observed that the average

value of the science scores of the students in the classes taught by the teachers with a higher experience (11 to 20 years' experience) in teaching the science subject was high.

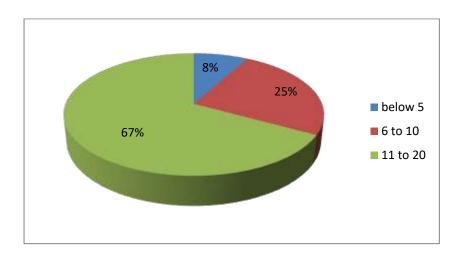


Figure 7: Teachers' experience in teaching science

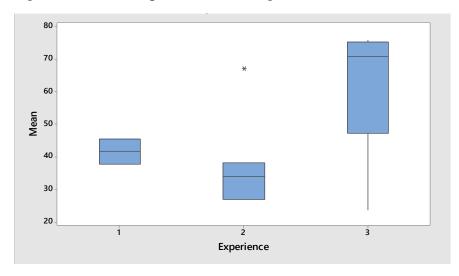


Figure 8: Relationship between the median values of the scores obtained by students in different classes at the class level and the experience of teaching Science subject.

Willingness to teach Science subject and job satisfaction

On the other hand, when job satisfaction was considered under the teachers' questionnaire (A-8 question), 48% respondents had mentioned that they are satisfied while 52% are dissatisfied with being a teacher (Figure 9).

A - 8 "Are you satisfied with being a teacher?

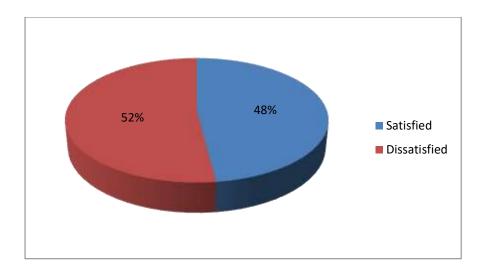


Figure 9: Job Satisfaction of the Science teachers in Badulla Education Zone

Moreover, satisfaction on Science teaching was considered under the teachers' questionnaire (A - 9 question) and the findings are given in Figure 10. Accordingly, 64% of the respondents were satisfied, while 36% were dissatisfied with teaching Science.

A-9: Do you like to teach Science?

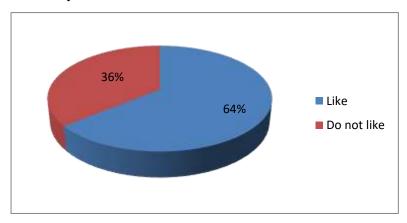


Figure 10: Preference of Science teaching

Furthermore, Figure 11 displayed the relationship between the mean value of the Science scores obtained by students in each school and the willingness of the teacher to teach.

Correspondently to that chart, if the teacher did not prefer to teach, the mean value of the students' science scores was 36.5 and the variance was 35. Also, if the teacher preferred to teach, mean value of the students' marks was 63 and the variance was 13.76.

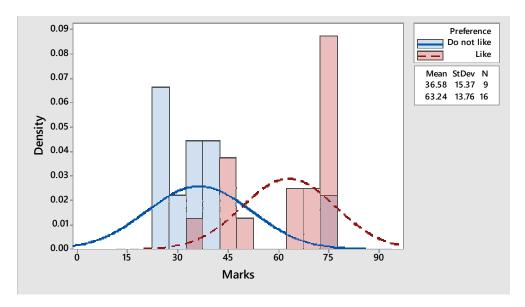


Figure 11: Correlation between students' average value in Science scores and teachers' preferences in teaching Science

There was a positive correlation between children's Science scores and the teacher's willingness to teach Science.

Participation in training programs

In order to enhance the professional quality of teachers, various training programs are implemented at the education zone level and a maximum of five are implemented annually. The participation of teachers in such training programs in 2017 and 2018 is shown Figure 12. Accordingly, 52% of teachers had participated in less than 5 training programs and 48% had participated in 5-10 training programs. The relationship between teacher participation in training programs and the mean value of children's Science scores in the classes taught by those teachers was shown in Figure 13.

Accordingly, it was noted that higher Science marks in the class were maintained by the students taught by the teachers who mostly participated in training programs (i.e. 5-10 training programs).

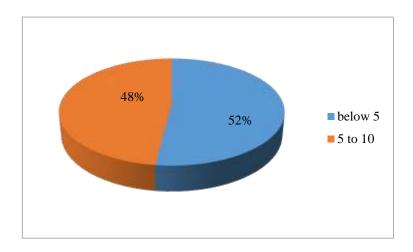


Figure 1: Teachers' participation in training programs

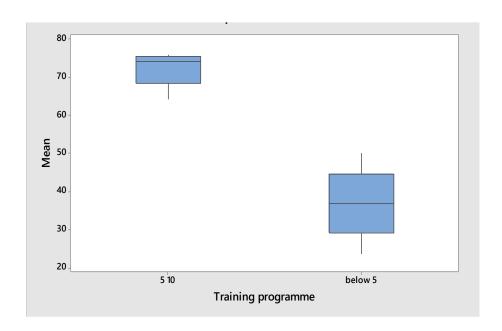


Figure 2: Correlation among the mean value of students' Science score class wise and the teachers' participation in training programs

The teachers' questionnaire provided information on their interactions with other parties, including other teachers, from the following questions / statements.

A 10 is "You maintain synchronous relationships with science teachers in your schools"

A 11 is "You maintain synchronous relationships with science teachers in other schools"

A 12 is "Have you ask people you know about science facts you don't know?"

A 13 is "You work closely with other teachers in the school"

The values given by those teachers were calculated as follows and a graph was drawn between those values and the mean value of the science marks of the students in the classes taught by those teachers.

Total marks = (A10 + A11 + A12 + A13)

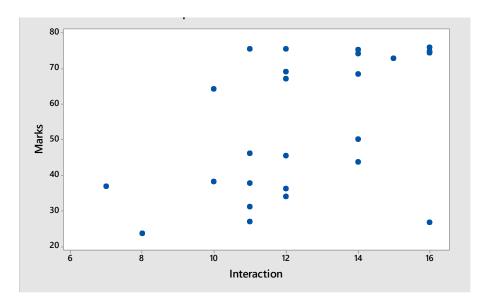


Figure 14: Correlation between the nature of the teacher's interpersonal relationships in the classes taught by those teachers and the average value of students' Science scores in different classes.

There was a clear distinction between the nature of the teacher's interpersonal relationships in the classes taught by those teachers and the average value of students' Science scores in different classes. In addition, a r-value of 0.495 and p-value of 0.012 were observed in Pearson correlation of above combination. According to that, there was a moderate positive linear relationship between the two variables; teachers' interactions with other parties and students' science score.

In addition, some of the children had submitted following ideas for Part E of the students' questionnaire.

Some students had expressed their positive thoughts as follows,

Respondent 01 (SC 4)

"The teacher teaches us lessons very clearly."

Respondent 02 (SC 5B)

"I like to listen to the teacher teach."

On the other hand, some children had negatively expressed their views as follows,

Respondent 03 (SC11)

"Sometimes we do not hear what the teacher says. When we tell the teacher about it, she gets very angry."

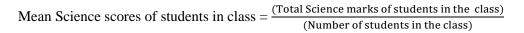
Respondent 04 (SC 14)

"Sometimes the teacher is teaching fast so the lessons are not clear."

Bidabadi (2016) stated that teachers need to have good teaching methods in order to focus students' attention on the teaching and learning process. Buck and VanLear (2002) posited that the good communication is essential for the teaching and learning process to take place. Therefore, effective communication strategies of teachers with good communication skills lead to success and create a more successful teaching and learning environment for students. In addition, a person with high communication skills can influence others.

Furthermore, based on the teacher's different behaviors and skills, the average value of the children's Science scores was calculated as follows to find out if there was any difference in the children's Science scores.

For that, the mean values of the Science scores are calculated as follows and shown in Figure 15.



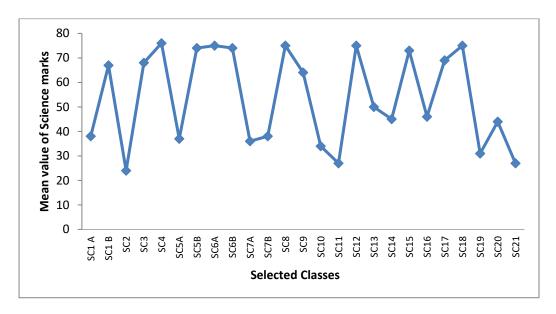


Figure 15: Average Science scores of students as school wise in selected schools

According to Figure 15, a clear variance could be seen in the mean value of the student Science scores in different classes. For instance, in some classes students' Science scores could be seen at a value close to 70 and in some classes it was around 40. The highest mean Science score was reported as 76 by classes of SC 4. In contrast, the lowest mean Science mark was recorded as 24 by SC 2 class.

Moreover, some of the children had submitted the following ideas for Part E of the students' questionnaire.

Positive thoughts about their teachers were expressed by some students as follows.

Respondent 1 (SC 6 A)

"I do not like Science before. But our Science teacher lovingly teaches us lessons"

Respondent 2 (SC 6 A)

"I like both Science subject and the teacher. She is kind"

Respondent 3 (SC 8)

"The teacher lovingly teaches us lessons"

However, several other students expressed negative comments about their teachers as follows.

Respondent 4 (SC 11)

"Oh, I don't like Science. The teacher is a very cruel person. So I get bored more"

Respondent 5 (SC 11)

"Teacher always angry with us and blame us without reason".

The average Science scores of the children in each class (Figure 15) and their few comments were shown. According to that the average Science scores of the children in the SC 6A and SC 8 classes were high. Similarly, respondents 1, 2, 3 mentioned that their Science teachers loved them. On the other hand, the average Science mark of the SC 11 students was less and respondents 4 and 5 mentioned their science teacher was cruel and they do not like her. There is a relationship between teachers' behavior and skills, and students' Science scores.

Nature of the students

There were 126 males and 175 females among the respondents as shown in Table 6.

Table 7: Gender composition of respondents used in the present study

Gender	No. of responds	Percentage %
Male	126	41.8
Female	175	58.1

When consider about the students' information many students are in healthy. But, the student records maintained at the class level in schools (students' information books) stated that 19 students suffered from special illnesses. As shown in Table 8, two children had diagnosed with diabetics, one with liver disease, seven with vision problem, two with hearing problems, and the other seven with depression. However, the teachers also mentioned that most of the children suffer from gastritis and vision problems.

Table 8: Recorded diseases in students in relevant classes

School (Class)	Recoded disease	Number of Students
SC1A	Depression	1
	Vision problem	1
	Hearing problem	1
SC1B	Diabetics	1
	Liver disease	1
SC 3	Vision problem	1
	Diabetics	1
	Depression	2
SC4	Vision problem	1
SC5A	Diabetics	1
	Depression	1
SC5B	Vision problem	1
SC13	Hearing problem	1
SC15	Depression	1
SC17	Vision problem	2
SC19	Vision problem	1
SC20	Depression	1
Total		19

Many teachers mentioned that students need good health for their successful learning.

Adaptation to the teaching-learning process and student Science learning

As teaching-learning process is so important in education, the results of a successful teaching-learning process can be an invaluable product. Teaching is difficult to separate from learning and they move together. The teacher imparts the necessary knowledge to the learner and he/she develops his/her knowledge, skills, and attitudes at different levels. Freire (1970) described education as a "banking" concept; the learners make deposits based on the nature of the bank accounts which bank has.

In addition, according to the teachers' questionnaire (question number B–12) teachers had used different teaching aids as shown in Figure 16.

B 12 – "Is the most commonly used teaching aid?

When consider about the results 68% of respondents had utilized text books and teachers' guide books whereas 12% used videos, another 12% used others methodsHence, most teachers use the textbook and the teacher's guide as teaching aids.

Besides, according to the teachers' questionnaire (question number B–14) teachers had used different teaching methods as shown in Figure 17.

B - 14 "Is the most commonly used teaching method,

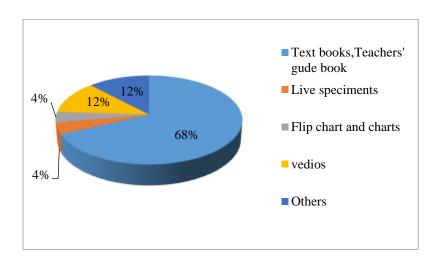


Figure 16: Utilization of teaching aids by the teachers in Badulla Educational Zone

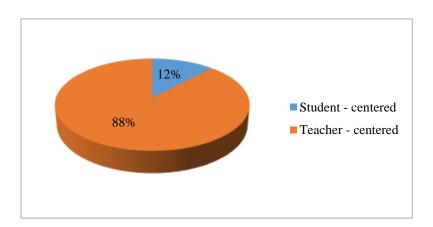


Figure 17: Utilization of teaching methods by the teachers in Badulla Educational Zone

According to Figure 17, 88% of respondents used teacher centered method as the teaching method and 12% of respondents used student centered method. That confirmed that teachers are increasingly turning to the teacher-centered teaching method and becoming accustomed to teaching the lesson.

Moreover, some of the children had submitted following ideas for Part E of the students' questionnaire;

Respondent 1 (SC 5 B)

"Our teacher is using videos, live specimens and different charts to explain the lesson. So I can understand well than previous years."

Respondent 2 (SC 18)

"Our teacher teaches us very interestingly and utilizes different kind of educational videos, pictures, live specimens and others to explain the lesson"

The comments made by the students above showed their interest in different learning aids.

Furthermore, according to the question B-22 of questionnaire used for teachers, the most commonly implemented feedback program/activities were identified.

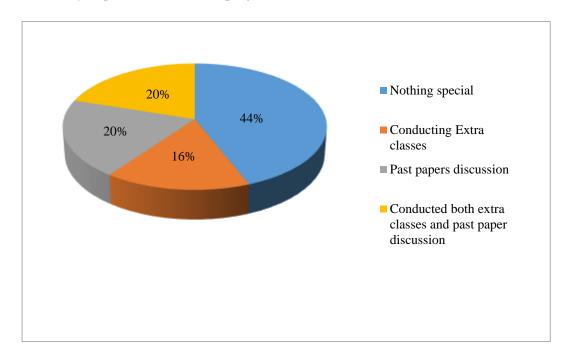


Figure 18: Feedback activities conducted by teachers in Badulla Educational Zone

As shown in Figure 18, 56% of teachers mainly conducted extra classes and past paper discussion classes to boost students' knowledge, skills, and attitudes. The information provided by the children is similar to the information provided by the teachers and some teachers implement small feedback counseling for the children.

Respondent 01 (SC 17)

"I punish children for not doing homework and for misbehaviour. I want to have a good generation."

Respondent 02 (SC 9)

"Of course, I also punish my students for their misbehavior. Maybe they are angry with me. But once they realized the error, they love and respect me more than ever".

Moreover, few students commented about the positive and negative reinforcement in the part E of the students' questionnaire as shown below.

Respondent 01 (SC 9)

"One day the teacher hit me. I was angry with her. But I realized that the teacher hit me because she loving me as mother."

Respondent 02 (SC 12)

"Teacher usually motivates and appreciates us."

The teachers' questionnaire provided information on teaching learning process from the following questions/statements.

B1 is "Study the lessons you need to do before going to class "

B2 is "You test the children's previous knowledge"

B3 is "You report to the relevant class for the scheduled period"

B4 is "You are teaching related to Lesson Plan"

B5 is "You leave the class at the end of the scheduled period"

B6 is "Do you think the number of periods given to teach the subject is sufficient"

B7 is "You will be given assessment leaflets for each lesson"

B8 is "You use word marks to encourage children"

B9 is "Identify the slowest and fastest students you have in class"

B10 is "Identify students with multiple talents in your class"

B11 is "You use various learning aids in teaching"

B15 is "Performs practical activities whenever you are not there"

B16 is "Assignments are made on days when you are absent"

B17 is "You provide homework related to the lesson"

B18 is "You punish children who do not practice homework"

B19 is "You are aware of the syllabus updates"

B20 is "At the end of the lesson you will review it"

B21 is "You run child-related nutrition programs"

The values given by those teachers were calculated as follows and a graph was drawn between those values and the mean value of the Science marks of the students in the classes taught by those teachers as shown in Figure 19.

Total marks of above questions,

```
=(B1 + B2 + B3 + B4 + B5 + B6 + B7 + B8 + B9 + B10 + B11 + B115 + B16 + B17 + B18 + B19 + B20 + B21)
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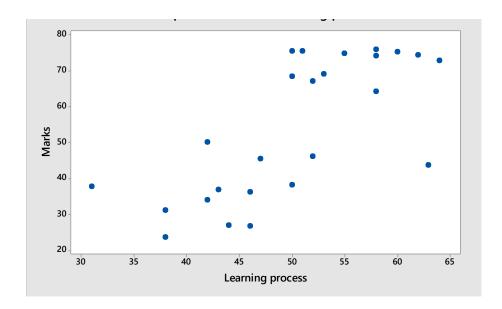


Figure 19: Correlation among the teaching learning process and the average value of students' science scores in different classes

According to the teachers' view, there was a clear distinction among the teaching learning process and the average value of students' Science scores in different classes. In addition, they showed a r-value of 0.714 and a p-value of 0.000 in Pearson correlation of above combination. Accordingly, there was a strong positive linear relationship among the two variables. Hence, there was a strong correlation between the values calculated on the information obtained from the questionnaires of the teachers as well as the students and the Science scores of the children. It had made no difference from the point of view of children as well as teachers.

The findings of this study were similar to those of the several previous researches. Redding (2019) noted that teaching habits of teachers affect students' academic as well as other extracurricular activities. Similarly, DeLong (2009) showed that teachers can use a variety of teaching methods to encourage self-motivated independent learning. In addition, Mutiarasari (2018) noted that teaching methods as well as the learning environment have a positive and significant impact on students' learning success.

Classroom Environment

Many parameters contribute to learning success, and as Erickson (1982) noted, the learning environment is one significant factor. Establishing and maintaining a supportive environment for all students is important. This provides a basis for them to reach their full potential. The learning environment can affect learning outcomes depending on students' achievement, satisfaction, comfort level, or success. According to Fraser (1998), students' learning can be developed through a proper learning environment.

Some teachers had the following comments on the classroom environment in section D of the teachers' questionnaire.

Respondent 01 (SC 08)

"There is a lot of noise in the classrooms as the classrooms are not separated from each other. It is very difficult for us as well as for the children."

Respondent (SC 1 A)

"Because of the lack of space in the classroom, it is difficult to reach out to children while teaching"

How does the teacher-student relationship affect for Science learning?

As the second objective of this study, the effect of the parameters of teacher-student relationship on the students' Science scores is discussed here. Besides, the results of above four themes, descriptive and further analysis usage to discuss the above research question as follows. Here, student performances, teacher performances, teaching learning process and classroom environment which affect teacher-student interaction, were considered as parameters that affect student scores. Further, the fifth hypothesis was used for find out the connection between above four parameters (students' information, teachers' performances, teaching learning process and classroom environment) and the students' Science scores.

Table 4.8 summarizes Pearson correlation output using average scores for Science as dependent variable and students' performances, teacher's performance, teaching learning process and learning environment as independent variables. Following hypotheses were developed in the present study at a significance level of 95%.

H₀: There is no positive linear correlation among parameters of teacher student interactions and students' Science score

H₁: There is a positive linear correlation among parameters of teacher student interactions and students' Science score

According to Table 9, there were linear correlations between Science scores and students' temperament, teachers' performance, teaching learning process, and learning environment (p=0.000). In addition, the Pearson correlation coefficient values (r) for teachers' performance vs. Science scores, and teaching learning process vs. Science scores were indicated as 0.796 and 0.744, respectively confirming that they were positive strong correlations. However, correlations between student performances and Science scores, and Learning environment and Science scores were weak but positive.

In addition, there was a strong linear positive correlation between the teachers' performances and teaching learning process (p=0.000, r=0.815).

Table 9: Pearson correlation output of main variables

Combination of Variables	P - value	R - value
Student performances vs. Science scores	0.000	0.267
Teachers' performance vs. Science scores	0.000	0.796
Teaching learning process vs. Science scores	0.000	0.744
Learning environment vs. Science scores	0.000	0.138
Teachers' performance vs. Teaching learning process.	0.000	0.815

What will be the role model for better teacher-student interaction in Science learning?

Regression Analysis

To achieve the third objective and the answer for the sixth question of this study, a regression analysis was used to create a model for better teacher-student interaction in Science learning based on the above analysis results. The regression analysis was conducted to describe the relationships between a set of independent variables and the dependent variable. In this study, parameters of teacher-student interaction such as students' temperament, teachers' performances, teaching learning process and classroom environment were used as the independent variables and Science scores were used as the dependent variable. Hence, according to the regression analysis, following output (Table 10) was achieved. It includes ANOVA, Coefficient, and Model Summary.

Table 10: Results of regression analysis - ANOVA

Model	DF	Adj SS	Adj MS	F - value
Regression	4	87863	21965.7	184.36
Residual	295	35148	119.1	
Total	299	123011		

F-statistics were carried out to find the overall strength of the model. The value of F-Statistic (184.36) shows that the model is highly significant as shown in Table 11.

Table 11: Results of regression analysis - Coefficient

Variable	P value	Coefficient
Teachers' performances	0.000	+6.489
Students' temperament	0.000	+15.27
Teaching learning process	0.000	+6.037
Classroom environment	0.021	+1.573

According to the Table 11, p-values of independent variables were less than 0.05 and those parameters were statistically significant. Although the parameters such as Teachers' performances, Students' temperament, Teaching learning process and classroom environment were effect for students' Science scores. In addition, model p-value was less than 0.05 and it was significant. Hence assumptions were not violated which used in this model. In addition, the coefficients represent the average change in the dependent variable given a one-unit change in the independent variable while controlling the other independent variables. The coefficient for Teachers' performances was indicated that each additional teacher's performances point increased student Science scores can be enhanced by 6.489 units while controlling everything else in the model. Furthermore, when an additional unit of students' performances was increased students Science scores can be increased by 15.27 units while holding the other variables constant. Similarly, if an additional unit of teaching learning process was increased, students Science scores can be increased by 6.037 when other variables are kept constant. Additionally, students' Science scores could be increased by 1.573 points if the other variables were kept constant and the classroom environment was increased by an additional unit. In addition, according to above results, students' performance highly influences on students Science scores when compare to other parameters. Secondly teachers' performances affect on student Science scores. However, classroom environment was less influences on students' Science score.

Although this analysis represent a regression equation and the model summary as shown in Table 12 where the coefficients represent the relationship between each independent variable and the dependent variable.

Table 12: Model Summary

S	\mathbb{R}^2	R ² (adj)	R ² (pred)
10.9154	71.43%	71.04%	70.21%

Multiple regression requires two or more predictor variables and here, 6.489, 15.27, 6.037, and 1.573 are the regression coefficients, which represent the value at which the criterion variable changes when the predictor variable changes.

$$Y = -15.65 + 6.489 X_1 + 15.27 X_2 + 6.037 X_3 + 1.573 X_4$$

Y = Science scores

 X_1 = Teacher performance

 X_2 = student performance

 X_3 = Teaching learning process

X₄ =Classroom environment

Basically, regression is the "best guess" at using a set of data to make some kind of prediction and it's fitting a set of points to a graph. Furthermore, R² value of regression for this model was 71.43% and this number indicted that how good this model was. The values ranged from 0 to 100, with 0 being a terrible model and 100 being a perfect model. Hence, 71.43% was a fairly decent model and a prediction. Furthermore, R² was used to analyze how differences in one variable can be explained by a difference in a second variable and it was given the percentage variation in y explained by x-variables. The range is 0 to 1 (i.e. 0% to 100% of the variation in y can be explained by the x-variables).

The coefficient of determination, R^2 , is similar to the correlation coefficient, R. The correlation coefficient formula will tell about how strong of a linear relationship there is between two variables. R Squared is the square of the correlation coefficient, r (hence the term r squared). R^2 shows how well terms (data points) fit a curve or line and it was 71.43%. Adjusted R^2 also indicates how well terms fit a curve or line, but adjusts for the number of terms in a model. Similarly adjusted R^2 of this model was 71.04%. Besides, while adding more and more useless variables to a model, adjusted R^2 resquared will decrease. In addition, if add more useful variables, adjusted R^2 will always be less than or equal to R^2 .

Overall summary

Based on the results of the questionnaire information from teachers and students, as well as the results obtained by analyzing other primary and secondary data, the parameters and sub parameters that affect teacher-student relationships is summarized below. In addition, the acceptance and non-acceptance of the hypotheses used in this study are summarized in Table 13 and 14.

Table 13: Summary of hypotheses used in this study

Hypotheses	Independent Variable vs. Dependent variable	Acceptance or Non- acceptance
H1: There is a positive linear correlation among	Student performances vs. Science scores	Accepted
parameters of teacher student interaction and the	Teachers' performance vs. Science scores	Accepted
students' Science scores	Teaching learning process vs. Science scores	Accepted
	Learning environment vs. Science scores	Accepted

Table 14: Correlation strength among parameters of teacher-student interaction and students' Science score

Variable combinations	Strength among variables	
Student performances vs. Science scores	Weak positive linear correlation	
Teachers' performance vs. Science scores	Strong positive linear correlation	
Teaching Learning process vs. Science score	Strong positive linear correlation	
Classroom environment vs. students' Science score	Weak positive linear correlation	

According to Table 14, from the parameters of teacher student interaction such as teachers' performances as well as the teaching learning process were strongly correlated with students' Science score. Similarly, in the thematic analysis students had mentioned that their interest and understanding level of Science learning were boosted when teachers utilized diverse teaching materials, methods, motivational activities and practices.

CONCLUSION

According to the available literature parameters and sub parameters which effect on teacher student interaction were identified. By using descriptive, and statistical analysis and by using the appropriate statistical package as Minitab it was found that the parameters such as teachers' performances, students' performances, teaching learning process, and classroom environment positively correlated with students' Science scores. Furthermore, there is a positive correlation between children's Science scores and the teacher's willingness to teach Science.

In addition, the effect of the parameters on teacher student interaction can be shown by using the regression coefficients as shown in following equation. $Y = -15.65 + 6.489 X_1 + 15.27 X_2 + 6.037 X_3 + 1.573 X_4$ (Y = Science scores, $X_1 = Teachers'$ performances, $X_2 = Students'$ performance, $X_3 = Teaching learning process$, $X_4 = Classroom environment$). Furthermore, students' performances are highly influenced on students' Science scores when compare to other parameters. Secondly teachers' performances affected on students' Science scores. Furthermore, classroom environment is less influential on students' Science score. Finally, this study highlights the creation of a learning background that recognizes students' hearts and minds through strong teacher-student relationship strategies.

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Teachers' Job Satisfaction and Human Resource Management Practices in Sri Lankan Context: A Literature Review

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ABSTRACT

Education is the unique and predominant factor of stimulating national development. The effectiveness of schools depends on the quality of teachers. The concepts of resource management of teachers and job satisfaction are interrelated. Teachers are the prominent resource of a school and the resource who determine the quality of education. The concept of job satisfaction is the combination of job and satisfaction and job means the process of work and satisfaction means the perception of process of work and the working environment.

Objective of this study was primarily to identify the major challenges and questions, regarding the job satisfaction of teachers working in Sri Lankan schools, that have been discussed in review reports and research reports published by government and nongovernment organisations based in Sri Lanka. The study on Teachers' Job Satisfaction – Human Resource Management Practices - a literature review based on the review reports and research reports that were published in Sri Lankan context (2000-2020) has been carried out as a qualitative study. 42 related review reports and research reports were subjected to content analysis by the researcher. Contents were subjected to summarization, symbolization, and categorization processes and questions were identified accordingly.

From subjecting related review reports and research reports to content analysis and referencing, the weak areas in education management and teacher resource management in Sri Lanka are revealed such as recruitment, appointment, transfer, supervisions, motivation, safety, benefits, development & training, salary, distributions of human resource, external impacts of management, lack of coordination, promotion and wellbeing. Further, this analysis emphasises the need for development in education management and human resource management.

Keywords: Job Satisfaction, Teachers, Human Resource Management

INTRODUCTION

Education is the best resource human society has ever known. It is also the biggest power for social empowerment (Smith, 2018). Education provides a strong foundation for socioeconomic wellbeing (Qureshi, 2019). Teachers are those who are attached to teaching (Teacher Service Minute, 2014). Teachers are the primary resources of a school and they determine the quality of education provided in school (Bolin, 2007). The concept of job satisfaction is the combination of two terms: job and satisfaction. Job relates to the performance in a profession while satisfaction is the reflection of performance and working environment (Mitra, 2018). Job satisfaction refers to the attitude and feeling of an employee about his/her job (Amstrong, 2006).

Job satisfaction of teachers has gained significance at school level due to its considerable impact (Brezicha et al., 2019). Teachers' job satisfaction is vital for both students and teachers themselves (Toropova et al., 2020). Teachers' job satisfaction promotes positive attitude related to their job and produces positive effectiveness and efficiency (Abdullah, Uli, & Parasuraman, 2009; Judge, Thoresen, Bono, & Patton, 2001; Lambert et al., 2002).

Education management is the implementation of educational activities via efficient utilisation of resources in order to efficiently attain the goals (Hidayat & Machali, 2020). Human Resource Management practice has been undertaken as a part of education management (National Education Commission, 2014). Human Resource Management Practices are closely related to job satisfaction (Absar et al., 2010). Education management practices are undertaken as a part of and with the aid of Ministry of Education. Moreover, education management practices are carried out in provincial, zonal, divisional, and school levels. Human Resource Management practice has been undertaken as a part of education management (National Education Commission, 2014). National policies, special gazette issues, teacher service minutes, circulars, circulars of public service commission, decisions of provincial council, management practices of zones and divisions assist the practice of education management and human resource management (MOE, 2009).

Structure of Sri Lankan Education Management

Management structure for Sri Lankan schools was first established during colonisation in 1869 in the name of "Department of Public Instruction" and functioned under the department of education. Later in 1912 it was reformed as "Department of Education." Continuous expansions in education and the introduction of free education system added to the workload of education management. Centralised management practices faced challenges. At this backdrop, regional education offices were established in 1961 under the Assistant Director of Education. This was the first step of Sri Lankan education management to shift from centralised management to regional management. Moreover, all the schools were taken by government (National Education Commission, 2014).

Later, central department of education was affiliated to Ministry of Education. Secretary of Education performed the duties of the director of education department. Regional education departments were promoted as department of education. Regional assistant directors of education were promoted as directors of education and vested with the powers of organisational head. Assistant department of education was administered by the chief education officer. School level inspectors were restructured as circuit education officers. This

was expanded in accordance with the number of electoral divisions. During the 1980s, cluster education system was introduced in education management and block education system was demolished. Later, with the inception of provincial council in 1987, new practices were implemented in education management (National Education Commission, 2014).

In accordance with the 13th amendment, provincial councils were established and all the provincial schools, except the national schools, were managed by them. Provincial Department of Education was established under the task force of Provincial Ministry of Education. Provincial Department of Education was governed by Provincial Director of Education while Zonal Education Offices were managed by Zonal Director of Education. Moreover, Divisional Education Offices were constructed resembling block education system and since then education and administration functions have been performed (National Education Commission, 2014).

Currently there are 9792 provincial council schools and 373 schools function under principals and the power of central ministry of education. Moreover, 97 Zonal Education Offices, 322 Divisional Education Offices, In-service Staff Advisors of Sri Lanka Education Administrative Service, Accountants, Administrative Officers, Management Assistants, and minor employees are recruited to schools, divisional education offices, and zonal education offices according to vacancies. Hence, education management practice has been undertaken with the aid of these and the physical and financial resources that are allocated according to the need (National Education Commission, 2014). Further, National Institute of Education, National Evaluation and Testing System, National Education Commission, and Education Publications Department function as parts of Sri Lankan School Management (Ministry of Education, 2019).

National Education President & Cabinet Ministry of education National institute of Commission Education Declaration of Planning of policy, Recommending national Supervision Formation of education policy implementation, education policy to management, curriculum supervision president Declaration of Preparation of instructional education policy Teachers' Professional Management of National school development Srilanka Department **Examination** OBA/OGA Education **Publications** department Conducting general SDC examinations Publication and distribution of text books Division SMT School Principal provincial council **Zonal Education office** Teacher Governor Provincial department of Chief Minister TEC SPC education Provincial Council Non-governmental organizations Teacher Education - Professional development University World bank National institute of education World food UNICER National Colleges of education Teachers' training college Save the Children Teacher centers

Figure 1: Sri Lankan School Management System

(Ministry of Education, 2019)

Background of the Study

Psychology has held discussions on job satisfaction of employees in an efficient job (Vroom, 1964). To date several studies have been undertaken in education sector with the variables related to job satisfaction (Brezicha et al., 2019; Skaalvik & Skaalvik, 2014). According to educational literature review, job satisfaction gains prominence (De Nobile & Mc Cormick, 2008; Dinham & Scott, 2000; Singh & Billing Sley, 1996 Spector, 1997). Human resource management improves teacher's efficiency (Hashmi, 2014). When job satisfaction is ensured, teachers succeed in their ventures. Moreover, this enhances their performance as well (Skaalvik & Skaalvil, 2017).

Recent studies have emphasised human resource management and high job performance with job satisfaction. Job satisfaction contributes to the efficiency of both the employee and the organisation. Moreover, studies on job satisfaction have become widespread among organisational behaviour and psychological sector of organisations (Spector, 1997). In developing countries teaching profession is full of pressure, workload, complexities, and ambiguities (Kalpana, 2017; Kourmousi, Darviri, Varvogli, & Alexopoulos, 2015). From recent times, teacher's job satisfaction has influenced principal, students, teachers, and society at large (Berzicha.et al., 2019). Studies focusing on teachers' job satisfaction are limited in developing countries (Pervaiz et al., 2019).

Objective of this study

At this backdrop this paper is primarily written to identify the major challenges and questions, regarding the job satisfaction of teachers working in Sri Lankan schools, that have been discussed in review reports and research reports published by government and non-government organisations based in Sri Lanka.

Research Methodology

The study on Teachers' Job Satisfaction – Human Resource Management Practices - a literature review based on the review reports and research reports that were published in Sri Lankan context (2000-2020) has been carried out as a qualitative study. 42 related review reports and research reports were subjected to content analysis by the researchers. Contents were subjected to summarization and categorization processes and were identified.

Table 1: Research Reports and Review Reports

Researcher / Organisation	Topic	Remarks
National	National research study on	Professional qualification is not
Education	the professional	mandatory in Sri Lanka for teacher
Commission,	development of teachers	recruitment. There is no prolonged policy
2016	and teacher educators	for teacher requirement
		When recruiting untrained teachers, the
		needs of teachers are mostly ignored.
		Ministry of education and provincial
		ministry of education recruit teachers
		based on serving in difficult areas. Some
		teachers use political influence to get

		transfer
Ministry of education, Sri Lanka, 2018	Annual performance report - 2018	Qualified and skilled teachers are there in school level. However, they neither have the motivation nor the capability to perform well in difficult or rural areas. A teacher can create huge impact on a student's education. American research has pointed out that students who learned under best teachers improved a lot
National Education Commission, 2014	Study on educational planning and management	Teachers' development is the major problem. Recruited teachers are not suitable to schools Challenges faced by education management personnel SLEAS, SLTES, SLPS, ISA, challenges of zonal, provincial, and national level implementation, and the challenges regarding 1st amendment are also pointed out. Teacher appointments are not suitable to schools. Promotions are not obtained in proper manner
SHRM, School Human Resource Management, 2003	School human resource management	School level human resource management is the foundation for the administration of human resource in order to achieve goals. Administering teachers' needs based on world of employment, identifying teachers' needs, ensuring the accomplishment of professional development, and planning benefits are essential
Raju Dushyanth, 2017	Public school teacher management in Sri Lanka: issues and options	Research literatures on teacher management in Sri Lanka are evaluated. Problems in teacher management are pointed out, international approaches are recommended
South Asian Human Development sector, 2014	Sri Lankan investment in human capital	Teachers receive low salary. This degrades their respect in society
Asian Development Bank 2020	Secondary education sector improvement programme: report and recommendation of the president	Provincial and school level management need to be empowered to implement educational reforms. Resource distribution among provincial, rural, and difficult area teachers need to be ensured. Through these new educational reforms can be

Asian Development Bank, 2017	Innovative strategies for accelerated human resource development in South Asia – teacher professional development special focus on Bangladesh, Nepal, and Sri Lanka	implemented in national and school level and coordination among national and provincial management is assured. Hence, planning, monitoring, and evaluation are also strengthened • Teacher recruitment, distribution, working environment • Teachers' quality assurance • Teacher training • Evaluation of teacher education • Priorities for improving teaching profession
Angela Little, 2003 Nisha Arunathilake & Priyanka Jayawardena, 2008	Education for all: policy and planning Poverty and economic policy	Provincial and national ministries of education are responsible for education Providing more financial aid is not adequate to minimise the discrimination among backward schools. Sufficient allocation of human resource, monitoring, and support are essential for the success of education management
Vengadeswaran Sarma, Stefanie Licht, & Tushani Kalugelagedara, 2018	Educational inequalities in Sri Lanka: national data and local perspectives on access, quality, and learning outcomes	Opportunities for unequal education result from quality of education, quality of teachers, education management, learners' readiness, and resource input
National Education Commission, 2009	National committee for formulating a new educational act for general education	Decision making and procedures are delayed due to several steps of education administration. Even if administration was decentralised to province, it wasn't coordinate to school level. Current education system encourages principals' performance. By setting efficiency goals for employees and plans at all levels, human resource management and education system can be empowered.
Ministry of Education, 2018	School census report	Distribution in education showcases human, organisational, and physical resource inequalities
MOE, 2017	Classification of schools by difficult level	It includes the factors that affect teachers' job satisfaction and the means of improving job satisfaction
Ministry of Education, 2015	Training and development plan 2017-2018	Teachers are not provided allowance to work in rural and difficult areas. A managerial approach needs to be formed to expand teachers' performance at school level. Training, quality of education, working environment, allowance, work

		acknowledgement needs to be considered
Ministry of Education, 2019	Circular no. 30/2019 online teacher human resource management system of teachers subjected to national education management information system	Goals Improving teachers' job satisfaction via easing their administrative work Easing transfer process Bringing teaching service to a higher level Collecting teacher data accurately
Management & quality assurance unit, Ministry of Education, 2001	Quality development of the process of school system of education III	 The aspects are identified Public management Physical and human resource management Curriculum management and evaluation Co-curricular activities management Student achievement Student benefits School society Knowledge, social skills, student development
UNESCO, 2008	Managing teachers: the centrality of teacher management to quality education – lessons from developing countries	Developing countries are forced to limit their budget due to conditions of International Monetary Fund. This also emphasizes prioritising management practices. When these matters are neglected, teaching profession will be affected which will ultimately lead to the deprivation of the right for quality education
Ministry of Education, 2014	Process of evaluation for assuring the quality of education	Financial management of school, human resource management (recruitment), monitoring, means for professional development, efficient and effective management
Ministry of Education, 2012 World bank Group, 2017	New vision for education and milestones for progress Sri Lankan education sector assessment, achievements, challenges and policy options	Recruitment, promotion, human resource management, teacher education If teacher recruitment for general education, employment and promotion are inclusive of teachers' performance, it will minimise teachers' enthusiasm and effort of working for general education
World Bank, 2011	The World Bank Annual Report 2011: year in review	The role and responsibilities of divisional and zonal education officers are neither well-defined nor well-performed. This will challenge the efficient management of human resource in provincial schools. Teachers' performance evaluation and

		promotion policies will accelerate their
		performance. However, it is neither
		designed nor processed in Sri Lanka
Aturupane, 2009	South Asia Human	Teachers' salary in Sri Lankan
	Development Sector Sri	government schools is less than other
	Lanka: investment in	countries of South and South East Asia.
	human capital	
Halil Dundar,	Student learning in South	Subject knowledge is the index of quality
Tara Beteille,	Asia challenges,	of teachers. In South Asia, this needs
Michelle Riboud,	opportunities, and policy	improvement. As students' learning
& Anil	priorities	depends on teachers' knowledge, it must
Deodalikar, 2014	1	be improved. Unqualified appointments,
200000000000000000000000000000000000000		transfers, and promotions should be
		stopped. Well-designed structures of
		professional development and salary will
		motivate teachers. Lack of professional
		•
		development structures and allowance
		induces lack of motivation in their
		profession
IPS – Institute of	Sri Lanka state of the	Recruitment for general education,
Policy Studies of	economy 2015 report	appointment, and promotion are
Sri Lanka, 2015		politically influenced
World Bank,	World Bank report - 2018	Major causes for learning difficulties are
2018		amotivation and lack of training of
		teachers in developing countries face
		difficulties in life and profession.
		Structure of school and scarcity of
		physical resource affect teachers' efforts.
		Many teachers engage in other works to
		look after their family. The plight of
		teachers in distant and difficult areas is
		critical. Amotivation and absence are
		high.
		Teachers and teacher association are the
		reasons for the decline in education
Natalie Bau &	The misellesstion of nev	
	The misallocation of pay	This research confirms the significance of teachers in low-income countries. It shows
Jishnu Das, 2017	and productivity in the	
	public sector evidence from	misallocation between vast policy change,
	the labour market of	public sector salary and productivity
	teachers	
Save the Children	Education in emergencies	Following civil war and Tsunami, there
	in Sri Lanka (2001-2010)	has been a favourable output in education
		due to the dedication of teachers,
		principals, and zonal directors of
		education. Compensation hasn't been
		provided yet for war and Tsunami.
		Scarcity of trained teachers affect

		education sector. Due to lack of facilities teachers rejected transfer to difficult areas and Vanni. Human and other resources need to be administered to fulfil the need for education
Alison Milner, Emily Winchip, 2018	Education unions for the teaching profession	Adequate approaches for teacher development and unsuitable teacher development processes
National Education Commission, 2016	Proposals for Sri Lanka national education policies	Strengths and weaknesses of recruitment, appointment, transfer, and professional development are mentioned in the section 'problems in teaching profession in Sri Lanka
Jonathan Pearson, 2008	Managing teachers: the centrality of teacher management to quality education – lessons for developing countries	Gender, region, inability differences, pathetic life of teachers, and working conditions, lack of support for administration, weakness in teacher training, lack of motivation from principals are included in teacher resource management
National Education Commission, 2003	Government on education policy	Politicization, lack of coordination, unskilled principals, ignorance, lack of teacher motivation are identified in education management
Transference International, 2016	Corruptions in Sri Lankan education sector	Due to political influence appointments, transfers, and promotions have increased in education sector
Ministry of Education, 2017	Annual report on quality assurance in school education	Leadership and management: only in a few schools five-year plan and annual plan are prepared with required participation and implemented with explicit financial use. Participatory management policies have been successful only in certain schools. Principal's part influences over others here. Only a few principals carry out processes such as proper delegation in internal evaluation sectors, proper management based on schedule, supervision, and work plan implementation
B.M.J. Balasooriya,	Teacher recruitment and teacher mobility in Sri Lanka	Recruitment and promotion processes for teachers should be established via teacher service. This provides many benefits
Ministry of Education, 2017	General education modernization (GEM project)	Teacher development is the base for the efficient use of financial, human, and physical resources, which in turn, will improve school goals

National	Policy proposal	Reasons behind the incompetence of
Education		education management include
Commission,		politicization, lack of coordination,
2003		incompetence and ignorance of principals
		and officers, and lack of teacher
		motivation
MOE, 2004	The development of	Attempting to get transfer to urban
	education, national report -	schools due to lack of satisfaction and
	UNESCO	working conditions
Sarma, 2018	Is the provision of	Schools in Kilinochchi, Mannar,
	education in Sri Lanka	Mullaitivu, and Vavuniya, that were
	equitable? Evidence from	affected by war are 50% unsuitable. There
	the districts of Batticaloa,	are insufficient circumstances for learning
	Moneragala, and	
	Mullaitivu, working paper	
	series 27	
Ministry of	Education sector	Human resource management, planning
Education, 2016	development framework	the needs of human resource,
	and programme	appointment, providing promotion,
		following approaches to make them
		perform
Ministry of	Education first Sri Lanka	Establishing provincial level quality
Education, 2013		status, planning and implementing the
		needs according to national policies, and
		managing teachers are emphasised here

FINDINGS

The following findings were obtained from subjecting the 42 related review reports and research reports to content analysis. Accordingly,

- Problems related to teaching profession.
- weakness of education managers.
- political interference in education management
- learning situation with lack of facilities
- unequal distribution of resources
- school and provincial level managerial weaknesses
- lack of human and physical resources
- unequal education management practices
- weaknesses in teacher recruitment policies
- students' achievement in education and teacher performance
- inadequate salary for education related employees
- political interference in human resource management
- qualified education policies, assurance of teacher resource quality
- teacher resource development & training
- leadership practices
- financial investment for education

- school level management practices,
- weakness in the coordination of national and provincial education
- Education works related circumstances such as, teacher transfer, recruitment, motivation mechanism, delegation, evaluation practice, teacher development activities

CONCLUSION

From subjecting related review reports and research reports to content analysis and referencing the weak areas in education management and teacher resource management in Sri Lanka are revealed such as recruitment, appointment, transfer, supervisions, motivation, safety, benefits, development & training, salary, distributions of human resource, external impacts of management, lack of coordination, promotion and wellbeing. Further, this analysis emphasises the need for development in education management and human resource management. At this backdrop, the existing gap and the need for future research that could scientifically prove the circumstances in Sri Lanka are identified. By the same token, the differences between the educational policies and its implementations are known to be as the gap.

Recommendations for Future Research

Future researches can focus on the impact of teachers' job satisfaction and human resource management practices on student achievement, the relationship between education management, and human resource management. Moreover, national level and Northern provincial level researches can be carried out on job satisfaction of the teachers of primary, higher education, and special needs education. And The interconnection between the student performance and teachers' job satisfaction, achievement level of education and teachers' job satisfaction also can be taken. It is suggested that the elements and practices concerning teachers' job satisfaction need to be taken into consideration during the planning and implementation of education policy of a country. This will ensure the quality and enhancement of education.

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Media Literacy and Media Ethics - Case Study on Social Media

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ABSTRACT

Public as the whole, researchers and creators of the politics treats the youth as special type of the media consumers. Children are much more exposed to the risk of negative consequences of the influence of media messages because kids are on much lower level of development – in cognitive, emotional and moral point of view – and does not have experience in real life for the adequate processing of media messages.

But, when we leave childhood and entered growing stage, that does not mean appropriate media literacy by three reasons: First, many young and adult people do not make progress in development much more than from the level achieved in childhood. Secondly, life experience of many adults is not so various and substantial to make possible rising of the level of media literacy. Third, gaining of media literacy, and through that proper ethical approach, requests also development of special abilities and active application of the skills – and that does not come automatically with the age.

So, to be able to understand concrete issue, we made a research among young Indian children and the outcomes of 309 youngsters (10-14 years of age) will show the most important focus. Which one? Need of Media literacy and Media ethics to be involved in schooling process since the young age. Again, why? To be able to create a thoughts of critical thinking and to develop their own answers on the questions life in front of them raises. For the benefit not just of them, but also of the society as the whole, regardless within which ideology (left and/or right) they are living within.

Keywords: Media Ethics, Media Literacy, Critical Thinking, Media Messages, Media Consumers

INTRODUCTION

Sometimes, scientists wanders why so simple things cannot be implemented and by doing that to, up to extreme positive goal, develop human social existence, while, in the same time, not to be afraid that somebody would accuse them that they are biased and subjective, although, science is subjective by all means, because it is based on quantitative and qualitative analyses of the focused goal and achievements. Only then.

So, why media literacy have not been implemented within the schooling system in India as the "must" subject within the primary school? Why children do not know about media literacy and media ethics in general? For which reason children are kept away from the basic critical thinking approach and development of human mind towards better understanding of the society for the purposes of being better...for them, in the future? Answers are very simple, but before giving them, we will go through the analyze of the case study we have conducted recently among the children of 10-14 years of age, in India, in the state of Maharashtra.

1. Media content and youth: special ethical issues

Public as the whole, researchers and creators of the politics treats the youth as special type of the media consumers. Children are much more exposed to the risk of negative consequences of the influence of media messages because kids are on much lower level of development – in cognitive, emotional and moral point of view – and does not have experience in real life for the adequate processing of media messages.

But, when we leave childhood and entered growing stage, that does not mean appropriate media literacy by three reasons: First, many young and adult people does not make progress in development much more than from the level achieved in childhood. Secondly, life experience of many adults is not so various and substantial to make possible rising of the level of media literacy. Third, gaining of media literacy, and through that proper ethical approach, requests also development of special abilities and active application of the skills – and that does not come automatically with the age.

It can be seen that media professionals are recognized as having a vital role to play in social mobilization around the rights of children. They may be involved primarily as reporters of the misdeeds and omissions of others, but they are catalysts nonetheless. As watchdogs in the public interest and promoters of democratic exchange they have a distinct role in the process of improving the image, rights and prospects of children.

One of the difficulties facing journalists is that they operate in an increasingly commercial environment. Children have a universal appeal, and, in theory at least, are cherished in every culture. They also constitute an important segment of growing advertising and consumer markets.

Threats to children generate emotive responses which can be harnessed to capture readers and audiences. It follows that there is always a risk that stories and images of about children will be valued as much for their marketing potential as for the social significance of the stories themselves.

Media professionals are able to stimulate public outrage by the use of children to illustrate the traumas of illness or abuse, and the horrors of war, starvation, poverty, etc. This 'shock value' is often seen as a valid technique to cut through the protections that otherwise cushion people

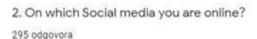
from the harsher realities of life, and especially when seeking to expose the relative deprivation suffered by those who live in the southern hemisphere or in the less well-off communities of Central and Eastern Europe or the run-down suburbs of the developed world.

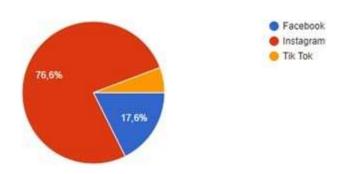
As a result children are often represented in the media as victims, villains, or as 'cute' attachments to adults. Identifying specific children considered to be at risk of harm, exploitation or abuse, can bring danger to them and their families. At the same time the denial of children's identities by treating them as icons can be problematic. Such 'iconic' representation does little to improve recognition of their rights and dignity as human beings. How well they do their job depends as much upon their personal skills and knowledge as it does upon the medium they work through. Journalists most often communicate by producing 'stories' that help people to understand the world around them. The 'human interest story' is a dramatic device to capture people's interest/anger/sympathy and so explain a wider 'truth'. So, if journalists are to play a part in improving public understanding of children, they need access to 'good stories'. Often their sources will be NGOs working among children or on their behalf.

A particular area of concern that needs to be addressed is the access which children have to potentially harmful material, including the depiction of violence, sex, and 'sexualized' images of children – especially in advertising, and fashion and pop music marketing. While controversy may continue about the extent to which such material directly influences the behavior of children, it should remain a priority among media producers to ensure that children are not brutalized or otherwise put at risk by easy access to material, including imagery that appears to condone or encourage violence or inappropriate sexual activity.

Media professionals have a significant role to play in developing effective media literacy programs within schools, as well as a vested interest in ensuring that future generations recognize the value and come to trust the mass media as a source of reliable information. Media literacy will also enhance the vested commercial interests of the media, as well as encouraging the development of future generations of competent media professionals.

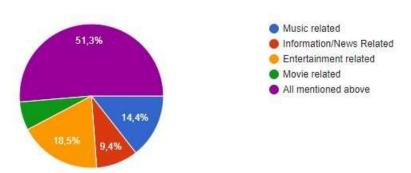
On a Question 2 of the Survey, out of 309 children (10-14 years old), we gathered 295 answers where majority of the children are on Instagram social media.





Children are following a variety of issues online. Out of 298 answers, majority of them (51.3 %) follows everything mentioned within the questioners:

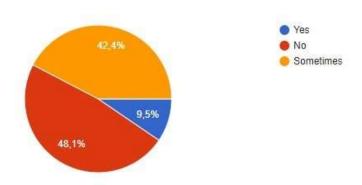
3. Which kind of media you follow within your Social media?
298 odgovora



But, also, majority of them have found some violent and humiliated issues online, being on Social media (42.4 %).

4. Do you find, depending of the answer on question No, 3, above, any of the media offensive in regard violence, humiliation and/or defamation towards your age and, if suitable, gender:

295 odgovora



Some answers were linked to the extremely important issues:

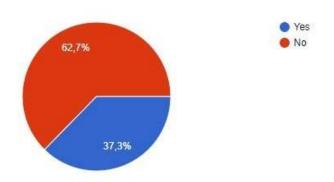
- 1. I feel offensive reading about Stories of rape and victim
- 2. Reporting lies or not tested theories
- 3. Use of slangs, curse words
- 4. Sometimes, I do find it offensive as there are reviews of movies sometimes that have offensive language
- 5. Some media regarding the issues surrounding self-image aren't that sensitive or empathetic towards people who actually struggle with them
- 6. Because, sometimes they post offensive memes.
- 7. At times I have seen content that may emotionally harm someone.
- 8. There is some abusive content occasionally
- 9. Nowadays false information is also spread a lot on social media which can be misleading, which is not good. Also, nowadays music & movies are not that good & most of it is on lot negative things
- 10. The content which I have on social media is mostly politically offensive to gender

- 11. All the negative things I get to see around the country is very insensitive towards humanity
- 12. Content is not appropriate to my age
- 13. There's a lot of hate speech and fake news
- 14. Sometimes wrong information making fun of friends wrong impact
- 15. Memes on gender stereotypes are unnecessary and annoying

2. Social watchdogs and abusive content

We just mentioned some of the answers (out more than 300 of them) related to the issues of media related content within the social media, but in general, it is, as said, out of 42.4 % of interviewed that complained about the content filled with violent, humiliated and defamation words related, we have to point out how to overcome the issue and find a solution for those who are not media literate to see through it, especially, because, only 37.3 % of the children talk about social media in school and ethical issues within it.





Social "watchdogs" are never far away from the center of the scene when we are talking about follow up of the content in social media. The question of abusive content is the one of the most problematic ethical dilemmas is the one of the most problematic ethical dilemmas for media professionals.

For example, some shocking photos published in newspaper might be of abusive content, some sentences within the story might be found abusive if some conservative found it disturbing. Morally abusive content is very wide and probably very badly defined theme.

If we are going to try to calm down moral sensitivity of all segments of the society, it will be impossible, and even undesirable. Every strategy of that kind would deprive our culture of artistic vitalities would make it aesthetically sterile. Nevertheless, professional journalists should be sensitive regard that issue and should adjust their legal rights and social responsibility.

Media professionals are very often facing with ethical dilemma when it comes, for example, to include a material which might offend moral feelings of the public. Should video tape with nudity on TV social media news if it will contribute better understanding of the story? Should public persons be a subject to different standard in comparing to different standard from

common citizens when it comes making decisions about including quotes with content of vivid and indecent language? Should abusive words be deleted from quotes to avoid interviewed one be exposed defamation and not to offend readers of viewers?

Of course, measurement of the words raises ethical question from the point of view of truth and accuracy.

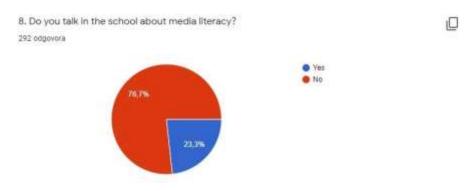
Of course, internet is the place where you can find most of above within all kind of pornography, vulgarity and a lot of blatant and abusive content. What is the solution? Mentioned earlier-education through media literacy and if we would like to make it better, we should start from ourselves. As saying, if you want change something, be the change in first place.

Media literacy enables primarily children, future citizens for the political choices, to understand political discourse and participation within it. In this way, as mature, media literate, well-informed citizens they will be able to make their own decisions about the democratic electoral process. However, adolescents, young people and adults, but also the oldest citizens often need to be media literate, especially due to the fact that in the age of new media and new technologies, the knowledge that we possess becomes obsolete very quickly and it is certainly necessary to participate in lifelong learning and within the media literacy of all generations of citizens.

Media literacy has dual meaning – as an concept is defined as ability of the approach, analyses, evaluation and transmission of the messages through the media while the essential focus of media literacy is to overmaster with critic and creative skills, knowledge that are of help to connect complex ideas, constantly questioning manifestations, attempt to recognize answers that will satisfy congenital curiosity of any of us, but also to identify individual, and even wider, social deceits.

Media literate society is healthy society of new technological awareness that will unify understanding of tradition and new technologies, that will, within the interaction, help the society to create newly established relations within education on verifiable facts which are so very much visible in the post-modern society of XXI century. Media literacy enables nation(s) to recognize hidden agendas within the transmission of information not just within the media, but also within the society as the whole, especially within the education. For the purpose of the life-long learning, regardless if we have media literacy as obligatory module in the primary and/or secondary school of we have it within the general educationally planned process of the society as a grown-ups.

3. Media literacy is the critical approach what you see and hear



Having in mind that 23,3% (68 persons) out of 292 (17 persons -5,5% disqualified answers of total 309 persons) talk in school about media literacy rise a question about 224 (76,6%) and their focus on critical thinking within the world of living.

It is directly linked to the last question of the survey asking "if "yes" is the answer on question No. 8., than in ten words, in which way you talk about media literacy".

Answers like...:

- 1. So the people use online platforms correctly and ethically.
- 2. To guide it and understand it better
- 3. Media literacy has irrevocable impact on person's opinion.
- 4. It gives us knowledge about the society which is in front of us.
- 5. In social studies we often learn about the structure of media and how it is manipulated.
- 6. We discuss how to use any social media platform or to manipulate it to make it easier to access.
- 7. How media acts as an important channel to raise awareness.
- 8. The ability to critically think about social media posts and online news stories makes you an educated consumer of these stories.
- 9. People who using from 10-18 should be given proper education about how to use social media and how to manage it.
- 10. About media like how it teach us different things in entertaining manner.
- 11. We talk about the role of media and its impact on our daily's lives.
- 12. About how media influences life and literacy.
- 13. Social media literacy can be brought about by making people aware of those harmful websites and blocking and reporting those websites.
- 14. Because it is important to know about the media and adjoining industry to be well aware of what's going on.
- 15. Our school encourages us o participate in public speaking and share our opinions about topics such as media literacy.
- 16. About how people simply lack the media literacy while using the Internet, how people consume limited news information subconsciously & fall for propagated fake news.
- 17. I learn how to talk to someone.
- 18. Due to the latest news and all the problems are raising so to solve that problem we need to update with all solutions.
- 19. Memes are good but sometimes they loose their literacy.
- 20. Yes, we talk about correct usage of social media so as to remain safe.

...help us to understand teacher's approach to students' world of understanding of social media platforms. But, all of these ere individual approach of teacher to the class of students. Nothing organized. Nothing in behalf of the educational process sui generis. De facto great news, but de iure bad news. Why? On this question let us give another question: What if teacher approach is like above mentioned no approach for 76,6 % transfer on all the educational process? That means in front of us are future narrow minded, easy to manipulate, without

critical approach within the world of living, individuals who obey, listen and execute and will presented them within social media. We can only hope that the mentioned "will" will be positive ones, but in today's world of living in the World, majority of "will" is negative, totalitarian and retrograde by all means.

CONCLUSIONS

Basic understanding of the survey lead us to the conclusion how weak media literacy is presented within the ages 10-14 within the state of Maharashtra, India (Population aprox.: 115 million) and what is needed to be done to expand knowledge of importance of media literacy: Including of the subject Media literacy within the school. Why? Because, lack of media literacy knowledge, other lack of knowledge exists: how to avoid bulling over social media and how to communicate with others in online and offline world.

The literate persons are better citizens, parents and workers. As literacy grew throughout the world during the twentieth century, a new feeling emerged that it was not just enough to know how to write and read. In a world where media dominates, an individual must be able to understand, sort and analyze the information he needs within the garbage of which he is bombarded each day (over the social networks and other mass media).

Children need to learn how, through the craftsmanship, a particular message is structured and why, what is used to transfer it (which gadgets) to keep their attention and what ideas have been sent to them. In a culture where the media is impenetrable and pervading all the pores of the societies, children need to learn to think critically about what they see, hear, or read. Indeed, education of children must not end without the above.

Finally, media literacy is important for democratic society. Democracy cannot co-exist with media literacy. Media literacy is conditio sine qua non of democracy.

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Anxiety and Cognitive Failure in Relation to Psychological Well-Being of School Adolescent Students

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ABSTRACT

Anxiety is a psychological state characterized by cognitive, somatic, emotional and behavioural components. Adolescence period is considered as unpredictable and the period of cognitive development. Thus learning and academic excellence are key issues in the period. The research was conducted in order to find out the relationship of state and trait anxiety with cognitive failure of adolescent students and influence of state and trait anxiety on psychological well-being of adolescents students. The present research is ex- post facto in nature. The sample was selectedusing convenience sampling technique (n=150) from 14 to 17 years students in Chennai city. Thetools used in this study are Personal data sheet, State Anxiety Trait Anxiety Questionnaire, Cognitive Failure Questionnaire and Psychological Well-Being. The research found that there is no significant gender difference in state anxiety (t=1.56), trait anxiety (t=0.97), cognitive failure (t=1.12) and psychological well-being (t=0.81) and in terms of private and government schools there is a significant difference in trait anxiety (t=2.24, P<0.05) and no significant difference in state anxiety (0.696, P<0.05). Further, students experience high state anxiety (r=0.43, P<0.05) and trait anxiety (t=0.45, P<0.05) are likely more cognitive failure and state anxiety (r = -0.43, P < 0.05) and trait anxiety (r = -0.47, P < 0.05)has significantly negative impact on the psychological wellbeing of students. Present study gives insight that managing anxiety and improves the cognitive functions of adolescent students, can improve psychological well-being.

Keywords: Anxiety, Cognitive Failure, Adolescent Students, Psychological Well-Being

INTRODUCTION

Adolescence period is observed by psychologist as unpredictable, and this made (Hall, 1912) to call this as period of "strom and stress". This is characterized by development of secondary sexual features. Even though there is a rapid change, in some cases there is an uneven level in their growth and this results in the lack of balance and clumsiness which makes them very much concerned with their physical appearance. Abstract thinking, reasoning, critical thinking and knowledge of generalized facts are increasing. Due to this they can solve a problem in a scientific and creative manner. (Piaget, 1958) terms this period of cognitive development as the stage of formal operations. Thus, learning and academic excellence are key issues in the period. Like physical and intellectual development, emotional development also reaches its maximum potential during adolescence. It is the period of heightening of all emotions like anxiety, shame, embarrassment, guilty, shyness, fear, love, anger, etc. People generally, perceive adolescent to be highly emotional and susceptible to mood swings. Girls are found to experience more intense negative emotions like shyness, guilt and boys more on anger and aggression. It is also influenced by heredity and environment, where family and school system play an important role. A common problem observed among adolescents is depression or low mood states which can be attributed to physical changes, hormonal imbalance, and lack of recognition, low self-esteem due to poor peer relationships.

Anxiety is a psychological state characterized by cognitive, somatic, emotional and behavioural components. These components combined together and create an unpleasant feeling that is typically associated with uneasiness, fear or worry. Anxiety is a generalized mood state that occurs without an identifiable triggering stimulus. Additionally, fear is related to the specific behaviours of escape and avoidance, whereas anxiety is the result of threats that are perceived to be uncontrollable or unavoidable. It may help a person deal with a difficult situation, when anxiety becomes excessive, it may fall under the classification of an anxiety disorder. The term anxiety is defined" as the conscious experience of intense dread and foreboding, conceptualized as internally derived and unrelated to external threat" (Fresky, 1954) According to Hall. (1912) "Anxiety is one of the most important concepts in psychoanalytical theory". According to him anxiety is a construct that has some inherent weakness. Spielberger (1972) is a pioneer who has worked in the area of stress and anxiety; construes two types of anxiety i.e. state anxiety and trait anxiety. The cause of anxiety cannot be linked to a single situation or event. Rather, many psychoanalysts believe that there are both physical and environmental triggers that combine to create a particular anxiety disorder. Symptoms include: constant worrying, trembling and muscle tension, feeling tense and unable to relax, feeling tired, having trouble staying feeling irritable or grouchy, trouble falling or staying asleep, feeling nauseous or otherwise physically ill when worrying,

Psychological changes in individuals include cognitive development, emotional maturity and achievement motivation. Cognitive processes are mental process involved in knowing about the world as such they are important attention, thinking, problem solving and memory. Cognitive failure is a term coined by Broadbent (1982). It is defined as a person failure to complete tasks that he/she is normally capable of completing. Many a times in our daily life we commit common errors (such as putting things in wrong place, forgetting names of familiar places etc) or experience attention failures. Cognitive decline is the term used to indicate a lowered performance in cognitive tasks due to many reasons. Aging, slow information processing, inability to learn new materials or tasks, remembering small details are some of the

problems encountered in aged persons. Other factors which potentially contribute to cognitive decline/failure are lack of mental activity, sedentary life style, substance abuse (smoking, alcohol, and drugs), stress and malnutrition. It is obvious that aged people experience cognitive failures but, the same problem can also be encountered by adolescents and thus ends in low achievement. Cognitive failure is not the only reason for low level of psychological wellbeing. There are many other factors which influence psychological wellbeing. They include low intelligence, poor study skills, and lack of stimulating environment, emotional problems, and complexity of the curriculum, teaching methodology, entertainments and school environment.

The concept of well-being represents a proactive stance toward emotional health. It is not about fixing problems but it is about the elements which contribute to a happy fulfilling life. It encourages us to look at how we can actively foster resilience and contentment in our lives. Well-being refers to a person's ability to cope with events in daily life function, responsibility in society and experience personal satisfaction and enjoyment. A primary indicator of good or poor mental health is the level and the quality of a person's affective wellbeing. The concern here is with feelings of happiness, satisfaction, high self-esteem, interest in the environment and other positive emotions; or with anxiety, tension, depression, apathy, a sense of hopelessness, and generalized feelings of distress. Psychological wellbeing refers to how people evaluate their lives. These evaluations may be in the form of cognition or in the form of affect. According to Diener. (1985), well-being is a subjective emotional state that includes positive affect (feelings of happiness and pleasure), relatively little negative affect (feelings of unhappiness, depression, anxiety and general life satisfaction). World Health Organization (2005), defined mental health as, "a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community". Psychological wellbeing is an important aspect for adolescent period. Psychological wellbeing is not a single factor but is a domain that includes mental, physical and spiritual well-being.

Liu et al., (2009) found that negative affectivity such as depression and anxiety were connected with psychological well-being. In another study, (Saab and Kilinger, 2010) explained that both individual and school-level factors were associated with students' health. Gender, family wealth, family structure, academic achievement and neighbourhood were significant student-level predictors. Findings suggest that the environment and disciplinary climate in schools can predict student health and wellbeing outcomes, and may have important implications for school initiatives aim. Llewellyn. (2002) found that higher levels of psychological well-being were associated with better cognitive functions. Wallace et al., (2002) reported that higher the daytime sleepiness and boredom, the higher is the cognitive failure.

Adolescence also undergoes identity crisis and many unresolved conflicts. All these problems put under psychological turmoil adding to their parental pressure in terms of academic performance, teacher's expectation and peer pressure makes these adolescent students to experience anxiety, lack of concentration, and difficulty in managing academic problems. All these problems ultimately affecting the psychological well-being of adolescents. Since, the well-being is considered as one of the vital element of any individual in order to live meaningfully, purposefully and productively, this study has paramount importance in understanding the adolescent's problems. By understanding the adolescents, we may prevent certain psychological disturbances like suicidal ideas, feeling of helplessness, low self-esteem and making them to use their resources to manage their stressors. If we are able to prevent such

psychological crisis, during this period of their life, it is possible to create better human resources to our country where the youth determines the future of any nation. Hence, this study made an attempt to understand the influence of anxiety, cognitive failure on Psychological well-being of the adolescent students who are studying in different types of schools.

Objectives

- 1. To find out the relationship of state and trait anxiety with cognitive failure of adolescents students.
- 2. To find out the influence of state and trait anxiety and cognitive failure on psychological well-being of adolescent students.
- 3. To find out the gender difference in cognitive failure, state anxiety, trait anxiety and psychological well-being of the adolescent students.

Hypotheses

- 1. State Anxiety would be positively related to cognitive failure of adolescent students.
- 2. Trait anxiety would be positively related to cognitive failure of adolescent students.
- 3. Cognitive failure would be negatively related to psychological well being of adolescent students.
- 4. State anxiety would be negatively related to psychological well-being of adolescent students.
- 5. Trait anxiety would be negatively related to psychological well-being of adolescent students.
- 6. Male and female adolescent students would differ in cognitive failure, state, trait and psychological well.
- 7. Adolescent students from different type of school would not differ in state anxiety, trait anxiety, cognitive failure and psychological well-being.

Research design

The present research is ex- post facto in nature. The sample was selected using convenience sampling technique. The total sample comprised of 150 school students which included were males and females.

Description of the Sample

The sample were selected based on age, gender, medium of instruction, family annual income, parent's education, and number of siblings, social status, hobbies / entertainment and type of school. The age group of the sample ranged from 14 to 17 years s. The total sample consisted of 150. The sample was collected from government school, private school and government-aided school in Chennai city.

Tools Used

The following tools are to be used in this study

- Personal data sheet.
- State Anxiety Trait Anxiety Questionnaire (Spielberger, 1970)
- Cognitive Failure Questionnaire (Wallace, 2002)
- Psychological Well-Being (Goldberg, 1972)

Result and Discussion

Table 1: Relationship between state trait anxiety, cognitive failure and psychological well-being.

Variable	r value
State anxiety and	
Cognitive failure	0.43**
Trait anxiety and	
Cognitive failure	0.43**
Cognitive failure and	
psychological well-	-0.31**
being	
State anxiety and	-0.43**
Trait anxiety and	-0.47**
Psychological Well-	
being	

The above table indicates the relationship between state anxiety and cognitive failure, trait anxiety and cognitive failure, state anxiety and psychological well-being, trait anxiety and psychological well-being, and cognitive failure and psychological well-being.

Table 2: Mean differ between males and female on cognitive failure, state anxiety, trait anxiety and psychological well-being and cognitive failure dimensions of destructibility, memory lapse, Blunder and Memory for names

Variables	Male	•		Fer	nale		t-Value
	N	M	S.D	N	M	S.D	-
Cognitive Failure	103	34.73	11.29	47	32.65	13.91	.97 N.S
State Anxiety	103	42.14	8.4	47	44.31	6.5	1.56 N.S
Trait Anxiety	103	44.37	8.31	47	46.04	8.67	1.12 N.S
Psychological Well-being	103	24.44	6.17	47	23.59	5.41	0.81 N.S
Destructibility	103	13.04	4.761	47	12.48	5.34	0.64
Memory lapse	103	8.67	4.58	47	8.38	5.12	0.35
Blunders	103	10.84	4.04	47	9.91	5.02	1.20
Memory for names	103	2.16	1.72	47	1.87	1.88	0.93

NS= not significant

Table 3: ANOVA for differ in cognitive failure Difference in cognitive failure based on different types of school

Source of variance	df	Sum of square	Mean square	F
Between groups	2	182.07	91.03	.61 NS
Within groups	147	21865.79	148.74	
Total	149	22047.87		

Table 4: Difference in state anxiety based on different types of school

Source of	df	Sum of square	Mean square	F
variance				
Between groups	2	659.43	329.71	5.56**
Within groups	147	8718.06	59.30	
Total	149	9377.49		

Table 5: Mean and Standard deviation for the difference in state anxiety based on different types of school

Variable	Type of school	Mean	SD	t	
State anxiety	Government	43.74	6.69	0.606	
	Private	44.76	8.03	0.696	
	Government	43.74	6.69	2.5*	
	Government Aided	39.87	8.28	2.3	
	Private	44.76	8.03	2.99**	
	Government Aided	39.87	8.28	2.33	

Table 6: Difference in trait anxiety based on different types of school

Source of variance	df	Sum of square	Mean square	F
Between groups	2	448.66	224.33	
Within groups	147	10156.83	69.09	3.24*
Total	149	10605.50		

^{*} Significant at 0.05 level.

Table 7: Mean and Standard deviation for the difference in trait anxiety based on different types of school

Variable	Type of School	Mean	SD	t	
Trait anxiety	Government	47.34	8.21		
	Private	43.82	7.49	2.24*	
	Government	47.34	8.21	2.17**	
	Government Aided	43.53	9.17		
	Private	43.82	8.49		
	Government Aided	43.53	9.17	0.17	

Table 8: ANOVAs for difference in psychological well-being based on different types of school.

Source of variance	df	Sum of square	Mean square	F
Between groups	2	90.49	45.24	
Within groups	147	5175.64	35.20	1.28 NS
Total	149	5266.14		

NS- Not significant.

Overall Discussion

Many studies emphasis importance of psychological well-being among the adolescent student population, because this period seems to be full of emotional turmoil and tend to experience both physical and psychological changes which affect their psychological well-being.

In the present study both trait and state anxiety found to influence cognitive failure of adolescent students. This reveals that if the students experience high state and trait anxiety are likely they are tend to more cognitive failure. These findings are supported by Mathews and Wells (1988) where they reported the relationship between anxiety and self-consciousness and cognitive failure. Further, the relationship between cognitive failure and psychological wellbeing was also found. It is understood that if cognitive failure is more psychological well-being would be poor, which means lack of concentration, distractibility, and memory lapse of cognitive function might affect the sleep of individual, feel depressed and feel worth less. According to Llewellian (2002) cognitive function was assessed using neuropsychological test of time orientation, immediate delay verbal memory, prospective memory verbal fluency, numerical ability, cognitive speed and attention. The relation of psychological well-being to cognitive function was assessed using linear regression. In larger population of the community living adults, high level of psychological well-being were associated with better cognitive function. Further analysis on anxiety and psychological well-being, it was found that both state and trait anxiety is negatively related to psychological well-being, which reveals that if state and trait anxiety is high the psychological well-being would be poor. Generally students, who are tense, feel upset, nervous and jittery may affect psychological well-being. This finding are supported by earlier study and in one study Liu et al., (2009) found psychological well-being as negatively related with depression and anxiety. Comparison of male and female adolescent students on cognitive failure, state anxiety, trait anxiety and psychological well-being reveals that no gender difference exists on these factors. While comparing different types of school in relation to cognitive failure and psychological well-being, it was found that no difference would be seen on cognitive failure and psychological well-being; whereas difference was found for trait and state anxiety among students of three types of school namely Government school, Private school and government aided school (trust). It was found that private school adolescent students tend to experience more state anxiety than government school and government aided school. This would be due to the fact that private school put more pressure and demands on school students that government school and government aided school. And also they conducted too many examinations, unrealistic expectation. Parents and school makes them more anxiety. However, the government school adolescent students tend to experience high trait anxiety compared to government aided school and private school adolescent students. This may be contributed to the socio economic condition of the school going adolescent students for the sense that more of the government school students seems to be from poor socio economic

background and moreover most of the students seems to be from broken families, where the families are always conflict. Hence, these students may experience high trait anxiety from others.

Finding of study:

- High state anxiety and trait anxiety was related to psychological well-being.
- High state anxiety and trait anxiety was related to more cognitive failure.
 Cognitive failure was found related to rely psychological well-being.
- No gender difference was found on state and trait anxiety, cognitive failure and psychological well-being.
- State anxiety was found high among the private school student than government and government aided school.
- Trait anxiety was found high among the government school student than private and government aided school.

CONCLUSION

The present study indicates that both state and trait anxiety affects psychological well-being and cognitive failure of adolescents' student. Similarly cognitive failure also affects psychological well-being of adolescent students. It gives insight that managing anxiety and improves the cognitive functions of adolescent students, can improve psychological well-being.

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