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About the Journal

The *Journal of Indian Education* is a reviewed periodical published in May, August, November and February by the National Council of Educational Research and Training, New Delhi.

The NCERT encourages original and critical thinking in education. The JIE provides a forum for teachers, teacher educators, educational administrators and researchers through presentation of novel ideas, critical appraisals of contemporary educational problems and views and experiences on improved educational practices. Its aims include thought-provoking articles, challenging discussions, analysis, challenges of educational issues, book reviews and other related features.

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CONTENTS

Editor's Note

National Education Policy, 2020, has suggested the modification of the 10+2 structure of school education and recommended a pedagogical and curricular structure of 5+4+4+3 structure by including three years of preschool education, also under school education. The policy clearly spelt out the pedagogical approaches required to be used for different levels of school education with an aim to help in the holistic development of the child. The importance of experiential learning through art integrated, sports integrated and toys pedagogy has also been highlighted in the policy. The present issue of the Journal of Indian Education presents papers based on some of the themes highlighted in the NEP, 2020. The themes such as curricular and pedagogical innovations, education for sustainable development and value education, teacher education and psychological well-being of children have been discussed in the present issue.

The article 'Universal Curriculum Design in Science— Are we meeting the 21st Century Requirements?' by Prithi and Dhivya talks about the value of curriculum design. The authors believe that the present curriculum needs a lot of work, and does not fully support the need for innovation greatly reflects the lack of interconnectedness between learning the methodologies put in place for learning. The NEP, as it mentions, could only work in favour of the education system once it focuses on means of engagement as well as the action required.

The article, 'Using Translanguaging Pedagogy to teach Naming and Action Words— An Exploration into an Indian Primary Level English as a second language (ESL) Classroom', by Lina Mukhopadhyay focused that, English has always been looked up as the language for better proficiency in subjects related to having a good education throughout. But, the question will always remain, how far is the method of ESL classrooms successful in a country like India, where the languages and cultures are diverse? The language acts as a barrier or a precursor for better learning and education, the author delves deeper into those aspects with the help of this research, which covers learning outcomes of multilingual children whose first language is not predominantly English.

The Happiness Curriculum was introduced by the Delhi government from nursery till class eighth. The objective of the curriculum was to focus not just on rote learning but also to look into the major aspects of the overall well-being of the children. Swati Patra and Sunita Devi through the paper, 'Effectiveness of Happiness Curriculum— A Positive Psychology Intervention in Schools by the Government of Delhi' briefly describes the need for the introduction

of the curriculum arose due to the prevalent mental health issues that not only adults but children also go through, and to devise strategies that churn out happy and creative individuals who are not only productive but innately happy too.

In the article 'The Innovative Methods of Teaching *Ashtang Yoga* for School Children— Snakes and Ladders Game', Manish Kumar, Paran Gowda and Poonam Panwar explore the impact of learning on children's minds with a background of innovative learning methods for *Ashtanga Yoga*. The authors use the content of the ancient game of snakes and ladders in India, to imbibe the values of good versus bad deeds in children. Not only was the game used as a medium of instruction for *Ashtanga Yoga*, it was also used to teach disabled kids which resulted in enhancing the entire learning and imbibing process.

In 'Role of NEP in Reskilling the Youth for Reaping Demographic Dividend in India—A Critical Analysis', Neha Shukla and Sonal Pahwa talk about nurturing the human capital is what India needs to focus on to be able to build on and reinvigorate the existing systems. The authors have captured the essence of the NEP, 2020, and reiterated facts and figures to show the potential that India has to pave the way for improving both the scenario and the skill set.

In the paper, 'Challenges in Educating about Sustainability and Development Theory', Poonam Bharti talks in length about sustainability and how that as a concept isn't just about India, but concerns the world as a whole. The interconnectedness between globalisation and the erosion of various life forms on earth cannot be missed and the author rightly points out that, if we as human beings are responsible for upheaval, we should all come together to unite for the sustenance and maintenance of the earth too.

The article by Prachi Ghildyal and Tulika Dey 'Integrating Culture and Environmental Education for Sustainability to Develop Values', discusses value-based environmental education that must be imparted right from childhood, so that the inner culture of the child is built and the heart resonates with the education. They are what the person is and will be consistent across situations. A conscious effort and the knowledge of how our actions and behaviours are perceived and imbibed by our children are very important in value inculcation.

The paper, 'Development and Tryout of Value-based Module for Value Inculcation' by Sujata Srivastava mentions various aspects and intricacies of the value-oriented system of teaching and discusses the importance of inculcation of values to ensure a safe and crime-free environment. More important than the acquisition of values is the imbibing of values from the very start in young children and the use of innovative teaching methods as a precursor has been widely accepted in the course of senior education.

Through the article 'A Study of Social Anxiety among Students' by K.S. Misra probe the issue of social anxiety among young adults and how it greatly affects the overall well-being of the child. The study finds out that the impact of social anxiety is not just felt on interpersonal relationships but academically also, the child begins to fear what they once enjoyed.

The paper 'Academic Stress in Students—A Review' delves deep into the concept of academic stress and explore how it affects the child with a negative connotation, which results in poor academic performance. The authors Puja Mishra and Rashmi Choudhuri also found out that adolescents with psychological problems were having significantly more school-related issues, disturbed families, domestic violence and lesser number of close friends.

The article by Meena Sehrawat and M.M. Roy focuses on the importance of reflection upon the entire teaching-learning process and defines the basis of an overall approach to teacher education through the use of reflective journals. Content analysis of the reflective journals written by student-teachers showed various reflective aspects such as student-teacher relationship, teaching-learning process, self-assessment, teachers' responsibility, codes and conducts and classroom environment.

The concept map is one of the most important tools in the field of education. The paper, 'A Study on the Relationship between Concept Mapping and Reflective Thinking— Exploring its Significance on the basis of Gender at Secondary Level' by Pushpendra Yadav highlights how concept mapping can be useful for student teachers and teacher educators. The author also explored the significance of concept mapping and reflective thinking on the basis of gender at the secondary level. Language and literacy are major domains of early childhood development.

The article 'Language Learning and Early Literacy— Building Capacity of Preschool Teachers', touches upon the aspects of language as an enhancer of one's formative skill-building. The author Romila Soni concludes that children who have strong foundational skills in language and early literacy enter grade one smoothly without any stress and are ready to learn, read and write age appropriately.

The paper 'Cognitive Abilities of Visually Impaired Students in relation to their Certain Demographic Variables' by Puja *Sarkar/Bal* explores the effect of cognition on visually impaired children and how it translates onto the paradigm of education and learning. The study was very comprehensive and yielded great results in understanding the above mentioned objective, it was remarkable to see that vision. It is important but wasn't the only aspect when it came to academic or social excellence.

The research and theoretical papers discussed under various issues and themes covering School Education and Teacher Education have been presented in this issue of Journal of Indian Education. We hope that our readers will be able to relate their experiences and exposures gained through different times with the issues and concerns discussed by the authors in these articles and research papers. We also invite our readers from different levels of school education and teacher education to contribute to the journal by sharing their thoughts and experiences in the form of articles, action research reports, theoretical papers, book reviews, etc. Your valuable suggestions and comments for improvement on the quality of the journal are welcome.

Academic Editor

Universal Curriculum Design in Science

Are we meeting the 21st Century Requirements?

PRITHI* AND DHIVYA**

Abstract

Curriculum design is a term used to describe the purposeful, deliberate and systematic organisation of curriculum (instructional blocks) within a class or course. The purpose of curriculum design is to meet the educational needs of the learners, thereby improving their learning. The present study focuses on the learning requirements of the twenty-first century and whether the present science curriculum is meeting that requirement. Science is a subject which is mandatory in all schools, whether special or mainstream. The study aims to collect the opinion from the service providers (teachers, teacher trainers, etc.) as well as the service receivers (i.e., students) who are part of framing curriculum, as well as receiving the curriculum respectively. A five point likert scale questionnaire was developed for assessing the opinion of the service providers regarding the present science curriculum whereas the service receivers were also assessed for their opinion about the current science curriculum and its implication on their future life. Qualitative analysis of the data revealed that the present curriculum needs to be attuned with new age information and should be process oriented. Moreover, the student data also was in accordance with the service providers which revealed that the curriculum has to be reviewed frequently for meeting the learning requirements of the twenty-first century learners.

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Introduction

Science is a concept that is simple in theory and challenging (in terms of implementation) in practical. As educators, we want all the children to learn regardless of levels, to attain critical skills needed to make decisions based on logic and to understand the processes that underlie the science they come across in the news and in daily life. Research in science education across levels identifies gaps in foundational understandings of science among students and the public. The misunderstandings and misconceptions are the very ammunition used to attack scientific knowledge and discovery in the public sphere. To correct these problems lies not with the public but faculties of science whose role is not only teaching the content but providing and motivating students to value scientific knowledge and skills. According to the NSES, scientific literacy is the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs and economic productivity.

Curriculum Design and its Relevance in the 21st Century

Curriculum design is a tool for teachers to plan teaching-learning process. When the curriculum is designed, it is needed to identify what will be done, who will do it, and what schedule to follow. The ultimate goal of curriculum is to make the teaching-learning process easy and standardised. In 21st century, the curriculum should focus on the following components to meet the requirements of the students in the context of core academic subjects which being construction of knowledge, critical thinking, problem solving, innovative skills, media and communication, information and communication technology and real life experience. An amalgamation of these will enable the present generation students to construct knowledge in the subject and thereby provide real-life experience. The curriculum should strengthen the learner's ability to construct, think clearly and rationally about what to do and believe. The learner should be in a position to define a problem; determine the cause of the problem; identify, prioritise, and select alternatives for a solution and implement a solution to their life.

Challenges in the Present Curriculum and need for Universal Curriculum Design

Curriculum for the learners must meet their present requirement as well as prepare them for the future learning and challenges of the ever changing society. The present curriculum is outdated, lacks academic research, absence of school teachers involvement and it is a result of weak academic skills of the researchers. It also poses challenges to teachers in terms of assumptions, goals, subject demarcations, the

content, the approaches and the methods of assessment (Bennie, Newstead,1999). However, there are many more challenges facing the teachers as well as the receivers in taking full benefit of the curriculum — limited availability of the resources, lack of clarity pertaining to reforming the curriculum to meet the needs of the learners, outdated skills and knowledge and limited scope for upgrading the skills. A mismatch between the teacher's residual ideologies and innovation in curriculum needs to be addressed so as to meet the learning requirements of the 21st century learners.

With the National Education Policy, 2020 and its aim being Universalisation of Education till 2030 from preschool to secondary level, it becomes all the more essential to have a curriculum meeting the requirements of the learners which is inclusive of their ability, gender, socio-economic background, etc. The instructional framework should enable all learners to be successful. The solution lies in Universal Curriculum Design, which offers options that enable learners with varying needs and preferences to access and engage with learning materials. This concept could be used for any subject provided it focuses on three core principles namely— opportunity for multiple means of presentation, multiple means of action and expression and lastly, providing multiple means of engagement. This could be supported by a report of Izzo (2012), wherein he found that universal design offers a promising approach to meet the learning needs of all students. It challenges the educators to rethink the nature of their curriculum and empowers them with flexibility to serve a diverse population of learners. It is based on the belief that evey learners brain is different. The goal is for every students, whether they have skills which needs to be nurtured, special needs, typical or advanced or to learn in their own style. This design of learning should encourage those skills which would enable the learner to survive in the 21st century world, learning the problem solving skills, critical thinking analysing, interpreting, evaluating, summarising and synthesising information. These are the skills which will give students the opportunity to be successful (Drew, 2013). Hence, the study was undertaken to evaluate the present science curriculum as to whether it is meeting the requirements of the 21st century.

Need for the Study

As Sir Ken Robinson correctly puts, "The more complex the world becomes, the more creative we need to be to meet its challenges" and this is even more true in education and the work place in the current scenario. Society and its needs are ever changing and its people need to change and adapt as per the requirement. This is possible through education. The 20th century education highlighted and nurtured qualities like compliance and conformity over

creativity. However, the 21st century education is all about bringing skills the students need to succeed in this new world, which is being called as the four "Skill for Today" namely creativity, critical thinking, communication and collaboration. It also brings about the need for knowledge construction, development of cognitive skill, innovation skills, media communication, implementing ICT and providing real life experience.

Unfortunately, students are still a part of the standardised curriculum and being taught through conventional methods which is based on one-size-fits-all pace. The advent of the National Education Policy, 2020 highlighted the need for changing current curriculum by modifying and bringing about a change in terms of its core essentials, more holistic approach, provision for critical thinking, discovery-based, discussion-based and analysis based learning.

The purpose of the study is to identify whether the designed curriculum and requirements of 21st century is implemented and met properly at the school level especially in science subject, since the science subject should include more practical exposure and skill development among students. The need was thus fulfilled in collaboration of feedback from the students as well as teachers with different sets of statements in identifying whether the requirements are met properly.

Aim of the Study

The study was taken up with the main aim of assessing the opinion of the service providers (teacher trainers, science teachers and special educators) and the service receivers (students) as to whether the present science curriculum is attuned to the learning requirements of the 21st century.

Method

The present study adopted a survey research design in order to identify, evaluate and interpret whether the present science curriculum is attuned with the learning requirements of the 21st century.

Participants

Two groups of participants participated in the study. The details are provided below—

Service Providers

The first group of participants for the study was the service providers. These included teacher trainers teaching in regular B.Ed colleges (10 nos.) and involved in grooming and training the next generation of teachers. The participants also included science teachers (15 nos.) teaching at higher secondary level as well as special educators teaching science subjects to children with hearing impairment (10 nos). The special educators were included as they also taught children with hearing impairment using the same textbook as other teachers. Since Universal Curriculum design

is bringing about uniformity, accessibility, flexibility by removing barrier hence, it was felt essential to include them in the study. They were identified through purposive sampling reaching out to as many service providers as possible having more than 10 years of experience in the field of teaching, and hence a total of 35 number of service providers consented for their participation in the study. The table below gives the details of the service providers.

Table 1
Details of Service Providers

Details of the teachers from different set-up		
Teacher Trainees teaching in regular B.Ed colleges	Science teachers teaching in higher secondary level	Special educators teaching science subjects
10	15	10

** Other details like experience, age could not be collected as the teachers didn't provide the same in the google form.

Service Receivers

The second group of participants was the service receivers, i.e., the students. Students studying at the higher secondary grades (Class XI) were the next set of participants who agreed to participate and give their opinion on the current science curriculum. Since they were the service receivers and the curriculum design of any subject has an impact on them as well as their career hence it was decided to include them in the study. A total of 60 students participated in the study. The table below shows the details of the second group of participants, i.e., the service receivers.

Research Tools

After review of relevant literature, the investigators decided to develop two sets of questionnaire or survey tools keeping in mind two groups of participants who participated in the study. The investigators had identified ten areas of curriculum which requires attention as per the universal curriculum design. The opinion scale was provided to the service providers as they were directly concerned with implementing the curriculum. Statements were framed to record whether the selected areas of curriculum require modification. A five-point opinion scale of 'strongly agree' 'agree' 'undecided', 'disagree' and 'strongly disagree' was incorporated to record the intensity of the opinion. The questionnaire consisted of questions seeking opinion about the science curriculum in meeting the needs for the present age learner, the requirements of Universal Design for Learning was

Table 2
Details of Service Receivers

Details of the teachers from different set-up	
Grade	**Total No. of participants**
XI	60

also addressed with questions like providing real-learning experience in science as well as developing creativity and critical thinking among children with hearing impairment, it also highlighted the role of the teacher in the 21st century being that of a facilitator rather than an instructor. Opinion about the current science curriculum was also gathered for further analysis. The concerns of Universal Design for learning were also emphasised. Similarly, for the service receivers, another set of questionnaire was prepared which being five-point frequencies scale of 'always' 'often' 'sometimes' 'rarely' and 'never' was incorporated to record the intensity of occurrence. The questionnaire consisted of items which analysed the frequency of activities conducted in the science classroom, namely developing independent problem solving skills, ample opportunity for creative and critical thinking, curriculum being adaptable, analytical and resourceful for meeting the requirements of the global environment. Similarly, the opinion of the student participants were also collected on components like concretisation of abstract concept and its relevance, making connection between physics, chemistry and biology, provision of sufficient practical exposure for meeting the industry requirements. It also highlighted the strategies incorporated for teaching science. Hence, the overall purpose for including two groups of participants as well as making two sets of questionnaire was to get a 360° views and opinion about the science curriculum and its relevance in the 21st century.

For the purpose of validation, the first draft of the questionnaire was provided to six science teachers having more than 10 years of experience. Those items which received 80 per cent consent from the evaluators were retained. Evaluators' suggestions for improvement of the tools were also incorporated. The tools are appended for further reference.

Data Collection and Analysis

The questionnaire was distributed to the participants after explaining the purpose of this study and seeking oral consent from them. In the presence of the researcher they had to fill in their responses. The filled-in questionnaires was collected and the cumulative score for each participant was calculated.

Results and Discussion

The study was conducted with the purpose of discussing whether the present science curriculum is meeting the learners' requirement to face the challenges of the 21st century.

Service Providers Opinion about the Current Science Curriculum

The questionnaire for the service providers had ten questions. The domains fixed were science curriculum and present industry requirement, equipping the present generation with new age information

learning and working, developing creativity, scope for real life experiences, role of a teacher as a facilitator rather than an instructor, emphasise on process learning, meeting the career requirement, provision of strong fundamentals and creating holistic individuals. The data were qualitatively analysed by computing the percentage. The results given below are in the consolidated form which reflects the opinion of the respondents.

Figure 1 indicates that most of the teachers agree that change in curriculum is more required and it should be learner centered. From the above figure, it is clear that 23.6 per cent of the teachers strongly agree that the curriculum should meet the needs of the students and it should give real life experience. 54.4 per cent of the teachers agree that curriculum should provide new information, it should be concentrated more on the process not on factual knowledge, and they opined that fundamentals of science learning should be strengthened that stays for rest of the students' lives. 14.8 per cent of the teachers have not decided about the curriculum design, and it is identified that the requirements of science curriculum is not much aware for those participants. Less than 4 per cent of the participants have disagreed that it is not necessary to meet the requirements all the time. The special educators who participated also agreed with the above that the role of special education should also be incorporated in the science curriculum. The curriculum should be designed to meet the needs of children with disabilities especially in science subject, keeping in the requirement for Universal Curriculum Design.

The study also has a descriptive result based on the requirements of science curriculum. Above 80 per cent of the teachers suggested

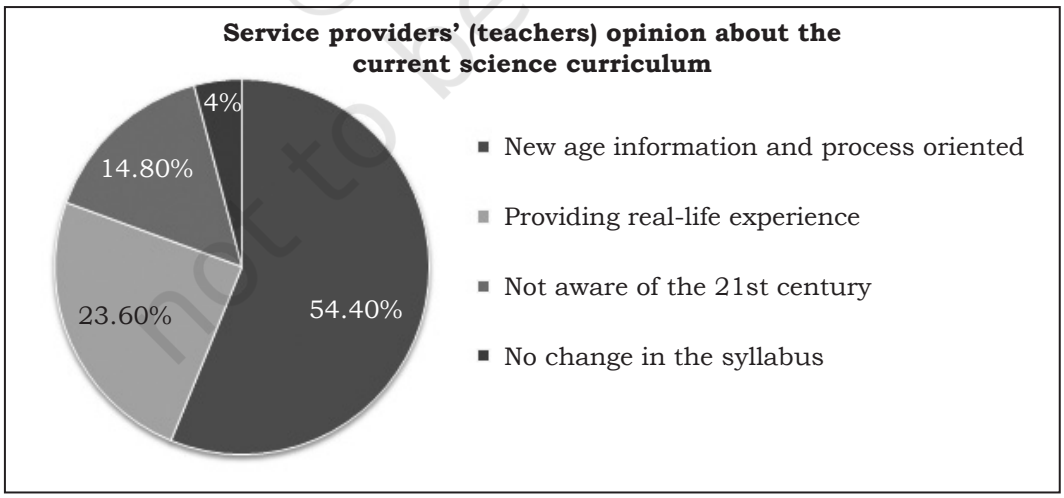

Figure 1: Service providers' opinion about the current science curriculum

that the curriculum should develop critical thinking, creativity, communication and collaborative learning process among students, and it should be the forefront in 21st century science curriculum. It is also suggested that practical exposure should comparatively be more than the theoretical exposure.

Figure 2 highlights the opinion of students who participated in the study. Their opinion was collected in terms of provision of opportunities in implementing the curriculum components like opportunities for creative and critical thinking, curriculum in terms of adaptable, analytical and resourcefulness, concretisation of abstract concepts, real-life connection with school subjects, provision of technical and practical exposure, provision of opportunities to develop a deeper understanding of scientific concepts, engagement in research and practical exercises and opportunities to solve a diverse set of problems and communicating the results. 50.4 per cent of the students responded that there is a need to review the curriculum in terms of teaching strategies, connectivity with real-life problems and more opportunities for creative and critical thinking frequently. In terms of the curriculum design 30.4 per cent of the respondents stated that redesigning of curriculum should be carried out often keeping in mind the ever changing requirement of the society. 15.2 per cent of the students responded that an opportunity to apply their learning in real-life situation is met sometimes. However, 1.7 per cent of the students stated that they never or rarely get an opportunity to solve a diverse set of problems and to communicate the results accordingly. It implies that the requirements in curriculum design are more important for the

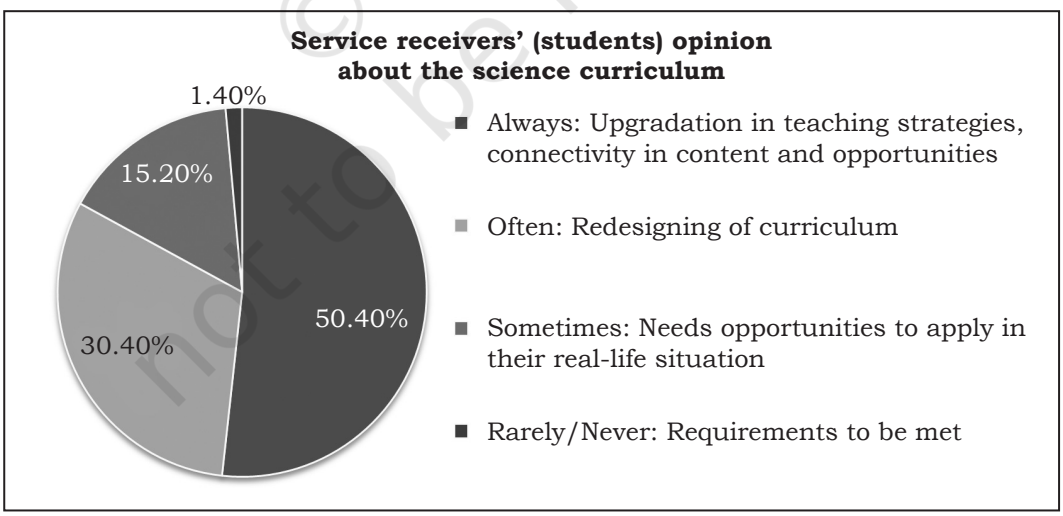

Figure 2: Service receivers' opinion about the science curriculum

students and it should be met at the maximum.

The teachers handling students with disabilities are also included and most of the teachers agreed that role of special education should also be incorporated in the science curriculum. The curriculum should be designed to meet the needs of children with disabilities especially in science subject which was a more important suggestion by the special educators as science is a subject which has implications in all walks of life whether personal or professional.

The study also has a descriptive result based on the requirements of science curriculum. Above 80 per cent of the teachers suggested that the curriculum should develop critical thinking, creativity, communication and collaborative-learning process among the students and it should be the forefront in the 21st century science curriculum. It is also suggested that practical exposure should comparatively be more than the theoretical exposure.

Implementing universal curriculum design, though unique and thoughtful for successful inclusion, faces a lot of hurdles and challenges which has been discussed above based on the results obtained. The challenges that the service providers as well as the service receivers are facing could be in line with a study by Scott (2018) which highlighted the barriers for implementing the UDL framework which states that for UDL to successful, it is essential to have an effective team, appropriate attitude along with appropriate administrative support, proper orientation and preservcie training, together all of which contributes to the success of UDL. Moresover for any science curriculum to be successfully implemented as per the requirement of the UDL it needs to be based on the three main principals of UDL which (1) providing multiple means of presentation, (2) providing multiple means of action and expression and (3) providing multiple means of engagement.

Conclusion

To conclude, it can be said that meeting requirements in curriculum is more important for students. Curriculum design and teachers' role in implementing the designed curriculum is more and requires meeting the needs of the students. Science curriculum is a common subject which has a general fact and concept all over the country, the requirements should be equally met to all the students. Providing adequate knowledge and practical exposure will help students to learn well and help them to implement it in their real life. If the need of typically developing children in science curriculum is not met, it is questionable to meet the requirements of children with disabilities in twenty-first century. The policy makers and the government should work for meeting the requirements in science curriculum for all children including children with disabilities.

Tool Developed for Service Receivers

Statement	
Your science teachers teaches in a such a way that you can independently discuss problems, critique theories and negotiate solutions with one another.	Sufficient technical knowledge and practical exposure is given in the Science class so as to meet the needs of the digital age.
Science teachers provides ample opportunities for students to think creatively and critically.	The present science curriculum which you are learning provides opportunities to develop a deeper understanding of scientific concepts.
Science curriculum encourages students to be adaptable, analytical and resourceful in order to succeed in a global environment.	The present science curriculum which you are learning reflects science in the real world.
Science teachers put an effort to make abstract concept into concrete and relevant to real life.	To encourage science learning, the school provides opportunities for students to interact with community scholars and engage in research and practical exercises.
Teacher emphasises the connection between physics, chemistry and biology so as to make it meaningful.	You as a science student had ample opportunities to solve a diverse set of problems and to communicate the results.

Tool Developed for Service Providers

Statement	
Our science curriculum, prepare all students for the new automation (mechanical) industry.	Present science curriculum emphasize more on the process and not on factual knowledge
The Science curriculum equips our present generation students for the new information-age learning and working.	Science curriculum is planned in such a way that it prepares the students with typically developing and hearing impairment to meet their career needs.
The science curriculum which is followed in school develops creativity in students with typically developing and hearing impairment.	Science education at all levels of schooling is often seen as abstract and irrelevant to real life.
The present science curriculum helps students with typically developing and hearing impairment to reflect real experiences.	As a teacher do you agree that it is important to give our student the fundamentals that will stay with them for the rest of their lives?
In the present science curriculum, the role of teachers is more of a facilitator rather than an instructor.	The present generation science curriculum prepares students as holistic individuals who can think analytically.

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Using Translanguaging Pedagogy to Teach Naming and Action Words

An Exploration into an Indian Primary Level English as a Second Language (ESL) Classroom

LINA MUKHOPADHYAY*

Abstract

An ESL class session from an Indian primary level government school is analysed in this paper as one instance of use of teacher-led translanguaging for pedagogic purposes. This classroom observation was done post a training programme, where teachers from primary grades in Hyderabad were given structured inputs to use various multilingual strategies to teach language and content. The analysis shows that translanguaging is used to clarify concepts, instruct students and help them participate in classroom activities. Teacher reflection adds to our understanding of the usefulness of translanguaging to employ students' L1 more systematically, to help them learn about a set of naming and action words in English by drawing equivalent lexical comparisons between Telugu (L1), Hindi (L1) and English (L3). Instances of use of translanguaging or fluid ways of communicating using multiple languages in class helps in validating the practice todevelop linguistic skills in students who do not get exposure to English at home.

INTRODUCTION

In Indian schools, students are largely multilingual. However, the schools they go to either have state language as the medium of instruction (MoI) and/or English as the medium of instruction

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(EMI) to fulfill the three-language policy for education (Pattanayak, 1981). Indian researchers have criticised this policy (Petrovik and Majumdar, 2010) as it assumes that teaching of English (as a subject or as the MoI) from an early age would ensure better proficiency in the language. However, there are some fallacies to this assumption— the target language in its oral communicative form is not available as comprehensible input at home of most students, especially the ones who are from the low socio-economic status (SES) families. Furthermore, teachers of government schools many a times lack adequate conversational proficiency in English, training and preparedness to teach English communicatively (Coleman, 2017; Brinkmann, 2015; Mukherjee and Vasantha, 2002). Quite naturally all of these factors results in poor learning outcomes, leading to large number of dropouts in schools (Pratham, 2017; Erling et al., 2016).

In government schools in India that practice EMI, teachers are encouraged to teach languages (English) in a monolingual manner, which they often fall short of. They are neither trained nor encouraged to use multilingual repertoire of students in a positive manner to develop proficiency and content learning through a new language. Although theorisations of transfer of linguistic cognitive aspects from a language one knows well (L1) to a newly developing language (English) (Cummins, 2007) is now well established, teachers are not informed about their existence. Even if teachers try to utilise students' L1, it is mostly at the lexical level or a word-to-word translation. The strategy is not utilised to deeply engage in the meaning-making process. But, research shows that employing multilingual resources to learn the target language and academic concepts is very useful in multilingual contexts across the world (Durairajan, 2017; Anderson and Lightfoot, 2018; Canagarajah, 2013; Garcia and Wei 2014; Tsimpli, 2019). Quite interestingly, the use of multilingual strategies gets a mention in the recent National Education Policy (NEP, 2020) but its widespread implementation is still in its formative stage. To take this argument forward, this paper presents a detailed analysis of a classroom session, which will serve as an example for language teachers to systematically use translanguaging for academic purposes.

The MultiLiLa Project

The MultiLiLa is a four year funded research project by UK Economic and Social Research Council (ESRC), and led by the University of Cambridge in collaboration with Indian and UK partners, to study the learning outcomes of bi/multilingual grade IV students from low SES background and studying under challenging contexts across three sites — Delhi, Hyderabad and Patna. The learning outcomes have been studied with respect to literacy, language, cognitive abilities and mathematics

in the state MoI (Hindi and Telugu), and English to understand if children who have MoI overlap with their home language enjoy an advantage over the ones who do not have this overlap. Furthermore, classroom observations of English and mathematics lessons were done to better understand teachers' use of languages to transact in the class. Classroom observation analysis across the sites showed that language mixing happened within a range of 60 per cent to 43 per cent in both English and content classes, with more mixing instances in mathematics lessons. Though teachers were observed to use quite a few pedagogical practices ranging from read aloud to solving problems and having discussion with students, the extent to which they were mixing the languages was not too clear.

Translanguaging is an instance of a structured multilingual pedagogic practice that emerged as an approach to bilingual education, where students in bilingual Welsh and English classrooms were encouraged to alternate languages to communicate in oral and written forms (Williams 1994, as cited in Garcia and Lin, 2016). Since then, this pedagogical practice has been theoretically acknowledged and researched. There are multiple references of the positive impact of such research in several multilingual contexts— Canagarajah (2011), Garcia and Lin (2016), Garcia and Wei (2014) and Baker (2011). However, use of translanguaging for pedagogic purposes has also met with resistance from practitioners of direct and monolingual methods of teaching languages as they have felt that this fluid interaction using two or more languages would make the target-language learning process 'labourious' and 'contaminated' (Silverstein, 1996). Interestingly, the usefulness of this method and its pedagogical validity in multilingual contexts, and in linguistic minority student communities has far outweighed its limitations and criticisms over the last four decades.

Prior to using the term translanguaging in the western school space, the use of multiple languages to foster communication has had been a natural choice of the multilinguals across the world, and certainly in India. In India, instances and success of using this practice has sometimes been well documented (Anderson and Lightfoot, 2018; Chimirala, 2017; Durairajan 2017). Still, a lot of it yet remains to be documented to bring out the actual classroom practices. To use this fluid medium of communication as an alternative to the traditional monolingual and direct method of instruction in schools, the primary place of contact for young students, is by no means easy or will gain acceptance as a natural phenomena unless the language policy of a country by understanding its importance accepts and implements it. This paper, therefore, aims to bring out the method to practice translanguaging and discuss the possible gains that

teachers can experience as a result of this practice.

In this paper, the construct of translanguaging is considered as all instances of code-switching and translation that could be done in a motivated and systematic manner by language teachers. It would be a conscious and planned manner of communication involving multiple languages in class for the purposes of learning concepts as well as the target language. Thus, this multidimensional construct of translanguaging is open to accommodating the needs of both content and language teachers, especially in the EMI context. In this paper, however, discussion and analysis of use of translanguaging is restricted to the ESL classroom and treated it as one instance of applying the concept to help students benefit academically.

Translanguaging in an Indian Primary Level Classroom

In an attempt to academically draw from the multilingual resources of the ESL classroom and EMI contexts, a two-day training programme as an impact study of the MultiLiLa project on possible uses and benefits of translanguaging was offered to a group of 22 primary school level teachers who expressed interest to participate. The training was conducted in Hyderabad, the capital city of Telangana, a state in the south of India as part of an impact study in collaboration with the University of Cambridge, EFL-U and British Council, India division (for details refer Mathew et al. submitted). From the group, five teachers agreed to prepare lessons incorporating uses of translanguaging in English and content classrooms. Of these teachers, one teacher was observed for an ESL lesson where she planned, used, and most importantly reflected upon her use of translanguaging.

This paper presents a detailed report of this lesson observation as one instance of practice of translanguaging in an ESL classroom to answer two research questions—

RQ1 : What are the various uses of translanguaging attempted in the ESL classroom?

RQ2 : At what stages does the teacher need to be engaged in the concept of translanguaging to make this practice effective?

Following are the objectives of this lesson observation report—

- to give a narrative account of the lesson as it progresses with critical comments;
- to highlight instances of use of translanguaging and the purposes it is used for;
- to point out the lesson focus and the aspects of language proficiency dealt with along with supporting explanations and activities;
- to present teacher talk and the various functions it is used for;
- to focus on the language-teaching methodology and aids used;

- to list the types of student activities and responses during the lesson.

An ESL lesson on naming and action words from the sporting world

I along with another researcher on a summer afternoon went to observe Anita's[1] lesson, a teacher of grade five in a Telugu medium government primary school in Dilsukhnagar, an old commercial area in the city of Hyderabad.

As we entered the nice and airy classroom and one that had no fans, we could see a bunch of young smiling faces busy with their playful activities and their school satchels kept in front of them. They were 39 students, ten to thirteen years of age. At the beginning though they were sitting in two separate groups — one of boys and the other of girls — later as the lesson proceeded they exchanged places and the groups had a good mix of both the genders. I noticed that apart from the teacher's two tables and a couple of cupboards there were no other furniture in the room. This is quite a frequent sight in Indian government primary schools. The classroom had a couple of posters on vocabulary and quantification pasted on the walls and a huge blackboard.

Anita walked into the class and made us sit comfortably on two chairs, which two of the students quickly got from another classroom. They placed the chairs on one side of the room so that we could observe the class and not obstruct the vision of any student as they were sitting on the floor. Anita began her class by addressing the young students cheerfully and then asked them to welcome us, the guests in their class for that day. She also mentioned that we are like her teachers who have come to see all of them. The students readily accepted our presence and the lesson began in full earnest.

Anita asked the students in a mix of Telugu and English to open the English textbook, Unit 7, titled "I was bad at cricket", the first page:

Referring to the pictures given in textbook, she enquired—

T : Can you see a picture? What are some of the words you can use to describe the pictures?

SS : happy, cricket, play, cheerful …

T : …*She asks for a few synonyms of the words – /happy = anandam, santosham/*

T : Okay from the picture we will now practice some action words. Who will help us do this activity?" (mix of Telugu and English)

SS : *They look at each other, and one girl named Srika volunteers to do the activity by raising her hand.*

T : Is it okay that Srika will guide you? (in English)

While giving instructions, Anita kept using related words and phrases from Telugu to help the students connect to vocabulary to be used for this lesson.

[1] All the names of the teacher and students, used in this report, have been changed to maintain anonymity and permission to do classroom observation has been sought following the standards of research ethics.

Activity 1

A number of action words are spoken aloud, and Srika along with the other students got up from their places and did the corresponding actions to show comprehension of these action vocabulary like — *walk*, *jump*, *run*, *swim*, *sit*, *stand*, *go left*, *go right* and so on.

All along, Anita kept encouraging the students in a fluent mix of Telugu and English. She ended the activity by asking in both the languages: "Shall we end this activity now?"

I Was Bad at Cricket

Everybody at Bojyanaik Thanda was good at cricket, except myself. I tried my best, but it was no good. Every time I tried to catch the ball, it seemed to escape from my hands. It was the same if I tried to bat. My bat seemed to miss, or the ball flew off the edge of it. Each time I missed the ball, all the boys groaned. As for bowling, well, I was so bad that I was never asked to bowl.

One evening, an old man who sat on the verandah of a house near the ground watched me drop an easy catch. He shook his head slowly. 'That boy has got no eye for the ball,' he said. I bit my lip to hold back my tears. I had not always been bad. I used to be quite good. But over the past year or so, I had just got worse and worse.

At home, Jangu, my brother began to tease me. 'He dropped such an easy catch today,' he said to father. Even our little Isru could have done better. 'Well, Somla has butterfingers,' said Jangu. 'He's no eye for the ball.' But father said, 'I had a dream last night. It was about Somla playing for the Indian side.' The next day we were playing cricket as usual. Jangu went into…

Activity 2

T : Let us now look at the picture in the book. Which game is played?
SS: Cricket.
T : How do you know that?
SS: The bat.
T : Now I will show you some pictures of games. You tell me which sports or action you can see.

Anita brought out mini cutouts of people playing football, tennis, boxing and asked the students "to observe the difference".

1. Cutout of a football player—

SS: Football
T : How could you say that? By jumping/skipping/standing?
SS: By looking at the feet.

2. Cutout of a boxer—

T : Name of the player?
SS: Sania Mirza?
T : Is this Sania Mirza? Where have you seen her?
SS: In posters.
T : Okay, seen her in posters. She is Mary Kom.

3. Cutout of a tennis player—

T : What sport is this?
SS: Shuttle?
T : Is this shuttle? Or tennis?
SS: Tennis.

Like in the previous activity, Anita used Telugu as and when required along with English as the primary language of instruction; the mini conversations given above were in English. Her use of translangauging at this stage was still mainly to better communicate with the students which words or phrases she wanted them to notice.

Activity 3

Anita then went on to explain to the students that with names of the game played we also have to know the names of the people who plays the game; like the one who plays cricket is a cricket player. Likewise, she asks for the corresponding naming words or phrases—

cricket : cricket player
bowling : bowler
batting : batsman (she adds batswoman referring to the women players)

Here, Anita used Telugu to explain the need of using naming words, especially compound nouns in the sporting world.

Activity 4

After brainstorming with the students about naming (common nouns) and action (verbs of motion) words, Anita asked them to get into smaller groups of five or six, read the first page of Unit 7 and underline the action words.

For this activity, Anita gave ten to fifteen minutes and then, from each group one member was invited to write their list on the board. Anita presented this instruction in a bilingual manner so that the students

knew what the teacher expected them to do in the next fifteen minutes of the lesson.

The class, divided into 5 groups, was abuzz with activity during this time, and the following was the outcome—

Table 1
Listing Actions Words

Group 1	Group 2	Group 3	Group 4	Group 5
missed playing *evening	dropped tried slowly	seemed asked *grooned (=groaned)	watched	looked

Here are a few observations about the student responses— As is clear from the students responses, many of them had generalised the past tense marker /ed/ and /ing/ to identify action words. Although this analysis helped them pick action words well, but there were a few overgeneralisation errors as follows—

1. the verb 'seemed' is a mental category verb and not an action word;
2. one student identified the present progressive marker/ing/ to identify action words and has listed 'evening' as an action word. This is an overgeneralisation error where students are found to use the strategy of tense morphemes to identify action words — so using a grammatical category for vocabulary recognition. The teacher gave feedback that this is an exception and 'evening' is a noun. So, along with knowledge of morphological markers, students need a morphemic analysis knowledge to identify which are root words (e.g., evening) and which are morphologically derived words (e.g., missed). Thus, mere presence of a marker may not be sufficient to categorise words into action words.

Another interesting point noted is that one child had also put down a word like 'slowly' which is also a *manner* of action word or an adverb, but, rightly within the category of action words. So, this indicated that the students were going beyond what the teacher expected them to do, identify action words or verbs; they were also associating other words that represent action like adverbs. This indicates students' ability to extend their learning to related concepts and willingness to use a wider set of vocabulary.

Anita gave feedback on the board-work activity by saying that there is something called 'language consciousness' or the brain hints if a word does not exist in the language. She said this with reference to the spelling of the word 'groaned' misspelt by a student as 'grooned'. She also summarised that two parts of speech can be considered in action words — verbs with tense markers and adverbs indicating manner of

movement (*slowly*, *fast*, etc). Some of the explanation was interspersed with Telugu.

Activity 5

To take the lesson forward the teacher gave the next activity as follows—

T : Write down in your notebook six action words with their simple present and past tense forms.

Thereafter, Anita also gave chits of papers to the students with words given as simple present and simple past tense [*look – looked*]. Students who took the chits had to find from each other pairs to complete the word formations. The students had a lot of fun doing this hand-on activity on word formation. Anita took words from some of the pairs and put it up on a white board as follows:

Table 2
Listing Action Word Forms—Present and Past

Present	Past
miss	missed
look	looked
play	played
watch	watched
drop	dropped
catch	caught
bring	brought
think	thought

Through this activity, Anita helped students notice that action words may have two forms — simple present and simple past, and that some verbs just add 'ed' morpheme to express pastness while in some there is a change in spelling and pastness is expressed by /ght/ and a change in root spelling (e.g., bring – brought). For some of the words, she used Telugu equivalents to show similarities in word formation across the two languages.

The class ended after two hours. The students seemed to have enjoyed the lesson and were happy to have been heard. The fact that most of them could participate in the series of activities well planned by the teacher made them feel positive about the lesson.

Analysis of the ESL lesson and Discussion

Based on this detailed example of a description of use of translanguaging in the ESL classroom, let us now try to address the two research questions:

RQ1 : Types of uses of translanguaging in the ESL classroom

Anita as a teacher was well prepared for her lesson, and her attempt to teach vocabulary along with grammar and give students practice with help of a series of activities worked well with the students. Her lesson was a good example of using the communicative mode as well as translanguaging to help students focus on concept learning as well as lexical and grammatical aspects of the target language, English.

Throughout her lesson, Anita used Telugu along with English to give instructions to the students and prepare them to do the activities

listed as one to five. Most of her translanguaging happened to fulfill language functions of instruction and explanation to ensure that students were able to comprehend her instructions and carry out the tasks well. She used instances of translanguaging to draw students' attention to lexical equivalents in Telugu and English action words. She also used translanguaging to compare and contrast grammatical aspects like change in word forms to convert words from present tense to past tense.

RQ2 : Teacher engagement about translanguaging

After her lesson was over, I had a chance to speak to Anita and she expressed that thinking about the concept of translanguaging, which she had received in the training for two weeks prior to the observation, made her use Telugu in the English lesson more consciously and choose for some purposes to use it for. Her main intention was to use the students' L1 to clarify concepts so that they could better communicate in English.

"As I had mentioned and you all knew I am already into MLE, all the government institutions are like this. And, one of the participants also shared that we teach in three languages including Hindi. So, we have got certain idea about practicing it and facing the problems. How this helped me is, first, its professional enrichment and I am not at all proud to say that our proactiveness also matters— where I am ready to learn and change or not— that made me come there and attend the workshop. The interaction with the participants and the various subject experts has made me realise how we should pre plan or how should we strategise before we go for class, how we can implement this as a part of our lesson plan."

Anita was able to reflect on the usefulness of planning to use translanguaging in the class systematically and her perception of student benefits seemed to be aligned to her lesson goals.

"…assigning the specific time for the use of other languages was planned meticulously. I feel that learners were more comfortable with that. I always used Telugu in my classes but by the planning to use it I have achieved more responses from the student and display of better understanding by them."

Teacher Reflection as Professional Development

As a result of the training and the classroom observation experience with us, Anita seemed to be more open to trying out translanguaging in her future lessons that would again be observed. This is an evidence of an attempt at professional development to use multilingual resources.

"When I prepare my lesson plan I make a mental note of where I am going to use Telugu, which earlier to the workshop I never did. It used to be a spontaneous input. I feel that

planning the multilingual inputs gives a better opportunity to anticipate the problems students might face in understanding the concepts to be taught and their learning needs."

"Next week when I actually do this in the class, I should be in a better position to give you more examples of the challenges I have had in doing this — my students' interaction in that regard."

In sum, Anita's comments gives the evidence that for the translanguaging practices to be effective and be well-aligned to the unit taught and the needs of the students, teachers need to be engaged with the concept right from the stage of preparation, to classroom use and during post lesson reflections about the practice, all of which can also help in building students' estimate of performances.

Conclusion

Though Anita attempted to use translanguaging for the purposes of instructing the students and explaining grammatical aspects by drawing comparisons between L1 and the target language in her talk, she used it only at the oral level and not for print purposes. Also, there were no activities planned with two language inputs or outputs as part of the activities she used, though she had a mental plan to use Telugu inputs with English as a translanguaging practice during her activities. So for her next lesson, she may be advised to plan some activities where both languages are used not only by her but also by the students in a systematic manner and for print purposes. Anita could be advised to take up reading comprehension, an oft-neglected area in the language classroom and plan for some translanguaging inputs and tasks like — bilingual texts, text recalling in L1 and L2, comprehension questions in L2 and answers in L1 — to suggest a few. To conclude, overall, Anita could be seen to use few of the multilingual strategies that she received training and break away from a teacher-centered class to more learner centeredness (Clarke, 2003) and use the linguistic resources that the learners had to explain concepts.

Overall, through the singular instance of Anita's detailed lesson observation report, her planning, and actual use of translanguaging in the English classroom show that if conceptualised and planned effectively, the practice can be beneficial for the students who would otherwise have not understood all that was taught in the lesson if the teacher strictly followed the direct monolingual method (Arthur and Martin, 2005; Durairajan, 2017; Canagarajah, 2011a). It can also be a source of satisfaction and motivation for ESL teachers to perform better and thereby support SL learning by engaging with students' L1 resources and thereby validating translanguaging as an effective pedagogical practice.

The ESL lesson presented in this paper has presented various instances of use of translanguaging

as practiced by the teacher— for concept clarification and ease of communication, and her reflections on the usefulness of the practice. The translanguaging practices presented in this paper are to demonstrate one of the findings from the MultiLiLa project classroom observations that teachers use multiple languages for transaction of meaning and creating opportunities for students to communicate and express their understanding.

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Effectiveness of Happiness Curriculum

A Positive Psychology Intervention in Schools by the Government of Delhi

Sunita Devi* and Swati Patra**

Abstract

One of the fundamental goals of education focuses on the overall well-being of children. The purpose of this study was to undertake a preliminary analysis of the implementation and effectiveness of the happiness curriculum introduced by the Delhi Government in the schools from nursery to class eighth. The perspectives of the teachers, parents and students towards the happiness curriculum were studied.

The sample consisted of 300 students (6th to 8th class) taken from ten schools. 60 teachers and 60 parents were also included. Qualitative data was collected via semi-structured questionnaire given to students, teachers, and parents. The questionnaire covered different aspects of the curriculum and the concept of happiness. Majority of students, teachers and parents were found to be satisfied with the Happiness Curriculum and opined that it should be continued and implemented in senior classes also.

Introduction

One of the fundamental goals of education focuses on the overall well-being of the children. Gandhiji (in Harijan, 1937) had emphasised on the development of mind, body, and soul in a harmonious way. "By education I mean an all-round drawing out of the best in child and man— body, mind and spirit." Besides learning of the three R's, Reading, Writing and Arithmetic in school, he insisted

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and emphasised on the development of three H's— Hand (psycho-motor domain), Heart (affective domain) and Head (cognitive domain) in the schools. Thus, the aim of education should be to develop the integrated personality of the child.

Aristotle, the ancient Greek philosopher put it rightly that, "Happiness is the meaning and the purpose of life, the whole aim and the end of human existence." Unfortunately, the sole aim of education seems to be shifted towards marks or tests which have taken away the joy of learning and drifted away the focus from whole-child teaching and learning to rote learning. It is thus, creating stress and burden on children and making them anxious and depressed (WHO, 2012) instead of happy, creative, and productive citizens. In schools, less or rather no time is spent on child's social-emotional and behavioural learning (Bailey, Meland, Brion-Meisels, and Jones, 2019). Even when there are some activities regarding this, it may be done without giving much thought to it and in the absence of a systematic rationale and guidelines.

The Collaborative for Academic, Social and Emotional Learning (CASEL) of USA emphasises the development of social and emotional aspects along with the academic component. It emphasises on managing emotions, having positive goals and relationships. It advocates for a systemic social and emotional learning (SEL) of the children which tries to promote happiness, mental health and reducing risk behaviour in children and youth (Payton, Wardlaw, Graczyk, Bloodworth, Tompsett and Weissberg, 2000).

UNESCO pioneered "The Happy Schools Project" in Bangkok (June, 2014) with the intention of promoting happiness in schools through enhanced learner's well-being and holistic development. In India also, a few initiatives have been taken to achieve the goal of happiness. The Government of Madhya Pradesh has started a department of happiness in the year 2016. A Centre for Happiness has been started in IIT Kharagpur with an aim of creating awareness, understanding, and encouraging research on happiness. The Government of Delhi has specifically come up with a Happiness Curriculum (July, 2018) in their schools for students from nursery to class eighth.

Thus, everybody (educationists, government as well as the parents) aim at making children happy. One of the reasons for approaching happiness in a systematic and structured way is the increasing number of mental health related issues in the present-day society (APA, 2019 and WHO, 2003). The 21st century of technological advancement and focus on high career goals and aspirations, have led to dissatisfaction, confusion, stress, and other mental health related problems. (Pew Research Center, 2018). Happiness is one of the important variables that is found

to be related to various aspects of our life including academic achievement (Heidari, 2009). Dr. Emma Seppala, author of 'The Happiness Track' discusses why well-being needs to be a priority in the 21st century classrooms, Letting Happiness Flourish in the Classroom. She says, "Happy kids show up at school more and able to learn because they tend to sleep better and may have healthier immune systems. Happy kids learn faster and think more creatively. Happy kids tend to be more resilient in the face of failures. Happy kids have stronger relationships and make new friends more easily." (Amico, 2016, August 8, Happiness in the Classroom). Happiness is directly related to adaptive functions such as psychological adjustment, physical health, and problem-solving skill (Jackson, Wiz and Lundquist, 2003). Being happy is of great importance to most people, and happiness has been found to be a highly valued goal in most societies (Diener and Seligman, 2002).

Hence, based on the empirical significance of happiness, school-based interventions need to be taken up to promote happiness in children. In this regard, the present research tried to assess the effectiveness of the Happiness Curriculum designed and implemented by the Government of Delhi in schools from nursery to Class VIII.

The Happiness Curriculum

The Happiness Curriculum, an initiative by the Government of Delhi, is taught in all the Delhi Government schools from nursery to Class VIII in a bid to promote happiness among children with the following objectives—

- to develop self-awareness and mindfulness amongst learners;
- to inculcate skill of critical thinking and inquiry in the learners;
- to enable learners to communicate effectively and express themselves freely and creatively;
- to help learners to understand their expectations in relationships, develop empathy, and ensure healthy relationships with family, peersand teachers;
- to enable learners to apply life skills to deal with stressful and conflicting situations around them;
- to develop social awareness and human values in learners to engage in meaningful contribution in society and
- to develop holistic approach to education in a universal context.

(Education Department, Government of NCT of Delhi, 2019. Happiness Curriculum Framework.)

The Happiness Curriculum was implemented in the schools by the Govt. of Delhi in July 2018. The curriculum is designed separately for nursery to Class II, Class III to V and Class VI to VIII. The curriculum involves a happiness period of

45 minutes and five minutes of meditation in the beginning of each class. The curriculum has four parts which includes mindfulness, stories, activities and expression. In mindfulness, students are asked to focus the attention through different activities such as listening attentively, being aware about different sounds, see and observe things more attentively in their present environment, etc.

Stories are used to make the children think, analyse, and reflect on some aspects related to values, life, and society. In the Happiness Curriculum, such stories are included which can bring the change in the behaviour of children. The purpose of stories is to stimulate creative thinking of children.

Activities component of the Happiness Curriculum requires the students to do some activity related to self, society and nature which are fun to engage in.

In expressions component, teachers ask questions on the last day of the week, facilitating free speech from children. These questions enable the teachers find out whether students are putting the lessons learned to practice in their day-to-day life or not.

The main aim of the present study was to find out the effectiveness of the Happiness Curriculum and the perception of the stakeholders of children, teachers as well as parents towards it. The study focused only on Classes VI to VIII.

Methodology

Objectives

- To undertake a preliminary analysis of the implementation and effectiveness of the Happiness Curriculum introduced by the Delhi Government in the schools.
- To study the perspectives of the teachers, parents and students towards the Happiness Curriculum.

Sample

The Happiness Curriculum is implemented in all the schools of Delhi government. The schools are divided into various zones covering the entire Delhi. The present study focused only on the south zone schools of Delhi.

In this study, a sample of 300 students (150 girls and 150 boys) from Classes VI to VIII, were taken. Students were taken from ten Sarvodaya Senior Secondary Coeducational schools of Directorate of Education (DoE), Delhi. There were 10 students, 2 teachers and 2 parents from each class (6th to 8th) from each school. Thus, a total of 60 teachers and 60 parents were also included in the present study.

Tools

Data was collected through questionnaire (bilingual— Hindi and English) given to students, teachers, and parents. The questionnaire covered different aspects of the curriculum and the concept of happiness. While administering the questionnaire, the researcher directly asked the questions and collected the

responses to clarify any doubts while answering the questionnaire.

Results and Discussion

Data was collected using the questionnaires and the items included in the questionnaires were grouped into the following main components:

The responses of students, teachers and parents on the questionnaires were analysed based on the above components. The findings are presented below in Tables 2–5 which gives a comparative analysis of the responses provided by students, teachers, and parents.

Table 1
Components in the Questionnaires

S. No.	Components
1.	Orientation about Happiness Curriculum
2.	Expectation from Happiness Curriculum
3.	Content of the Happiness Curriculum
4.	Impact of the Happiness Curriculum on Students
5.	Meaning of Happiness (student/teacher/parents)
6.	What can a student/teacher/parents do to create happiness?
7.	Overall Feedback

The responses of students, teachers and parents on the questionnaires were analysed based on the above components.

Orientation and Expectation from the Curriculum

Analysing the data in Table 2, we can see that regarding the orientation

Table 2
A Comparative Analysis of the Responses Provided by Students, Teachers and Parents

Happiness Curriculum	Responses			
	Students		*Teachers*	*Parents*
	Boys	Girls		
Orientation	93.4% reported 'Yes' and 6.6% 'No'.	83.3% reported 'Yes' and 17.7% 'No'.	68.4% got one day orientation about the Happiness Curriculum; 31.6% did not get any orientation.	82% said, 'Yes' and 18% said 'No' orientation was given.

Expectations	Learn to behave nicely and study will be better, concentrate, relax (40%), enjoy, and will listen stories and do activities (30%), learn to behave nicely and help others (20%) and play games (10 %)	Enjoy/do activities (30%), learn good things, (20%), learn stories and enjoy (20%), laugh whole day (10%) and learn to behave nicely and study will be better, will be able to concentrate and relax (10%).	–	Happy children (38%), better study (36%), and good behaviour/ human being, relieved from tension, able to concentrate and do-good things, etc. (32%).

on Happiness Curriculum, there is a need for proper training to all the teachers involved in the curriculum transaction. This is reflected in the Figure 1 below:

As it is clearly shown by the results that substantial number of teachers (31.6%) were not oriented about the Happiness Curriculum. Teachers are main stakeholder group within a change, who formally and informally shape the change processes and associated initiatives (Dudar et. al., 2017). Hence it is very important that teachers get proper orientation so that they can deliver on it. However, it is interesting to note that in response to the question on

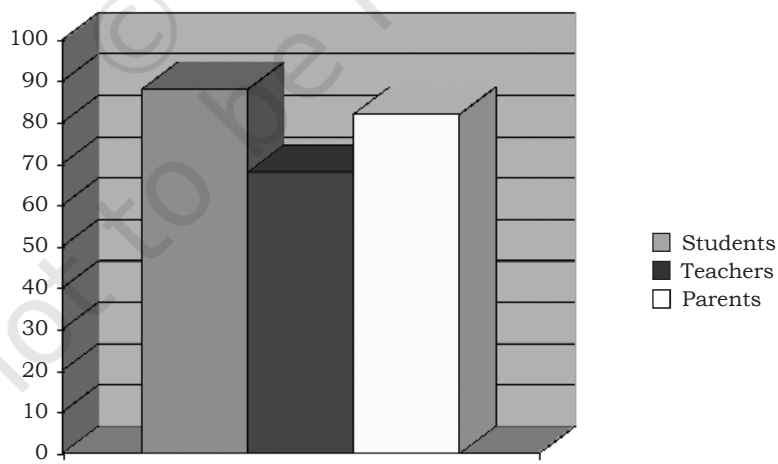

Figure 1: Orientation about Happiness Curriculum

'Do you feel competent to carry out this curriculum?' 93.3 per cent of the teachers responded that they feel competent whereas 6.6 per cent do not feel competent and feel that proper training should be given.

Consonance was found in the responses of students and teachers which show that both enjoy teaching and learning in this period of happiness. 100 per cent students (both boys and girls) look forward for this period. 96.6 per cent of the teachers observed that students enjoy and wait for this period as there is no burden of homework and exams. They feel free, get to express themselves and participate. Expectations about the curriculum reflected that the students anticipated doing different activities in the happiness period. They also expected that the happiness curriculum will help them in achieving good academic performance (40% boys and 10% girls) and learning good behaviour (60% boys and 30% girls). Listening stories and enjoying were common expectations as reported by the girls (30%) and boys (40%).

The result findings reveal that students and teachers both enjoy teaching and learning in this period of happiness. And both talk about behaving nicely, studying well and being a good human being as expectations from the happiness curriculum.

Table 3
A Comparative Analysis of the Responses Provided by Students, Teachers and Parents

Happiness Curriculum	**Responses**			
	Students		***Teachers***	***Parents***
	Boys	Girls		
Content (Mindfulness, Story, Activities, and Expression)	66.6% like stories as they are interesting, easy to understand and teach good new things; 26.6% like activities/ games, and 22.2% like mindfulness as it relaxes and gives peace of mind.	like stories (57.7%), activities/ games (26.6%), mindfulness (17.7%) and expression (4.4%) as they get to share their feelings. 37.7% found difficulty in expression as it is difficult to share because of fear of classmate laughing, etc., 31.1%	53.3% said Activities (are good and easy to carry out, students get involved and enjoy) and expression (because students share their experience and full class participate enthusiastically), 40% said stories, because these are very interesting,	

	40% found mindfulness difficult because it is difficult to close eyes, concentrate, too much noise, get, headache, etc., 22.2% expression, 13.3% found activities difficult as they don't have space in the class, difficult to carry out, 13.3% found no difficulty, 4.4% stories as found it boring.	mindfulness, difficult to close eyes, concentrate, too much noise, get, headache, etc., 15.5% found activities difficult as they don't have space in the class, difficult to carry out, 11.1 found no difficulty, 2.2% stories as found it boring.	students can easily connect with these and develop good learning, 13.3% said all four blocks are good, 13.3% said mindfulness as it helps students to calm down. 56.6% said all are good, no block is difficult, 20% said mindfulness as students find it difficult and vague 13.3% said stories because some stories are beyond the level of children's understanding, some are too lengthy and too preachy and are tough for students, 13.3% said expression because they feel conscious that other students will laugh/make fun.	
Impact on Students • Attention in the class: • Behaviour with classmates, teachers or other school staff, parents • Studies/ Academic performance:	95.6% (Both male and female) said it has become better and improving, 4.4% says no improvement		96.6% said yes that there is a change although very early to say and only 3.3% says there is no change at all.	91.6% said studies and 95.6% said yes to change in behaviour and concentration.

The Content and the Impact of the Curriculum

The instructions regarding the Happiness Curriculum were found to be easy to understand and carry out as reported by 99 per cent students and 96.6 per cent teachers (refer Table 2).

Findings indicated mindfulness to be the most difficult part (40% boys, 31.1% girls and 20% teachers). It is interesting to note that though the teachers felt that mindfulness was the best part of the curriculum, yet it was reported to be difficult to implement. Stories were reported to be easy and interesting and they can easily connect (66.6% boys, 57.7% girls, and 33.3% teachers).

Girls (37.7%) as compared to boys (22.2%) found more difficulty in expression because of fear of classmates laughing, etc. The teachers also reported students having difficulty in expression because they feel conscious that other students will laugh and make fun. Most of the students found stories easy and interesting with similar observations by teachers also.

The curriculum also required the students to share and discuss the stories or activities conducted in the happiness period with their parents. Data indicated 83 per cent students share with the parents, whereas 16 per cent don't share as either parents don't have time or forget to ask, and sometimes children don't get time or forget to share and 1 per cent share sometimes. 87 per cent of the parents also said their child shares and discusses the stories or activities conducted in the happiness period, 8.7 per cent said 'no', 4.3 per cent sometimes.

The importance of the happiness curriculum was also reflected when the teachers reported (63.3%) that Happiness Curriculum should be for all classes, extending to students of Classes IX to XII as well. They observed that it brings positive thinking, happiness, and enthusiasm, able to express themselves, relieves tension or stress, pressure of board exams. Whereas 10 per cent of the teachers emphasised on mindfulness component only instead of the whole curriculum as it helps in concentration and relieves stress and tension. However, 26.6 per cent of teachers did not want the introduction of Happiness Curriculum to the higher classes as students in higher classes need more time and concentration to study and clear board exams. On the other hand, only 8.7 per cent of parents said 'No' for it in the higher classes, and 87 per cent of the parents agreed for it as the curriculum will help students to learn good things, reduce stress and tension of board exams.

Since mindfulness helps develop concentration, (Walsh and Shapiro, 2006) implementing mindfulness at higher classes will help the students in their study. This needs to be highlighted and conveyed to the stakeholders that it will also help the students in their study along with other benefits.

Table 4
A Comparative Analysis of the Responses Provided by Students, Teachers and Parents

Components	Responses			
	Students		***Teachers***	***Parents***
	Boys	Girls		
Meaning of happiness	33.3% helping someone/ others, 17.3% seeing parents happy 13.3% playing games, 11.1% from within 6.6% peace of mind, 4.4% laughing, 4.4% by getting what you want, 4.4% being with friends, 2.2% respecting elders, 2.2% watching T.V., 2.2% mindfulness.	33.3% seeing parents or other significant (siblings, friends, teachers)happy, 22.2% helping someone/ others, 17.3% from within, peace of mind, 11.1 % playing and talking to friends, 2.8% watching T.V., dancing, etc.	73.3% said that happiness is peace of mind, feeling of contentment/ inner satisfaction, having meaningful work and life, fulfilled life, positive, working with full enjoyment and full participation with mind and body, loving and caring atmosphere at home, state of being and being in present moment, 10% feel happiness is seeing students are happy, when they share openly, when they enjoy and 16.6% miscellaneous like happiness from work, family, feeling relaxed and free, doing what you want.	22% says that my child's happiness, smile on my child's face 17% says that happiness is inner feeling which we get from inside. 17% says helping others/ weak and making them happy 13% says that happiness is peace of mind Miscellaneous: priceless thing, happiness you get from self, studying, playing games, it's a big thing, it's good, it makes us healthy.

What makes you happy (for Students)/ What can you do to make the students/ child happy (for Teachers/ Parents)?	42.2% helping someone/ others 17.7% Playing games, 17.3% by getting good marks, 13.3 by making friend and make them laugh, 6.6 respecting teachers and parents, 2.2 by watching T.V., eating, listening to stories	48.8% seeing parents or other significant (siblings, friends, teachers, 33.3% helping someone/others 8.8 by getting good marks, 6.6% watching T.V., eating, 4.4% listening to stories, dancing, drawing	56.6% by making the teaching more interesting, creative with activities, with play way method, engage them in activities 43.3% by listening/talking to them about their interests and get involved with, appreciating them, by supporting them rather than criticising them, praise their efforts, encourage them, have good rapport with them	43% says by fulfilling their wishes and loving them 17% giving them more time and listen to them 17% by helping him in his studies 13% being happy in their happiness 10% by giving things which he likes, can do anything

Meaning of Happiness and Ways to be Happy

Talking about perception of happiness in students, it was noted (see Table 4) that in male students it was helping others (33.3%), followed by seeing parents happy whereas in females, it was seeing parents or other significant happy (33.3%) followed by helping others. These results are supported by the previous findings that women tended to report higher happiness (Yue, Jiang, Arjan, Jia and Su-Xia 2017). This could be due to the gender role ideology that women tend to be sensitive to the needs of others and express their emotions more openly (Kaufman, 2000; Wood, Rhades and Whelan 1989). However, similar responses have been observed in other aspects such as happiness was related to playing games by 13.3 per cent boys and 11.1 per cent girls.

Students (16.6 per cent boys and 12.8 per cent girls) also reported happiness in talking to friends, peace of mind, watching T.V., etc. These findings are supported by other studies which signify the importance of family, peer group relationships, leisure activities in positive mental health of adolescents (Singh, 2014).

Majority of the teachers (73.3%) related happiness to inner satisfaction, peace and meaningful work and life; whereas parents (47%) related happiness to inner satisfaction, peace and meaningful work and life. Further, teachers reported that students can be made happy by making teaching interesting and

activity based (56.6%) and listening to them (43.3%). Parents (43%) also said that children can be made happy by loving them and fulfilling their wishes. It can be noted that around 50 per cent of the teachers emphasised on making teaching interesting and activity based which is also supported by Lujan, and DiCarlo (2006) in their study, and listening to the students which is not very much prevalent in the present system of education. The National Curriculum Framework (NCF, 2005) talks about activity-based teaching-learning at the school, however, the implementation is lacking. (Brinkmann, 2015; UNICEF, 2015 and Takker, 2011).

The present study thus highlights a crucial element, i.e., activity-based, and joyful learning is important for happiness of school children. This is evidenced in the research study which ascertained that activity-based method is far better than the lecture as it is highly rewarding and changes the classroom environment into a place for exchanging the ideas rather than a passive listening (Kumari, 2017).

Overall Feedback

As we can see from Table 5, students found the Happiness Curriculum to be a very good experience. They stated that it can be of longer duration. Teachers commented that it has helped the students to be happy. They suggested for proper orientation in the curriculum and training about the 'mindfulness' component of the happiness curriculum. It was suggested that various non-governmental agencies (NGOs) can be made use for this purpose. Parents suggested Happiness Curriculum to be for all the classes.

The study has pointed out at a unanimous response from students as well as teachers enjoying the happiness period. The reason has been indicated as there is no burden of homework and examination. This has an important implication for our education system where everything centres on marks. This is also reflected when almost half of the students reported that the happiness curriculum will help them in achieving good academic performance. The findings of the study have significant implications for shifting from a

Table 5
A Comparative Analysis of the Responses Provided by Students, Teachers and Parents

Components	Responses			
	Students		***Teachers***	***Parents***
	Boys	Girls		
Overall feedback	97.8% (good or very good experience), only 2% (not happy)	97.8% (good or very good experience), 2% (it could be better).	96.6% said amasing, very good, interesting, inspiring whereas only 3.3% ok/not very satisfactory.	91.3% yes and 8.7% No

marks or score orientated education system towards a whole-child oriented system focusing on the overall growth integrating the hand, heart and head.

Overall, the Happiness Curriculum was found to have been effective in meeting its aims. It has been reported to be a very good experience by 97.8 per cent students and 96.6 per cent teachers. Parents (91.3%) also reported their child is happier than before.

The responses from students, teachers and parents show the congruency which validates the result that experience of happiness period is good or very good by not only students but teachers as well.

Conclusion

Happiness Curriculum has overall shown positive effects on students and teachers. Almost all students, teachers and parents reported it to be a great experience. Although most of the teachers felt competent to teach Happiness Curriculum, yet it is suggested to organise proper orientation and short-term training program for better implementation of the curriculum. Especially there is need to provide training to teachers regarding the mindfulness component of the curriculum. Further, the findings also highlighted that the Happiness Curriculum needs to be initiated for higher class also, especially the mindfulness component.

The study will benefit policy makers, school teachers, students and parents as how happiness can be taught for the betterment of the students. Perception of happiness among various stakeholders needs to be considered and the suggestions given by the students, teachers and parents can be valuable inputs towards designing and implementing the curriculum in a more effective manner. It will enable to achieve the ultimate goal of education in creating happy students and enhancing their overall mental health.

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The Innovative Methods of Teaching *Ashtang Yoga* for School Children

Snake and Ladders Game

MANISH KUMAR*, PARAN GOWDA** AND POONAM PANWAR***

Abstract

Yoga is being widely practiced as an activity in schools nowadays; however children may not be aware of eight folds of 'Patanjali Ashtang Yoga'. It is need of the hour to teach 'Patanjali's Ashtang Yoga' essence to the children in a simplified and interesting manner. In this study, the nectar of Patanjali aphorisms has been designed and developed as Snakes and Ladders Boards Game and its efficacy was tested among sixty students of standard 4 to 11 at a shelter home in Kurukshetra, Haryana. The study found that the Snake and Ladder Board Game is effective in providing value education on the principles of eight folds of Ashtang Yoga at a young age. It also found that children may understand how good deeds lead them to rise; bad deeds worsen to falls and emphasise the underlying impact of positive and negative forces.

INTRODUCTION

Board Games can be offered as a teaching tool to teach *Ashtang Yoga* for children. It is the need of the hour to teach Patanjali *Ashtang Yoga* essence to the children in an interesting and playway manner. Of course, a rigorous effort will have to be made to delineate a pedagogy that is precise, compact and meaningful. In the proposed research the goal is to transform the nectar of Patanjali *Ashtang Yoga* by using Snakes and Ladder board game. Patanjali *Ashtang Yoga* philosophy essence may be taught through game on

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S and L board game. Yoga is a discipline having both theory and practical aspect. After learning theory, practice of yoga may make the children perfect. This statement is also based on our interactions with many yoga instructors. It is a presupposition that practice of yoga along with theory might be a part of school curriculum. In our study, we administered theory teaching sessions through snakes and ladder game along with practical sessions which included asana, pranayama, etc.

Review of Related Studies

Games liked by children can immensely help them in learning swiftly, especially when the moral aspects of such games are well highlighted and demonstrated. This study overviews that the development of "Snakes and Ladders (S and L)" game emphasises the moral aspect of the game approach in order to promote moral education amongst children (Ibam et al. 2018). However, some researchers (Gardner-Anopol, 2007) have developed Yoga board games and derived various methods of teaching Yoga. In the referred research, students were asked to perform only yoga postures while following the breathing techniques. The main goal was to help them relieve stress and help improve their mental well-being. This research has proved that children love innovative board games and learn from them easily. A Hindu board game called *Leela* teaches an important lesson; good work makes you rise, whereas bad deeds are responsible for your downfall (Althoen et al, 1993). Good deeds like— hard work lead to success whereas bad deeds like disobedience could worsen the player down to bad luck. Good habits may be nurtured amongst students at a very young age, and prepare them to become better and responsible citizen. The researcher found the S and L game to be effective in teaching the reading of narrative texts (Saputra, 2016). In her thesis (Saraswati, 2016), she explores very perfectly; that board games are appropriate tools for teaching English speaking to children aged 9 to 11. The S and L game was anciently known as *Moksha Patam* (the opening door of liberation) which originated in India. It was used as a tool to teach the effects of good over bad virtues. Generosity, faith and humility are shown as ladders, whereas lust, anger and theft are characterised as Snakes. Ladders were few whereas the numbers of snakes were more. It concludes that S and L game can improve students' vocabulary in the first year students of senior high school, by using quantitative research design. In this study, it was evaluated with concrete evidence that S and L board game could enhance student's vocabulary in senior high school. The experimental group was taught by using S and L board game, while the control group was not. The analysis of pre and post tests by using t-test reveal the level of significance of the study (Fitriana and Maro, 2018). Children can develop their knowledge and social interaction with their

friends freely without any pressure and also feel happy while learning English by playing an interesting media. This study provides enough evidence that instructional games act as a great tool in shaping the learning habits (Yemima et al. 2019). The game of S and L is included in one of the props used for learning; it is used to enhance the capability in children's learning. Based on the results of the research carried out, the author concludes that the S and L media may improve the ability of simple summation in children with special learning disabilities like dyscalculia (Julaiha and Zulmiyetri, 2019). Playing board games is a dynamic process, which supports children's learning process. This study concluded that by watching animated videos and playing the S and L game, one can increase knowledge and can create interest and information will be more easily embedded into children's memory (Wulanyani et al. 2020). Giaccaglia (2018) describes *Moksha Patam* as a game associated with traditional Hindu philosophy that was later marketed in England as 'Ladders and Snakes'. Originally, the game focused on two concepts— *karma* (good deeds) and *kama* (bad deeds), i.e. destiny and desire. The "ladders" were represented as generosity, faith and humility, while the "snakes" as lust, anger, murder and theft. Student's level of knowledge about street food security and general description about the school was assessed through questionnaires by the students. After using S and L game as intervention, the number of students showing good category knowledge was 100 per cent (29 students) (Hadisuyitno et al. 2017). The study aims to play therapy as one method in reducing anxiety and increasing children's cooperation during undergoing treatment procedures. The conclusion of the research shows that giving bibliotherapy and "S and L game therapy" is helpful in increasing the cooperation of children in undergoing nursing actions during hospitalisations (Widyaningrum and Siwi, 2019). The educational game based learning media in the form of S and L is expected to motivate students to learn (Patmanthara et al 2019). S and L game is effective in improving the level of knowledge regarding prevention of worm infestations among samples (Santhanalakshmi, 2016). The health education using S and L game affects the students' behaviour in selecting snacks (Suryaningsih and Naviati, 2019). The Snakes and Ladder game based health education effects significantly on healthy practices amongst primary school children (George). S and L game was effective in stimulating the aspects of moral attitude (Kusumawardani, 2013). The custom-built board game encourages the students to interact and keep them interested in learning (Hoy, 2018). From the period of sage Patanjali, i.e., from 2nd century BCE to 4th century BE (Raghavan et al., 1968), *Patanjali Yoga* has been a part and parcel of Indian life itself. The textbook series,

'Let us learn Yoga' (*Aao seekhen yog* in Hindi) based on yogic education for students of Classes I to V is written in multiple regional languages (Balkrishan, 2010). NCERT (2015) has also published 'Yoga: A healthy way of living' for upper primary stage children. Douglass (2010) reveals exclusively for the children to learn yoga through stories and pictures and it was a part of curriculum (optional). According to National Education Policy (NEP), 2020, in all stages of education, experiential learning will be adopted, including hands-on learning, arts-integrated and sports integrated education, and story-telling based pedagogy. A hybrid board game which combines analogue and digital media, orchestrating the use of physical Artwork Cards, present the game-authorising platform and the mobile client application to support the creation and provision of the game experiences (Vayanou et al. 2019). A board game named Survival focused on principles of wellness, have significant impact on emotional wellness, perceptions of current relationships, and identification with the game characters of the students (Solway, 2011). An easy to use and age appropriate yoga program enhances the children's understanding of specific topics reinforced through yoga poses, games and activities (Rawlinson, 2013).

Need and Significance

It is need of the hour to teach Patanjali's *Ashtang Yoga* essence to the children in a simplified and interesting manner. As the present study includes a play way method for holistic approach to ancient yogic tradition for students, it may be helpful to achieve the goal of National Education Policy (NEP) 2020 which is focused on building character and creating holistic and well-rounded individuals enriched with skills and development of traditional Indian values and all basic human and constitutional values such asseva (service to the humanity), ahimsa (nonviolence), swatchchhata (cleanliness), satya (truthfulness), nishkam-karma (selfless deeds), shanti (peace), sacrifice, tolerance, diversity, pluralism, righteous conduct, gender sensitivity, respect for elders, respect for all people. It is in this context the investigators thought of exploring the impact of *Ashtang Yoga* based Board Games on the conceptual understanding of *Ashtang Yoga* practices with the following objectives.

Objectives

1. To develop innovative methods of teaching important concepts of *Ashtang Yoga* in a simplified way.
2. To design and develop yogic Snakes and Ladders Board game for basic understanding of *Ashtang Yoga* concepts.
3. To test its efficacy among school children by the intervention of Yoga theory as well as practical sessions.

Hypotheses

Ho: There is no relationship between designed and developed yogic snakes and ladders board game and yoga education.

Alternatively,

H1: There is a relationship between designed and developed yogic snakes and ladders board game and yoga education.

Method

Board Design

Snakes and Ladders is a game wherein two or more players can play on a game board; having numbered squares from 1 to 100. Game board, coloured tokens and small dice are the main accessories for this game. The size of each square in the board game may vary from 5x5 cm, 8x8 cm. 10x10 cm, or 12x12 cm. The snakes and ladders are arranged on the board, the path of the game consists of squares from "Start" to "Finish" and on the route, and players will find the snakes and ladders. Each player is represented by coloured game piece token, e.g., blue, red. A single dice is rolled to determine random movement of a player's token in traditional form of play. The dice has six sides, all marked with the dots in an increasing order (i.e. six sides have six different nos. of dots). The dice will decide how many steps the players should move and the number of dice decides in which sequence the players will play. Winner of this game is the one who grasps the "Finish" square first (Saraswati, 2016). Another interesting part of the game is that players are allowed to take their next turn, until the right answer related to that term (printed on Snakes and Ladders) is given. The player who reaches at box/square no. 100 (which denotes Kaivalya) first by crossing all the snakes and ladders is the winner in this game.

Snakes and Ladders Board No.1

There are ten snakes and ten ladders on this board. The concepts of five *yamas* and *niyamas* as ladders and ten *vitarkas* (opposites of *yamas* and *niyamas*) as snakes may easily be grasped. As described in Patanjali

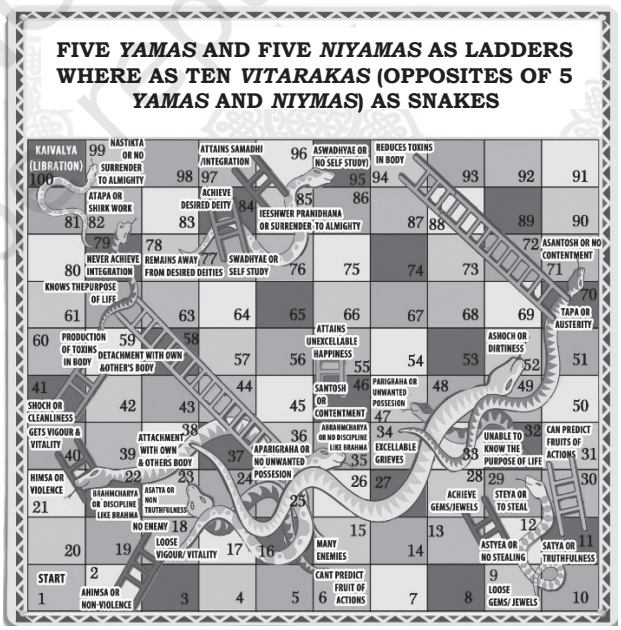

Figure 1: Yogic Snakes and Ladders Board No.1

Ashtang Yoga sutras about five *yamas* and five *niyamas* "*ahimsā-satyāsteya-brahmcaryapārigraha yamāh*" (Sadhan Pada–30) "*Śauca-santośa-tapa-svādhyāyeśvara-pranidhānāni niymāh*" (Sadhan Pada-32) (Karambrelkar, 1986). The opposites of *Yamas* and *Niyamas* are known as *Vitarkas* like *Himsa*, *Asatye*, etc. While playing the above game, one may learn these concepts with ease. Suppose, by randomly placing the dice, if the player's token reaches at step no. 21, then the snake bite of *Himsa* (violence) will make to the player fall down to step no.15, the result of which is that the player will have many enemies. Likewise, other snakes' bites make the tokens fall from step no. 23 to 06, 29 to 09, 35 to 18, 47 to 32, 52 to 38, 71 to 34, 82 to 59, 95 to 78 and 99 to 79 respectively (Figs. 1, 4 and 7). It means that all snake bites make the player to fall down. On the other side, if the player's token reaches at box no. 2 which denotes *Ahimsa* then the ladder will uplift him to box no.18, the fruit of which is that one becomes enemy-less "*ahimsā-pratiśthāyam* tat-sannidhau vaira-*tyāgah*" (Sadhan Pada–35) (Yoga, 1978). Likewise (other *Yamas* and *Niyamas*) for step no. 11 to 31, 12 to 28, 22 to 40, 36 to 62, 41 to 59, 46 to 55, 70 to 94, 77 to 84 and 85 to 97 (Figs. no. 1, 3 and 8) are the possible respective ways to rise via ladder in this game. It means that the ladders allow the players to climb up or rise and results in uplifting player's token. Next chance of using the dice to the player was only provided if the marked word definition or question related to that is being answered correctly.

Snakes and Ladders Board No. 2

There are ten snakes and eight ladders on this board. While playing, if the player's token reaches on step no. 21 then the snake bite of *avidya* (wrong knowledge) will make that player fall down to step no. 15, the result of which is that the player will have lack of true knowledge. Likewise (other *kleshas* and *hurdles*) for step no.23 to 06, 29to 09, 35 to 18, 47 to

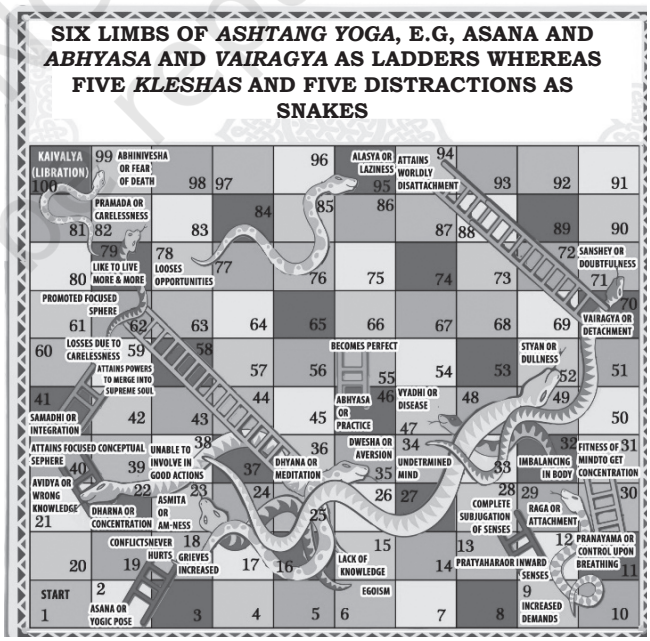

Figure 2: Yogic Snakes and Ladders Board No.2

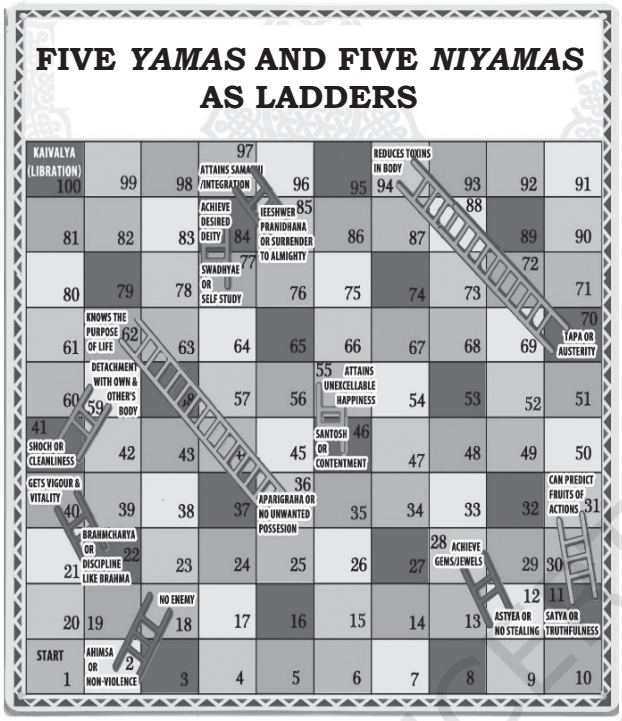

Figure 3: Yogic Snakes and Ladders Board No.3

32, 52 to 38, 71 to 34, 82 to 59, 95 to 78 and 99 to 79 numbered squares (Figs. no 2, 6 and 13). It means that all snakes' bites make the player(s) to fall down and the resultant of all snakes' bites is a fall. And if the player's token reaches at step no. 2 which denotes *Asana*, then the ladder will uplift him to no. 18, the resultant of which is that conflicts never hurt him "tato *dvandvãnabhighãtah*". (Sadhan Pada-48) Likewise, other limbs of Ashtang Yoga like *Pranayama,* etc. and *Abhyasa* (practice) and *Vairagya* (detachment) may uplift from step no. 11 to 31, 12 to 28, 22 to 40, 36 to 62, 41 to 59, 46 to 55, and 70 to 94 numbered squares respectively (Figs. 2, 5 and 14). It means that the ladders allow the player(s) to climb up or rise and hence the player moves up in the game. Next turn is only permitted, if the marked word (on the box of snakes or ladders at which token has reached) definition or question related to that box term is being answered correctly. As box/square no. 100 denotes *Kaivalya*/*Moksha*/Liberation, the winner of the Snakes and Ladders game is supposed to get liberation or supreme spiritual wellness; hence whosever reaches firstly on box/square no.100 is declared the winner of the game.

Dice and Tokens design

Dices and tokens were purchased from the market for the purpose of research.

Study material design

To simlify the matter on S and L boards, four table charts (Figs. 7 to 10) were designed expressing yogic terms used in S and L boards, their literal meanings, box no. at which fixed, box no. at which slides or jumps and the results or impacts if followed. It was provided as study material to the children. Sage Patanjali's *Yoga sutras* nos. 35, 36, 37, 38, 39, 40, 42, 43,

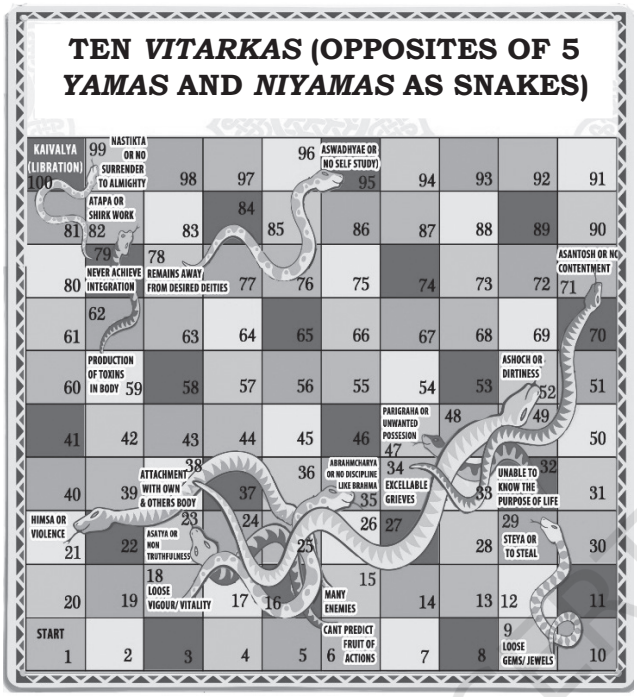

Figure 4: Yogic Snakes and Ladders Board No.4

44, 45, 48, 53 and 54 of chapter two (sadhan pada) and 1, 2 and 3 of chapter three (vibhuti pada) are summarised. We have developed a methodology module based on designing the Snakes and Ladders boards with innovative ideas (from Patanjali *Ashtang Yoga*). Innovative "S and L" board pictures and study material was designed as shown in Fig. 1 to 10.

Sample and Sampling Procedure

A sample of 60 students from 4th to 11th class (aging between 8 to 17 years) of various schools with day boarding at a shelter home "*VatsalyaVatika*", Brahma Colony, Kurukshetra, Haryana, India, was selected randomly. The selected sample were assigned a new task of snake and ladder game and the same group was tested again after Ashtang Yoga training practices. It's with and without yoga practices of the same group.

Inclusion criteria: The students above 8 years and below 17 years were selected and both boys and girls have been treated at the same level.

Exclusion criteria: We have excluded the students who were physically disabled, suffering from chronic ailments and unhealthy participants.

Procedure

A pre, post-test design is a random selection where measurements are taken before and after a treatment of the same sample. Paired statistical 't'-test analysis can then determine if the intervention had a significant effect. Students were asked to appear in pretest, comprising of a multiple choice questionnaire having 50 questions related to Patanjali *Ashtang Yoga*. Thereafter, they were taught about *Ashtang Yoga* (eight limbs), *Vitarkas* (opposites of *Yamas* and *Niyamas*), *Abhyasa* and *Vairagya*, and ten hurdles (five *kleshas* and five distractions) as well as their impact with the help of creatively designed and developed Snakes and Ladder boards (Figs. No 1, 2, 3, 4, 5 and 6) and study material (Figs. No 7, 8, 9 and 10). They were allowed to play with both the S and L boards

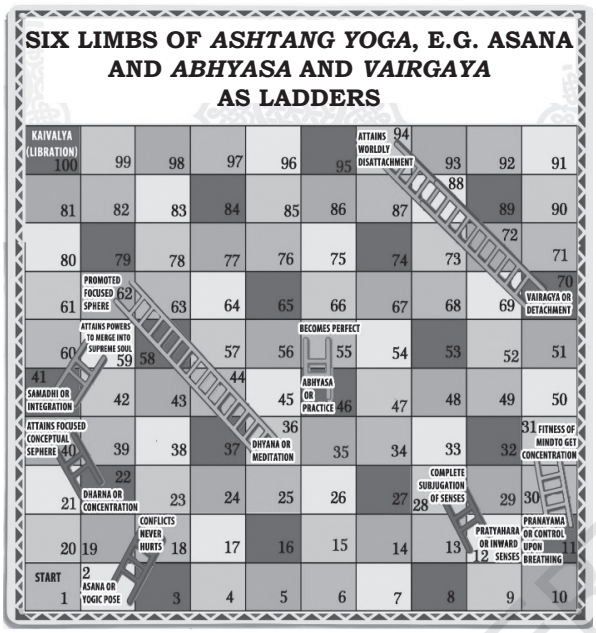

Figure 5: Yogic Snakes and Ladders Board No.5

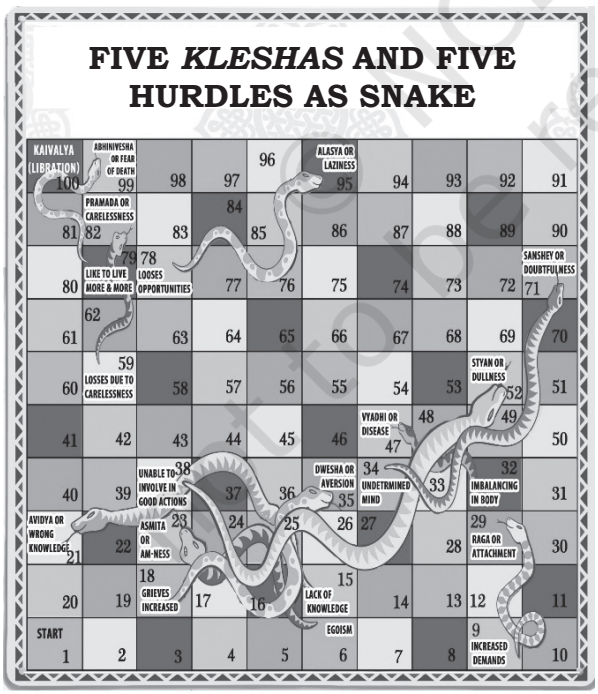

Fig. 6: Yogic Snakes and Ladders Board No.6

(Board No. 1 and 2), as per the instructions given to them before beginning the game, instructions included 30 minute daily sessions for five days. While playing, students were allowed to move next turn only if they answered the related word mentioned on the square of S and L with the help of study material provided to them. For the next half an hour, they were allowed to practice different *Asanas* (*padamasana*, *tadasana*) and *Pranayamas* (*bhramri*, *anulom-vilom*), *Hasya yoga*, *Gyan mudra* as well as Om chanting, *Trataka* (Gazing) and Prayer. Post-test was conducted thereafter. In the pretest, students were asked 50 multiple choice questions related to *Ashtang Yoga* before applying the experiment. The questionnaire was framed with the consultations of yoga experts. The questionnaire given to the candidates to solve in pre-post test was validated with five yoga experts. The content validity index (CVI) was found to be 0.94 (Polit and Beck 2006; Polit et al., 2007). Cronbach's alpha value is 0.7. After reviewing the designed boards with experts, their suggestions were taken into account in simplifying the boards. According to their suggestions, the boards were redesigned and finally these were framed.

***Vitarkas* (Opposite of *Yamas* and *Niyamas*)**	**Literal Meaning**	**At Box No.**		**Fall to Box No.**	**Results (as described in *patanjali yog sutras*)**
Himsa	To Harm	21	Falls to	15	Many enemies
Asatya	Non Truthfulness	23		06	Cant's predict fruits of action
Steya	To steal	29		09	Looses gems/jewels
Abrahmcharya	Not to follow Brahma	35		18	Looses vigour or vitality
Parigraha	Po possess more than need	47		32	Unable to know the purpose of life
Ashoch	To be dirty	52		38	Attachment with own and others body
Asantosh	No Contentment	71		34	Increased griefs
Atapa	Shirks Works	82		59	Production of toxins in body
Aswadhyaya	No self Study	95		78	Remains away from desired duties
Nastikta	No belief in Almighty	99		79	Never achieve integration

Fig. 7: Study Material Yogic Snakes and Ladders Board No. 1-A (How Snakes Affect)

Yamas* and *Niyamas	**Literal Meaning**	**At Box No.**		**Fall to Box No.**	**Results (as described in *patanjali yog sutras*)**
Ahimsa	Non Violence	2	Jumps to	18	No Enemies
Satya	Truthfulness	11		31	Can predict fruits of action
Asteya	No stealing	12		28	Achieves gems/jewels
Brahmcharya	Follow brahma	22		40	Gets vigour and vitality
Aparigraha	No Unneeded Possesion	36		62	Knows the purpose of life
Shoch	Cleanliness	41		59	Detachment from own and other body
Santosh	Contentment	46		55	Attains greatest happiness
Tapa	Austerity	70		94	Reduces toxins in body
Swadhyaya	Self–Study	77		84	Achieves desired diety
Ieeshwer Pranidhana	Surrender to Almighty	85		97	Attains Samadhi or Integration

Fig. 8: Yogic Snakes and Ladders Board No. 1-B (How Ladders Affect)

Ten Distractions	Literal Meaning	At Box No.		Fall to Box No.	Results
Avidya	Wrong Knowledge	21	Falls to	15	Lack of knowledge
Asmita	Am-ness	23		06	Becomes egoistic
Raga	Attachment	29		09	Increased demands
Dwesha	Aversion	35		18	Increased griefs
Abhinivesha	Fear of Death	99		79	Desire to live more and more
Vyadhi	Disease	47		32	Imbalance in body
Styan	Dullness	52		38	Unable to involve in good actions
Sanshey	Doubtfullness	71		34	Undetermined mind
Pramada	Carelessness	82		59	Losses due to carelessness
Alasya	Laziness	95		78	Loosed opportunities

Fig. 9: Yogic Snakes and Ladders Board No. 2-A (How Ladders Affect)

Six limbs of *ashtang yoga*, *abhyasa* and *vairagya*	Literal Meaning	At Box No.		Lift to Box No.	Results (as described in *patanjali yog sutras*)
Asana	Yogic Pose	02	Jumps to	18	Conflict never hurt
Ranayama	Control upon breathing	11		31	Fitness of mind to achieve concentration
Ratyahara	Inward Senses	12		28	Complete Subjugation of Senses
Dharna	Concentration	22		40	Attains Focused Conceptual Sphere
Dhyana	Meditation	36		62	Promotes Focused Sphere
Samadhi	Integration	41		59	Attains Power to Merge with supreme soul
Abhyasa	Practice	46		55	Attains Perfection
Vairagya	Detachment	70		94	Attains Worldy Detachment

Fig. 10: Yogic Snakes and Ladders Board No. 2-B (How Snakes Affect)

Data Analysis

By using paired 't' test, data obtained in pre and post-test was analysed with the help of SPSS version 25. The data collected from the sample is shown in the chart drawn below. The blue line and brown lined data corresponds pre and post data respectively.

Results

Tables 1 and 2 show descriptive statistics and paired sample t- test. The alpha value is found to be 0.7 which is acceptable reliability value. Tables 1 and 2 depicts descriptive statistics and paired t-test values. The intervention drawn from snakes

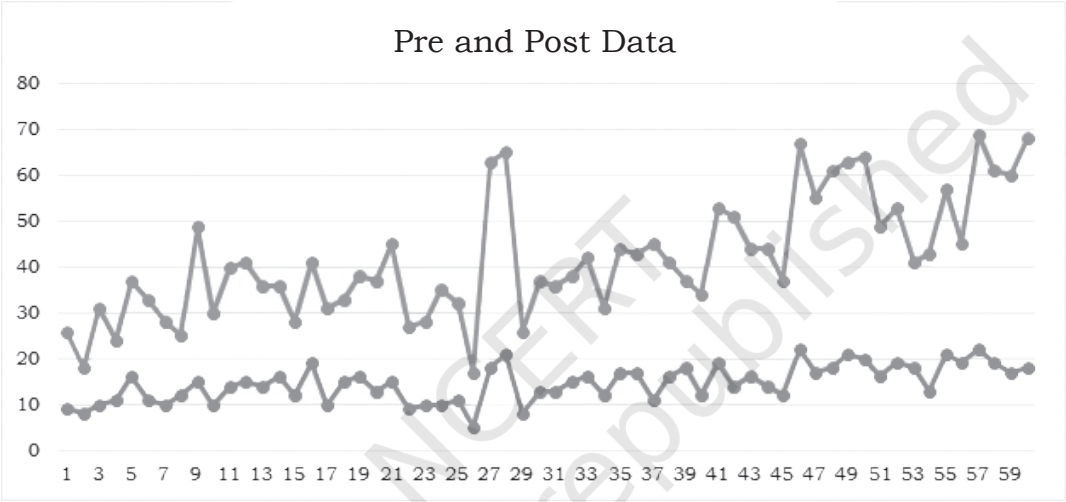

Table 1
Descriptive Statistics

	N	Mean	Std. Deviation	Std. Error Mean
PRE	60	14.6333	3.94868	0.50977
POST	60	27.2500	9.90228	1.27838

Table 2
Paired sample t- test

Mean	Std. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig.(two tailed)
-12.61667	7.46765	0.96407	-14.54577	-10.68757	-13.087	59	0.0001

and ladders game is found to be significant at $p < 0.0001$, for a sample size of 60 children. The calculated absolute value of paired 't' statistic was found to be 13.087, which is compared with table value, i.e., 3.291 at 59 degree of freedom, which was significent at $p< 0.0001$ level of significance. As the calculated value of 't' was much greater than the table value, so it can be said that the t in the present study is very much significant and can be used as an effective media and as a teaching aid for children.

Discussion

The textbook series, "Let us learn Yoga" (*aao seekhen yog*) based on yogic education for students of Class I to V, is written in multiple regional languages. (Balkrishan, 2010). Though, NCERT, (2015) has published "Yoga: A healthy way of living" for upper primary stage children, there is a felt need of exploring *Ashtang Yoga* essence through S and L game. It was found that no research work exploring Ashtang Yoga philosophy on S and L game was carried out. Some studies were traced in which yogic boards were developed but that is limited to *Hath Yoga* only. Media development of learning ladders educative subthemes for plants was tested for first grade elementary school children only while our range was from 1st to 3rd standard (Agustin, 2020). Rome (2013) stated that earlier, it was called S and L game as *Moksha Patam* (the opening door of liberation) and later Britishers named it as a game of snakes and ladders. This made us to do deep research in basics of Patanjali *Ashtang Yoga* and redesign the entire game of S and L as per original text of Patanjali (Karmbrelker, 1986). The unique contribution from our studies shows that statistical t-test significance of design of "S and L" efficacy in making children understanding essence of sage Patanjali's *Ashtang Yoga* compared to others (Gardner-Anopol 2007; Balkrishan, 2010). Most of the reviewed studies are focused on other subjects and not on Yoga, how "S and L game" may affect different problems like Mathematic summation (Althoen, 1993), vocabulary teaching (Fitriana, 2018), street food safety (Hadisuyitno, 2017), the teaching reading of narrative text (Saputra, 2016), children's moral attitude aspect (Kusumawardani, 2013), to improve learning outcomes in computer networking (Pratmanthara, 2019), health education (Suryaningsih, 2019), teaching of speaking English to children (Saraswati, 2016),science cognitive (Amin et al 2019). Brazil economy was compared with S and L in the research (Giaccaglia, 2018). The *Ashtang Yoga* positive forces as ladders and negative forces as snakes may explore the essence in a better way perhaps. In the manuscript's abstract, it is mentioned that Yoga (not Ashtang Yoga) has been taught as a subject in the schools. It has been stated that children may not be aware of Patanjali *Ashtang Yoga* and it is the need of the hour to teach

Patanjali's *Ashtang Yoga* essence among children.

Conclusion

The major objective of the study is to design, develop and test the efficcay of yogic Snakes and Ladders boards for basic understanding of Patanjali *ashtang yoga* philosophy for school children. It may be concluded that "S and L boards" may improve the learning of basic concepts of sage Patanjali's philosophy. On specially designed "S and L board" nos. 1 and 2, students can learn and understand the essence of *Ashtang Yoga* easily. From Board no.1, children can understand and learn about the five *yamas*, five *niyamas* as ladders and ten *vitarkas* as snakes. From Board no. 2, they may learn ten hurdles/obstacles (five kleshas and five distractions as snakes and six limbs of *Ashtang Yoga* along with *abhyasa* and *vairagya* as ladders. Children may also understand how good deeds lead them to rise; bad deeds worsen to falls and emphasise the underlying impact of positive and negative forces. This game could be a tool for all yoga teachers, physical education teachers (PTIs) and Yoga educators to teach essence of Yoga at initial stage of schooling in a playful manner. The educational policy makers and administrators may popularise it by making it a part of syllabus or the curriculum so that children can get benefits. The future research may be carried out in developing *Ashtang Yoga* Snakesand Ladders game as a Mobile App.

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Role of NEP in Reskilling the Youth for Reaping Demographic Dividend in India

A Critical Analysis

Neha Shukla* and Sonal Pahwa**

Abstract

"*With a large pool of skilled people, India has an opportunity to become a skill provider for the world, particularly the ageing developed world", as quoted by Pradhan Mantri Kaushal Vikas Yojana. Policy makers have the intention of encashing population dividend and driving the country's growth not by natural resources but by knowledge resources. To achieve global competitiveness, India should nurture the human capital. Despite having a huge population base and substantial efforts being laid on education and training, our employability index is not showing much positive signs and we still face the scarcity of skilled human resource. Moreover, with the increasing automation certain skill sets would become redundant and thus our education system needs to focus on what we need to learn and what is best left to machines. This knowledge paper attempts to analyse the current skill gap, delve into the provisions given in National Education Policy (NEP) 2020, with respect to skill development and explore the possible interventions to fill the gap in skill ecosystem. It also aims to evaluate the existing employability gaps and highlight suggestive interventions through the new NEP.*

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Introduction

India is riding high on the wave of skill development, with the aim of becoming a knowledge hub. However, varied factors, like globalisation, a changing economic landscape, socio-cultural shifts, paucity of infrastructure in education along with adverse factors, including poverty and malnutrition, amongst others, have led to an environment of uncertainty and stress for many youths. (Future of Jobs in India; A 2022 perspective, 2018).

NEP 2020, provides a framework for the transformation and reinvigoration of the education system in order to respond to the requirements of fast-changing, knowledge-based societies while taking into account the diversity of the Indian people, their traditions, cultures, and languages. NEP lays strong emphasis on liberal arts education and amalgamation of vocational education at different levels throughout undergraduate education.

The dynamic nature of business is continuously demanding the global leaders to innovate and serve. However, talent availability to cater to these demands is uncertain. This challenge has made organisation to re-skill their employees at a price reasonable enough for the organisation and at a pace sensible enough for customers.

The estimated change in workforce demographic is 600 million by 2022, from 473 million in 2018. Few sectors like automobile, manufacturing and IT will have 2.5 to 3 million job opportunities by 2025, provided the availability of better skilled workforce (India Skills Report, 2019).

Previous few years have redefined the Indian employability scenario. The Industry 4.0 has changed the landscape of hiring with creation of innovative job roles and skills. The increasing popularity of gig workers showcases how standard work requirements are continuously evolving. There has been renewed focus on infrastructure development which has highlighted the important sectors like renewable energy, smart cities, programs for rural development and airports and industry corridors. The impact of digital transformation has led to the increasing demand for specialised skills even in sectors like automotive and retail where they too are relying more on the Robotic Process Automation (RPA) driven strategies for gaining competitive edge. The quest for innovation is leading the organisations to reskill their employees to meet future demands of business. A recent survey by LinkedIn (3rd Annual Workplace Learning Report, 2019) has indicated that 40 per cent to 50 per cent of transaction heavy jobs would get automated. Prospective job roles which would become redundant are data entry clerk, cashier, financial analyst, customer service executive and telemarketer.

The recent macro trends in Figure 1 show structural shifts from agricultural to non farm sectors majorly in construction, trade and transport.

Banking Financial Services and Insurance (BFSI) is witnessing changes in terms of newer roles for better customer experience by integrating AI for effective-service delivery.

Figure1: Sector wise hiring trends
Source: Future of Jobs in India: A 2022 perspective- NASSCOM, FICCI and EY joint report 2018; Mapping Life Skills in India: Research, Policy and Practice- Dream and Dream, 2018

Global events like Brexit have impacted patterns of production, consumption and employment. The speed and scale at which the disruptions are happening will have a huge impact on the way we work and live.

Literature Review

According to an article published on Skill Reporter, February 2020, the primary factor fuelling the skill shortage in Indian market, is, the disparity between classroom knowledge and its practical implications.

Sharma (2015) focused on skilled labour shortage in India, Indian education eco-system and its loopholes. According to his findings, there will be huge shortage of labour in the country if we move at the same growth rate as that of a skilled labour.

As per a report by British Council (2014), gaps are widening between industry demands and higher education provision. Lack of English language and cognitive skills are identified as a primary obstacle in growth opportunities for graduates. The report highlights the importance of collaborations with international universities which provide certifications that are recognised by majority of the employers.

Elise K. Thijs, M.J. Nielen, Maria T. Sikkema-De Jong (2019). strategically analysed the impact of reading and listening skills on comprehension. Also, interactive and prompt feedback is more beneficial for learning.

Sahil Sharma, Purnendu Sharma (2015) highlighted that presently there is a very less collaboration of higher educational institutes with industries. In the Higher education system we need to improve teaching pedagogy, build synergies between research and teaching and facilitate alliance of higher institutions among themselves, research centers and industries.

A study by Ashenafi Abate Woya, 2019, revealed that there is a percentage of graduates who are not yet employed and never been employed. Since the quality in higher education is the outcomes achieved, therefore, the department must be a linkage with the different government

organisation and NGOs to improve the employability of statistics graduates.

Financial aids and budget constraints are also barriers in generating growth opportunities for students. Aithal, Sreeramana and Kumar, Anil and M, Madhushree and R, Revathi (2018) in their research stated that due to the non-availability of any financial support from the state and central governments, private universities are trying to sustain through their only strategy of service differentiation through 21st century curriculum and industry integrated program design.

Need of the Study

According to Economic Survey 2018–19, India's Demographic Dividend will peak around 2041, which means that the population share of working age (20–59 years) is expected to hit 59 per cent. Effective utilisation of this demographic dividend will result in immense growth opportunities for the nation. There is a large section of youth who are educated but lack requisite skills to make them employable. This study is relevant from the perspective of highlighting the existing skill gap which our previous education system fails to cater. The NEP 2020, is an important milestone in achieving industrial demands as well as focusing on core Life Skills.

Research Objectives

1. To analyse the provisions of NEP 2020.
2. To discuss the changing trends of employability for popular professional courses.
3. To explore possible interventions needed to fill the gap in the skill eco-system.
4. To suggest possible interventions for better employability and bridge the skill gap through NEP 2020.

Research Methodology

This is an exploratory research which uses the qualitative techniques of research analysis. Four unstructured interviews were conducted with policy makers, industry experts and academicians focusing on key features of NEP, employability attributes as expected by organisations in Indian context. A Focus Group Discussion was conducted with nine undergraduate and post graduate students pursuing professional programs regarding their perceived skill gap and the prevalent lacuna in the Indian education system.

This is a research based knowledge paper synchronised with facts and information gathered from various reports like India Skills Report 2019, People Strong, SDGs as enumerated in Envision 2030 by United Nations. The draft of the National Education Policy, 2019 has also been reviewed along with experts from respective domains.

This is a theoretically organised reviews and views imparted in this paper are authors' personal inferences

and evaluation of existing literature, and views of industry experts.

Findings

The research findings cover the trends from not only the supply side but also the demand aspect of the talent pool. The dynamics of job market in India is witnessing a revolutionary change.

The findings of Focus Group Discussion held with undergraduate and post graduate student pursuing professional programs and Interview with experts from the education system indicated the following—

- role of technology as an enabler for experiential learning has to be explored. The objective should be to promote entrepreneurial skills inculcating disruptive innovation;
- role learning needs to be interchanged with 'practice and perform' approach;
- societal disposition needs to be altered at grass root level.

Demographic dividend in India is the highest and will continue to be so in the coming years. However, challenges of survival come with a host of problems like underdeveloped computational thinking and low emotional quotient.

The FGD indicated the need for developing life skills that focus on social, emotional and thinking skills in students. These are important building blocks for not only increased employability but also for making them life ready.

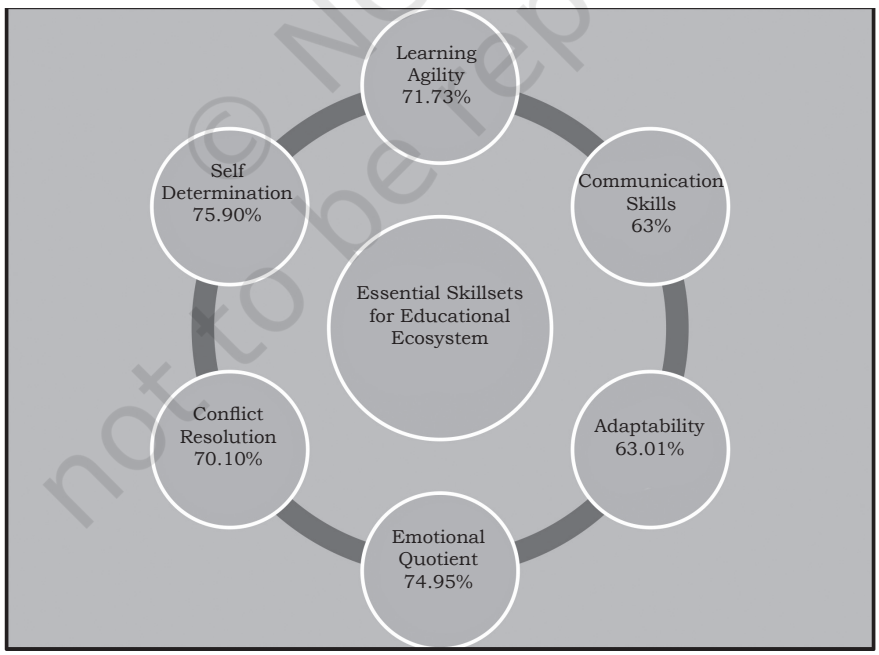

Figure 2. Life Skills for Better Employability
Source: Skill India Report 2019

Student evaluation criteria should be restructured according to the environmental dynamics. Indian Ethos and value system is to be engrained in foundation and preparatory years in order to achieve equilibrium in professional and personal life. In order to promote indigenous technology, creative-expression sessions at elementary and middle school level needs to be included in the academic curriculum.

The key highlights as stated in Figure 2 exhibit that determination, emotional intelligence and agility are among top three key life skills for success in professional domains. Majority of workplace issues and inter-personal conflicts can be resolved with these skills, and individuals can become better team player and contribute more effectively towards organisational success. It is now imperative for Indian education system to inculcate these skills from early educational years along with the required focus on technical skills.

With the help of the above data (Figure 3), we analysed the changing trend in specific professional courses and discovered that

	2014	2015	2016	2017	2018	2019
BE/B. Tech	51.74%	54%	52.58%	50.69%	51.52%	57.09%
MBA	41.02%	43.99%	44.56%	42.28%	39.40%	36.44%
B. Arts	19.10%	29.82%	27.11%	35.66%	37.39%	29.30%
B. Com	26.99%	26.45%	20.58%	37.98%	33.93%	30.06%
B. Sc.	41.66%	38.41%	35.24%	31.76%	33.62%	47.37%
MCA	43.62%	45%	39.81%	31.36%	43.85%	43.19%
Polytechnic	11.53%	10.14%	15.89%	25.77%	32.67%	18.05%
B. Pharma	54.65%	56%	40.62%	42.30%	47.78%	36.29%

Figure 3. Qualification Wise Employability
Source: Skill India Report 2019

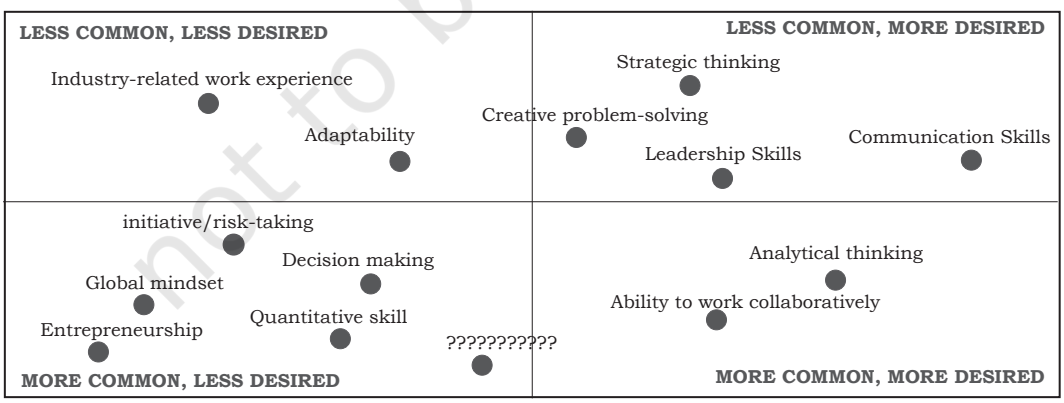

Figure 4. Desirable vs. Available Skills
Source: The Bloomberg Recruiter Report (2016): Job Skills Companies Want But Can't Get

there is a downward trend in the employability of postgraduate level technical courses like MBA over the last 3–4 years. Rather, organisations prefer to hire graduates and diploma holders and upskill them as per their specific requirements. There is an increased demand for skill-based polytechnic courses in Micro Small Medium Enterprises sector, and in fact the same has been acknowledged in the NEP as well, with a renewed focus on Vocational Courses.

Figure 4 very clearly indicates the demand and supply gap in terms of core skill set. These essential life skills include strategic thinking, creative problem solving, leadership and communication. Including these at the early schooling years would definitely improve the prospect of employability of the students.

Discussion

The findings of the research are conclusive of the fact that life skills are gradually evolving and there is a need to inculcate them in professional courses. The focus of education system should be to equip youngsters with employable and life skills rather than just imparting the degree. For this, experiential approach seems to be the best option. Reasoning and thinking abilities have to be developed since formative years and replacing rote learning with experiential content should be promoted at the higher education level. In order to improve creativity and enhance decision making skills, simulations can be used as a teaching tool. By promoting creativity and innovation, entrepreneurial skills can be developed in students. Also, there should be focus on imparting soft skills which will make youth better team player along with improving their EQ (emotional quotient).

Suggestions

The following suggestions are made with reference to aforementioned findings—

- integrated concept should also lead to bringing professional education into mainstream undergraduate education, thereby creating an overarching integrated approach to education, embodying the spirit of the policy in totality;
- besides general engagement and enjoyment of learning the focus should be more on enhancing increased critical thinking abilities, higher-order thinking and deeper learning. Educators need to guide students on mastery of content through problem solving and design thinking approach;
- should engage faculty and students with local communities and with real world problems, and function in collaborative, inclusive, and cross-disciplinary ways. Instead of solely mechanistic rote learning, colleges and universities must encourage active learners to develop the abilities of independent, logical, scientific thinking, creativity,

problem solving, and decision making;

- learning processes in professional education like Bachelor in Business Administration and Bachelor of Computer Application face specific challenges as these disciplines are neither entirely knowledge based nor entirely skill based, hence, they require focus on skill enhancement through developing innovative problem-solving techniques;
- reduce curriculum content to enhance essential learning and critical thinking and modify it in order to make space for more holistic, experiential, discussion-based, and analysis-based learning.

Conclusion

India's policy vision focuses on increasing employability which can be attained through amalgamation of Life and Technical Skills in NEP.

The policy 'Learn For Life—Ready for Future' implemented by the Ministry of Education, Singapore Government can be used as a benchmark to show how the focus on life skills education facilitated improvement in their economy, taking their global ranking to second in the World Economic Forum Global Competitiveness Rank, and sixth on the Global Innovation Index. The emphasis in Singapore has been on education and more specifically life skills education; within the broader focus on this approach to education is applied learning towards meeting industry and economy needs. This approach to education towards helping students "grow richer in spirit and purpose" is what sets Singapore apart.

We are not suggesting that India emulate Singapore; our suggestion is more specifically that the complexity of adversity in our mind requires a focus on a holistic form of education with an emphasis on life skills for life preparedness. This approach in our mind would better address the opportunity the country's demographic dividend offers.

NEP 2020 vision stems from an emphasis on India's new economy and its growth; more specifically, skilling the employable youth such that the potential demographic dividend of the country is enriched. Hence, most critical perspectives on the nature and status of education, be it infrastructure capacities or policy visions on education, are from the point of view of education to meet the future economic needs of the country.

Revised NEP has very well collated all the significant aspects catering to the demands of the new age industry. The success of this policy will depend upon the involvement of all the stakeholders like educators and trainers as well as a renewed focus on crucial entities like physical infrastructure and technological inclusion in mode of delivery at the grassroot level.

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Challenges in Educating about Sustainability and Development Theory

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Abstract

The idea that brought the world to rethink development emerged from limits to growth and offered humanity to give a different direction to development theory. This article proposes to examine and explore sustainability as a goal in the life of an individuals and to understand whether the growing consciousness among people results in some affirmative action by developing a critique of the key concept of sustainability and interconnectedness.

Introduction

The idea of sustainability arises only when one acknowledges the crisis of the obvious. And, acknowledging at a deeper plane is the central concern of education. Education offers answers to all our questions pertaining to survival, success, and transformation. Since environment is taken for granted by public at large instead of paying due attention to environmental concerns, life is lived only to serve the day. It is only in an alarming situation that individual or the community begins to observe environmental degradation and the quality of life. Observation is the first step in bringing positive change. This alone leads to scientific understanding where detailed description becomes the main objective followed by developing some logic of categorising raw environmental data that attends to complex web of environmental issues. Knowledge so generated by a layman, expert or community is of little use unless it is disseminated

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extensively and in a lucid manner. This step logically leads to awareness related to environment. It is a crucial step where internalisation begins followed by celebration of environment and finally culminating in affirmative action.

This article attempts to understand the nature of growing consciousness among the people all over the globe of being interconnected and pursuing the goal of sustainability. With a strong critique of the idea of development that emerged from the west, sustainable development became a rallying point for policy makers all over the globe. At a time when the western policymakers came to understand that the destruction caused to the environment is irreversible, their understanding of the world changed. And a complex set of compulsions led in the direction of sustainable development. Sustainable development began to catch the attention of those who over-exploited natural resources and now felt the need of moving in the direction of correcting the imbalance. A lead was taken by articulations from locations that reached their limits of growth. And this growth did not always result in happiness or fulfillment. Soon, the idea of sustainability in sustainable development gained prominence and was intensely debated. As the heat around the debate over sustainability settled, it was generally agreed to be the desired goal for humanity and was projected as "perhaps the ultimate culmination of development theories" (Bells and Morse, 2003.)

To realise the ideals of a sustainable society the need for equity and democracy are considered crucial. But the idea of achieving equity is fraught with the "need to balance the basic conflict between the two competing goals of ensuring the quality of life and living within the limits of nature" (Chambers et al., 2002). Chambers writing about one of the twin goals of making sustainability a reality put forward the case of improving "the quality of life" which he considered to be a "a shorthand for good institutions, equity and fairness, safety and security, excitement and opportunities, material and mental well-being" (Chambers et al., 2000). The argument that inequality causes environmental damage is acknowledged by almost all sustainability experts, for instance, Dresner says "one price of inequality is environmental destruction" (Dresner, 2002). Bruntland too had stated that inequity "is the planet's main environmental problem; it is also its main development problem" (WCED, 1987).

Now to overcome inequality, sustainability is posited as the desired goal. When we think of sustainability, it has to be thought over and contemplated on a global scale. Since, the issue of sustainability cannot be dealt with in a piecemeal fashion, it is understood to be a comprehensive term with overarching possibilities. According to Dresner, "Sustainability

is global. There can be no such thing as 'sustainability in one country'." (Dresner, 2002). Similar sentiments are expressed by Martinez Alier, who identifies the rich-poor divide within and beyond nation boundaries as a challenge to sustainability goals. He draws a roadmap of sustainability— "The 'environmentalism of the poor' rather than the 'environmentalism of the rich' will be the force that creates a more sustainable global community" (Martinez-Alier, 2000). The understanding of social, economic and political realities is central to achieve the objectives of sustainable development. The Bruntland Report, therefore, argues for achieving sustainable development at the global level by initiating political and social changes. It suggests—

"Elimination of poverty and exploitation, equal distribution of global resources, an end to the current pattern of military expenditure, new methods of ensuring just population control, lifestyle changes, appropriate technology, and institutional changes including democratisation, achieved through effective citizen participation in decision-making" (WCED, 1987).

Thus, the role of people is central to the project of sustainability. The sentiment expressed by Bells and Morse "SD is a move towards the 'peoplisation' of development; taking it out of the hands of the technocrats and making it a matter of key interest to all." (Bells, 2003) Meaningful sustainable development is not possible without people participation and their collective awareness and commitment to the principles of equity and democracy. This depends a great deal on the production of affordable opportunities made available to humanity to collaborate, exchange and contribute.

Today globalisation is viewed as a process responsible for growing global interconnectedness. It refers to 'time-space compression' brought about by the development of new communication technologies— satellite TV and information technology. Robertson firmly holds the view that world compression has intensified 'global consciousness'. 'Time-space' compression is not the same as time-space destruction. It amounts to a virtual annihilation of space through time but is "experienced differently across the globe" (Kiely, 1998). Contrasting modern with non-modern performances of globalisation, Lloyd hinted at the essentially 'transcendent' nature of the pre-modern one— "modern globalisation tends to be one of space alone and how technology shrinks or compresses that space by its power to transcend physical distance. In non-modern thought, to be 'globalised' (or its local synonym) could well mean to be a transcendent being, devoid almost of physical determination, or a universal being in the sense of participating in a universal culture or society that mediates all local differences." (Kiely et al., 1998).

Globalisation redefines once again the 'shrinking of the world' but does

not always mean coming together of people. The phenomenon of increasing interconnectivity is understood as one of the feature of globalisation. Schech and Haggis (2000) "define globalisation as the intensification of global interconnectedness" (Potter et al., 2004). Kiely, however, avers that "globalisation refers to a world in which societies, cultures, politics and economies have, in some sense, come closer together" (Kiely, 1998, p. 7). The same author goes on to note, however, that globalisation involves substantially more than interconnectedness. The process also involves the intensification of worldwide social relations, serving to link events in widely separated places (Potter, 2004, p. 126). This adds yet another dimension to interconnectivity where one has to live the dilemma of experiencing local lives as physical persons while experiencing phenomenal world that are truly global. As a result, one becomes more aware of the social divisions due to unequal access to new technologies because of annual income, gender and ethnicity. The challenge is to reimagine then the core fundamentals of sustainability, because interconnectivity besides bringing people together also highlights the divide among people located in different locations all over the globe.

The concept of sustainable development surfaces conflicts between the interest of the present and the future generations; a conflict between human and nature's well-being; a conflict between poor and rich; and a conflict between a local and global focus (Keekok et al., 2000. How this realisation of being interconnected has made the globe much more secure and sustainable? How do people and governments respond to the challenges of equity and democracy? What pressure global community can generate to better manage globalisation that connects and generates inequality? Joe Stiglitz, who diagnosed that "globalisation today is not working for many of the world's poor" also hinted at the need of managing it better as it has also brought great benefits. Stiglitz put squarely the blame on those managing globalisation— The problem is not with globalisation, but with how it has been managed' (Clark, 2003).

There are many who celebrate the coming of the 'information society' and others who pin their hopes on the internet's potential for democratising development, still others who project it as an opportunity for nations to 'leapfrog a stage of development' must be careful to recognise the truth of highly uneven development pattern in the world. Though internet users have grown exponentially, but they are still confined to western Europe and the USA. Access to computers as well as telecommunication is limited in underdeveloped countries. And though the countries may be connected to the internet, the masses living in such locations just cannot afford to make good use of

the internet due to the high costs it entails. It is appropriate to cite the case of Tunisia where charges for internet access are equal to average monthly income US $ 100. A net connection required US $ 1000 as installation fee and a further US $100 per month fee for use (Potter, 2004). Thus, it is very difficult to agree to the claims made in the name of benefits of globalisation. Instead of uniform linking of places in the global world, what one witness is the emergence of local concentrations within continents all because of differing access to technological innovation among masses (Potter, 2004).

One may ask what role technology plays in furthering interconnectivity among people. Since there is an inherent paradox in the use of technology that generates divide and inequity among people there is a big prize to be paid for interconnectivity. According to Potter, 'the digital divide is likely to exacerbate the differences existing between the world's haves and have-nots in the 21st century. There is yet another price which people pay to their own detriment by depending on technology that alienates the self and endangers the project of sustainability.

Due to the forces of globalisation interconnectivity has increased, but it has grown only for those who were already interconnected. People who have no recourse to the gifts of development continue to survive in the margins. Thus, increased interconnectivity is among people located in the developed world. It is they who experience the compression of the globe, because to them technological innovations have greatly reduced time factor to traverse spatial distances. Steger in his short introduction to globalisation after identifying four distinct characteristics of globalisation defines it as "Globalisation refers to a multidimensional set of social processes that create, multiply, stretch, and intensify worldwide social interdependencies and exchanges while at the same time fostering in people a growing awareness of deepening connections between the local and the distant" (Steger, 2003). This growing awareness may be harnessed in the project of sustainability if dominant inequities do not play themselves out to further the divide. But, the unacceptable face of inequity persists as one attends to the ratio of the incomes of the world's poorest peoples to the richest that have more than doubled from 30:1 in 1960 to a staggering 78:1 by the mid 1990s (UNDP, 1997).

How positive is the realisation that we are connected? How does one feel when one finds oneself connected with the people around the world? Does this connectivity makes the world more secure? Does this concept do away with the conception of otherness responsible for insecurity in the world? Are we all part of a global community? The notion of global community is unique in our times as the previous projections

of global were tied invariably to the transcendent. Due to technological innovations, humanity has reached that stage where a community need not gain its legitimacy by referring to a particular space. Thus, the community may or may not ground itself in concrete constructs. Moreover the internet has made possible the 'virtual' communities and has unleashed innumerable fabricated and constructed communities.

According to Perrons (p.199) "it is possible to be a citizen of in cyberspace while still being oppressed within the home." He says in the same strain "the worldwide nature of the web allows greater connectivity between more and less developed regions" (Perrons, 2004). And such communities operate on the global scale, but no one can stop them from proliferating either in the name of sustainability or in the name of economic development. So the idea of being interconnected does not essentially mean global community meeting the desired sustainability goals of equity and democracy. No doubt an emerging global community may promote and actively champion the cause of sustainable development. Still one must acknowledge the predicament of these virtual global communities adjusting to conflicting pressures of fulfilling sustainability goals in diverse locations. Lloyd captures the problem of being grounded in local experience and global constructs on modern world, by contrast, the process of becoming global (as opposed to international) now carries a foreboding negative connotation of destruction of local peculiarities, traditions and communities. And even if people realise that now they are part of a global community what satisfaction do they draw from such realisation? Is it a concrete or tangible realisation? Can this realisation translate into joy and fulfillment for keeps or is it just any other realisation that the humanity is accustomed of getting addicted to— perishable, woe begetting, and transient? In what ways does this realisation benefits humanity? Does this realisation of being part of a global community make the quality of life better in our universe? How does this interconnectivity change the way of life at different locations all over the globe?

Citing many reasons for pessimism, David Held said "Globalisation has not just integrated people and nations, but created new forms of antagonism. The globalisation of communication does not just make it easier to establish mutual understanding, but often highlights what it is that people do not have in common and how and why differences matter" (Held, 2003). After a couple of lines, he further states. "Ethnic self-centredness, right-wing nationalism and unilateralist politics are once again on the rise, and not just in the West." R. Potter exposes the biased reading that identifies global culture as a stereotype or

marked by sameness everywhere. He sees it as "a distortion and a gross oversimplification." No doubt MNCs dominate world patterns of consumption and production and still it is far from uniform. Resistance from local and national cultures make the idea of single global culture difficult to stay. Secondly, as argued by Potter "rather than serving to erode local differences, global culture often works alongside them and sometimes it even works via them" (2004).

Conclusion

How this consciousness changes the behavioural pattern of people located far and wide? Are the people now more responsive, sincere, and act out taking full care of the consequences of their actions? If they have become more informed about the results of their actions, do they restrain themselves from contemplating actions disastrous to life on earth? The ultimate question is whether the growing consciousness among people of being interconnected generates a happy feeling in them or it makes them more tense, stiff, and competitive? Does this realisation bring people together to cooperate and share or does it bring them together for the struggle that life has become in today's competitive world? It is indeed hard to crystallise the challenges in educating and sensitising about sustainability, still the feeling of being part of a global community could be really great if it makes the world a better place by enriching the experience of life. But, togetherness that acknowledges some kind of hierarchy is rather bad for humanity and life in this universe. One may conclude that growing interconnectivity alone cannot help in achieving sustainability goals, it will work if it allows to play the consciousness of different people located all over the globe who acknowledge the grim reality of our times articulated in Oxfam document—

"In today's globalised world, our lives are more inextricably linked than ever before, and so is our prosperity. As a global community we sink or swim together. No country, however strong or wealthy, is an island" (Oxfam, 2002).

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Integrating Culture and Environmental Education for Sustainability to Develop Values

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Abstract

India is a traditional country with values ingrained in its culture. The values absorbed in the early years of life are long lasting in life and therefore values are gradually taking their rightful place in the education system. Value-based environmental education can bring in a total transformation of our mindset, attitudes and lifestyles. The objective of this paper is to identify few cultural practices ingrained in the Indian cultural heritage, and bring out a few strategies to expose children to the strong value system, to achieve sustainability by caring for the nature.

Introduction

Values are gradually taking their rightful place in the education system. Like science that had experimented with 'value-free' science, our experience with education has also convinced us that education without values would be meaningless at best and a disaster at worst. Hence, the effort all around for value education. Our experiences with life have further made us aware of instilling the value of sustainability in our children and youth. Sustainability can be seen as an umbrella value that incorporates several other values like those of

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tolerance, equity, sensitivity, respect, etc. When we talk about sustainability, it encompasses things that are local, small scale, contextual. Thus, sustainability as a value has much to do with culture and traditions. There is a need to revisit cultural practices for their sustainability aspect. This is the attempt of this paper. The purpose is two fold — identify cultural practices that can contribute to value development for sustainability, and suggest strategies for including these practices in the school routines.

India has a rich heritage of practices for stimulating development and inculcating sanskaras or basic values and social skills in children. In the past, this was transferred from one generation to the other primarily within families through traditional methods and practices (National Early Childhood and Care Education Curriculum Framework, 2013). Young children acquire moral values at home by observing and emulating the ways in which their parents or the adult world around them behaves. The values, thus absorbed in childhood remain with them for the whole life. They become the integral part of the culture all around them. The same way, the adult world sees social values the way they have been shown in their childhood. Maria Montessori (1870–1952) observed that children pass through periods of heightened sensitivity when their minds are absorbent. They literally acquire everything through the skin from their physical surroundings, and therefore are never really content unless they live in a region similar to the climate and landscape of the one where they spent their early years.

In recent years, there is a globally emerging realisation of the importance (Position Paper on Early Childhood Education, 2005 and NEP, 2020) of the early years and instilling values for a healthy and dignified life, and such a kind of life can only be realised by caring for the environment or every element of 'Mother Earth'. Therefore, value-based environmental education must be imparted right from childhood, so that the child internalises these values and the heart resonates with this education.

Education is a life-long process and an effective tool for all round development of the individual. Gandhiji rightly said that, "Education is the preparation for complete living, adjustment to environment, perfection of one's nature, character-building and harmonious development of personality." It has an implication that education has the responsibility not only to provide training in three R's (Reading, Writing, and Arithmetic), but also to draw out the best in the child by stimulating the spiritual, intellectual and physical faculties of the child (Singh, 2010).

Environmentally sustainable behaviour is not easy to achieve because ensuring a sustainable planet that is hospitable for future generations will mean curtailing some of our wants and desires now

(Nickerson, 2003). Environmental Sustainability Education (ESE) can help change attitudes and behaviours towards environment friendly practices. UNESCO (2005), the lead agency for Education for Sustainable Development, describes ESE as that which enables learners to build sustainable and resilient societies by overcoming challenges and making informed decisions to ensure environmental integrity, economic viability and a just society.

ESE should include some equally important goals like providing knowledge about sustainability, creating feelings of empathy for the environment and others, and also encourage learners to perform environment friendly practices.

Bringing Attitudinal Change through ESE

From the cognitive knowledge point of view, it is seen that learners seem to have an understanding of the environment and its factors. However, what is less developed are the expected behavioural acts. Environmental Sustainability Education (UNESCO, 2005) can generate an attitude of environmental friendliness and produce lasting changes in learner's attitude with regard to their behaviours and acts. How do we evaluate the expected changes in learners' attitude towards environment? Gagne et al., (1992) defined attitude as psychological evaluation of a person's understanding and response towards an object, person or an event. An effective analysis of such nature can be achieved considering the cognitive, affective and behavioural components of a learner, (Kamradt, 1999). Analysis of cognitive component of a person is based on exposure of the person to information, gathered knowledge and, conversion of the same into thought process. Such accumulations will have an impact on emotions and feelings which should or will transcend into actions of the person(s) towards an object, person or an event, (Kamradt and Kamradt, 1999).

Bringing Behavioural Change through ESE

It is high time that acts like for example, throwing the wrapper of a chocolate or a packet of chips on the street, or a dustbin or converting these into garlands or other recycled products are differentiated into different strata of learning outcomes. These acts are commonly committed by learners who have a minimum sense of understanding about environment and its factors. The objective of Environment Sustainability Education is to generate a sense of belongingness, positive attitude and acts that have immediate and long lasting impacts on sustainability of the planet itself. Cultural practices and certain rituals can enable us to instill such belongingness in the young minds. Many a times for example, it is seen that learners have the knowledge of recycling but it is the lack of sensitivity, decision-making ability and tenacity to go for recycling.

ESE as such should put stress to bring in long lasting behavioural changes in the learners which will ensure that the good practices are not eroded with time due to various inconveniences, (Hungerford and Volk, 1990). Sustainably education must generate a sense of personal responsibility amongst learners towards rehabilitation of the environment with innovative ideas to solve a particular environmental problem (Griset, 2010). Awareness and intentions may not bring in behavioural changes, (Arbuthnott, 2009). Behavioural changes depend on constraints, barriers and negative perceptions against those behaviours (Tucker, 1999), and ESE is not successful until the learners' exhibit environment-friendly behaviours in real life.

Value-based environmental education can bring in a total transformation of our mind-set, our attitudes and our lifestyles. The values that need to be instilled in the children are social values, cultural values, global values, spiritual values, ethical values; and all these values are to be nurtured so that all forms of life and the biodiversity on this earth are protected.

Environmental Education needs to weave the basic teachings of our religion, i.e., love, compassion, tolerance and justice so as to bring about a sensitive child into this world. Tolerance for pluralism, compassion for all and love for the motherland are core civilisational values of India where hundreds of languages, ethnic tribes and all major religions coexist under the same umbrella. Exposing children to such values will help them to learn to live with positive human values and thus bring social cohesion and strong-value culture. Ethical values like earth-centric livelihood and actions, instead of human-centric actions of exploiting nature for the comfort of man leading to devastation of the environment is of utmost necessity.

Truth, self-restraint, self-discipline, contentment, kindness, free from greed and austerity, are intricately woven in Indian tradition. All these values promote conservation rather than being consumers of nature.

Living in harmony with nature has been an integral part of Indian culture. This has been abundantly reflected in a variety of traditional practices, religious beliefs, rituals, folklore, arts and crafts, and in the daily lives of the Indian people from time immemorial (Nair, 2016). People of this land revere nature and mountains, rivers, animals, plants, rocks, planets and even stars are considered divine. Trees being nature's major processors of solar energy which is vital for our existence, and yielding flowers, fruit, wood or medicine, have been worshiped by the people as a matter of gratitude. According to the Indian value system Sun (Surya), Air (Vayu), Water (Ganga), Fire (Agni), Soil (Bhumi), Forest (Van), etc., is revered Gods and Goddess. Sun or Surya is

worshipped as it is considered the creator of the universe and the source of all life. The Sun God is the supreme soul who brings light and warmth to the world and is the ultimate source of all energy. Water is a lifeline of human civilisations and traditionally people of India worship rivers.

A river provides water for irrigation. The banks are very fertile lands for agriculture and this leads to a lot of people having a means of livelihood. Farmers and fishermen highly benefitted from the presence of rivers around their areas of cultivation. Therefore, people worship river out of gratitude as it supports many lives. River Ganges is also believed to wash away all the sins that the mortals commit on this Earth, as the river has inherent cleansing properties (Deshpande, 1951). The Kumbh Mela organised every year is an example of the belief system and the value associated with it. There are other rivers in the country which are considered auspicious likewise. The air/wind (Vayu), is that which flows, is an energetic force that moves in a specific direction to control bodily functions and activities. It is the breath of life and sustains life, and hence revered. The fire (Agni), since the beginning of the human civilisation has been a witness to all its activities. It not only gave light, heat or built a sense of security, but also helped the human civilisation flourish. The sacred groves are natural habitats in India having religious connotation but they stand tall as evidence of man's respect for trees and forests. They serve as well-planned carbon sink, treasure house of medicinal plants, biodiversity hotspots and also pristine tourist destinations. For example, Mawphlang Sacred Grove, Meghalaya (Shangpliang, 2010) and elsewhere in Kerala (Chandrashekara and Sankar, 1998), and other places. In many states, forests are associated with deities and people worship them as 'Van Devi' (Amirthalingam, 2014). Besides this, individual plants and trees also have a lot of importance in India and have been worshipped in the country since time immemorial. Example— *Peepal* tree, Banyan tree, *Bael* tree (Wood apple), Mango tree, Neem tree, Coconut tree, Sandalwood tree, Banana tree, *Tulsi* plant (Holy basil), etc. Celebration of '*Vanamahostav*' or 'tree festival' in the country is of great significance. These all examples are in favour of the philosophy 'man in nature' as against 'nature for man.'

These beliefs personify the elements of nature which makes it easier for people to relate with them. A river is not just a river, but mother, as in "Ganga Ma". The belief attached to addressing rivers as 'Ma' is that, the river has been the life source of civilisations. A whole set of cultures have emerged along river sites.

The need to harness the environment has emerged from so called 'development' that has taken place and that has replaced the traditional sustainable ways of living with intense consumption

predominated lifestyles. It is this need to control, consume and own all that is there that we need to address when developing sustainable values.

Sustainability

Sustainability is a value in the sense that it should permeate everything the person does. It is not only about conserving the environment. The child needs to learn that the environment conservation is the end product of a major reorientation in the lifestyle — consuming with the knowledge that generations to come would also require the same resources. Also, a sensitivity to the fact that the ecosystem belongs to several other species and not only humans who may be more 'developed', but then this fact invests in them more responsibility to take care of the other organisms around us. Sustainability, thus becomes an overriding value that subsumes several other values. It also means that the way of life is such where you live without hoarding for the future. A very important lesson to be learnt from the environment around us — birds and animals do not store. They go out and search for food every single day and bring back only that they can consume immediately.

Teaching-learning Strategies

When we intend to instill certain values, the first step would probably be to make children aware of the desirability of doing so. Thus, we can begin by letting children themselves identify what is required for them to live together in harmony and what are the obstacles to that. They can then be motivated to find out and practice the strategies that they themselves have developed. The whole process is somewhat akin to Socratic Thinking, which has to be guided by the teacher one step at a time. However, the results would be long lasting because the way of living would be a choice made by the child rather than an imposition or a 'rule' which all of us resist spontaneously. The process itself would also probably give a chance to develop several values like reasoning, quest for truth, sensitivity to multiple perspectives. Going out into the world to explore ideas and practices is one major way to instill strong values that lasts.

An oft-mentioned constraint in Environmental Education is the discontinuity between attitudes and behaviours. This is often seen when we assess attitudes towards the environment which are almost always very positive but they fail to get translated into matching behaviours.

Reverting to certain cultural practices could be a teaching-learning strategy. Cultural practices are so intertwined with cultural values that engaging in them will spontaneously bring in the attached value. If you light a lamp (*diya*) under the *Peepal* tree, you will think several times before deciding to chop it off. Those who worship the river as "mother" and source of all life will not pollute it.

Experiential learning is effective and long lasting. Children can be given a group task or assignment to identify cultural practices that have sustainable value components. Each child can do so at his family level and then get information from elders in the community. This would enable the school system to come up with a collection of culturally and ecologically relevant value rich practices. This would be a good way of sensitising the children to engage in some of those practices. A lot of cultural and traditional practices are being continued presently without the knowledge of why they were initially started. This gives several of them a superstitious garb. This has happened because mindlessly people have been following rituals they have seen being observed by their elders without knowing the logic or reason behind them. Thus, what started as an informed and relevant way of doing things turns into a meaningless ritual when the context of its origin is changed, because the practice has been passed on through observation without the knowledge system behind it. Such assignments can require children to rationalise or reject the so called 'rituals' based on their assessment as to the relevance and utility of these practices in their immediate context. However, before such assignments are given, some core values that the culture stands by need to be made explicitly clear to the learners.

Peer learning can be an effective method of ensuring that children adopt values and behaviours that are desirable. Children learn from their peers — though several times, we wish that they did not. This natural tendency can be used with necessary modifications or direction to spread values. The work that a small group of children comes up with — this is quite akin to a small research project if taken up earnestly — can be shared with the entire school in the morning assembly or in another school programme organised especially for sharing their findings. Apart from spreading the message/information/ understanding that has been derived by a group of students, it will also ensure that children take up the inquiry into cultural practices with due seriousness because they know they will have to defend it before others. Discussions and debates that follow will clarify the issues and make the understanding deeper, and hence should be encouraged. All students who have taken up the inquiry should be encouraged to present before the school. In fact, all children should be engaged in this activity which should be taken up as a mega school project. It does not matter if there are overlaps in inquiries and the practices covered. The idea is to sensitise each child through his own experience and reflection.

The school as a system can then incorporate these cultural practices in different school routines. For example— planting a tree if we

worship a tree as a God — and our culture has not only trees where Gods abide but the entire forest is believed to be resided by Gods and other beings — we will think several times before chopping it off. These activities can be taken up by all children in the school and not be confined only to the monitors, etc. We need to remember that each child needs to have his own unique experience with the value enhancing attempts. Children will own these since they have together identified them. A unity of attitudes and behaviour can then be achieved.

Revisiting folklores and folktales with values inherent in them can also be a good way of bringing the children closer to the environment and develop sensitivity for it.

The students can also be asked to share practices that their friends and cousins in other schools are engaging in. However, any of these should be incorporated only after the students are convinced of their efficacy and relevance. This conviction can come after thoroughly debating the pros and cons of a practice or regimen that is sought to be adopted by the school and the learners.

For any value that is to be developed, a good idea would be to let children suggest ways of doing it. With modifications for feasibility, their ideas should be taken up. This would motivate them to continue with those routines.

Values, it is widely believed, are 'caught' and not 'taught'. Thus, it is imperative that everyone around the child displays the same ways of dealing with people and situations that the child is being expected to display. Teaching a lesson on limiting our needs will not be effective when the children see all those around them consuming and acquiring more and more.

Rewards or consequences of actions will determine whether they would be repeated or not. A major reward that has been found to be intrinsically motivating is a sense of satisfaction for having done a good deed. It gives happiness which is the goal for all behaviour. Thus, creating opportunities where the child experiences these positive emotions is very important for strengthening environmentally friendly behaviours. Field trips and nature walk are two such activities. The exposure to the beauty, diversity and the importance of the natural environment in our life can be a powerful experience for the child to become sensitive to the environment. Engaging in community work where the child gets a sense of having been able to help others — either by participating in a sensitising programme or a cleanliness drive, etc. Participating in sensitising programmes may motivate children to change their behaviours to be consistent with what they have professed to others.

Conclusion

To conclude, we can reiterate again that values are a way of life. They will not be practiced under duress.

They will come spontaneously to children when they are ingrained in them. For the values to be ingrained in children, they need to imbibe them which in turn will happen only when the environment around the child is suffused with values. If children have to learn the value of kindness they need to experience it all around them — definitely as a lecture in the moral science class but also the way the parents treat their mistakes, how the teacher helps a child who could not complete his assignment due to his mother's sickness, how some children in the school give shelter to a stray pup and how the Principal of the school speaks to the school gardener. Further, children need to be appreciated and given recognition for displaying these values. Values are not sporadic. They are what the person is and will be consistent across situations. A conscious effort and the knowledge of how our actions and behaviours are perceived and imbibed by our children is very important in value inculcation. Traditional systems are replete with values that have stood the test of time. Taking recourse to this traditional wisdom with a better and rational understanding may go a long way in making this most difficult task manageable.

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Development and Tryout of Value-based Module for Value Inculcation

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Abstract

The impact of modernity can be felt on development and progress, in the process, creating a culture of materialism. The youth today is involved in murder, shooting, loot, rape, stabbing in cold blood. Value education in schools can take care of value degradation rampant in India and globally. The objectives of the study were to develop, implement and study the effectiveness of the value-based module for teaching English in terms of conceptual knowledge and value perception in the values of Love, Compassion and Helpfulness along with achievement. Quasi experimental research design was used in this research. Convenience sampling technique was followed to select the sample which consisted of 20 students each from Class IX of two schools of Vadodara city. Achievement test, value knowledge test and value perception scale were constructed and administered to gather the data. The study was conducted in five phases. Mean, SD, Mann-Whitney U-test was used for data analysis. The findings revealed that the module developed for teachers for inculcation of values in students through teaching of English was effective as the students had a higher conceptual knowledge and a higher value perception of the values of love, compassion and helpfulness, however no difference was found in the achievement in English.

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Introduction

The very notions of modernisation and modernity have been associated with materialism for a long time. Consumerism and materialism have become integral in the contemporary Indian culture. Dacoities, murders, stabbing, gun-shooting are rampant today and not surprisingly have lost their original impact. Violence has no age and the youth today is involved in heinous crime. There has been a general degradation of human values and the right schooling practices would go a long way in instilling values.

Sharma (2012) defines values as qualities that a person has learned to believe are important or worthwhile. They can be principles to live our lives. According to Venkataiah (1998), values are considered desirable, vital and held in high respect. Beck (1999) believed that the concept of value is based on balancing of activities that encourages human esteem and happiness.

Value education in schools today can meet this challenge. Value education is a planned educational action aimed at the development of values. Realising the significance of schools in imparting values, National Curriculum Framework (2000) has emphasised on the significance of value education in the school curriculum. It gave importance to teachers' role and stated that values can be successfully ingrained when every teacher takes the onus of imparting values through every academic and co-curriculum activities. Sheik (1997) very aptly said that good education is inseparable from a value oriented-education.

The values of tolerance, compassion, equality, respect, fellow-feeling, love, helpfulness amongst others inculcated in learners would help them to live with greater sensitivity towards all human beings. Though values are directly or indirectly being taught in Indian schools, a deliberate and a concentrated effort is needed. Teaching of values can be done through different methods and approaches. One of them is the Integrated Approach, used by incorporating values in any subject of the school curriculum in an effective manner. Integration is defined as a way to teach students that attempts to break down barriers between subjects and make learning more meaningful to students (Beane, 1977). Modules can be designed for teachers, integrating the content of any subject with values in order to facilitate value inculcation.

According to The National Science Foundation (NSF, 1995) the advantage of modular teaching for teachers is that teaching with the help of modules create a lively, dynamic environment where learning and thinking are of prime importance and done effectively. The module has the flexibility to be well integrated with any discipline; every subject has a wide scope of effectively integrating values in it and can be taught in a more interesting manner.

English is a subject which is fundamentally rich in values, therefore, the investigator felt that English teaching can easily incorporate values through the developed module for teachers.

Some of the values which prominently emerge in English are love, compassion and helpfulness amongst others.

Love is a multidimensional concept in which many subjects involving philosophy, morality, psychology, history amongst others are reflected. Love has many forms, states, and attitudes that are attached to it. It can be a virtue representing human kindness, compassion, and affection. Buechner (2009) describes the meaning of compassion as "Compassion is sometimes the fatal capacity for feeling what it is like to live inside somebody else's skin. It is the knowledge that there can never really be any peace and joy for me until there is peace and joy finally for you too." Compassion is a deep feeling inside that involves empathy and a desire to help and ease people's suffering is paramount. Kielburger (2010) believed that by planting the seeds of compassion in children, they can be nurtured to empathise and seek harmony in the global community. The main characteristics of helpfulness are friendliness, kindness, empathy, warmth and willingness. In social psychology, helpfulness means providing useful assistance; or friendliness which is demonstrated by a kindly and helpful disposition.

An attempt to teach the values of love, compassion and helpfulness through the teaching of English to learners at the secondary level would go a long way in creating peace and harmony and strengthen the world of violence in which we live.

Related Research

Dubey (1992) attempted to ascertain the status of value education in Indian education and his major findings revealed that values such as national integration, brotherhood, secularism, punctuality, have been emphasised. Das (1991) studied the methods adopted by selected secondary schools in India for the development of moral and ethical values and measurement of value judgment of students of Class IX. He found that in the selected schools, the programs and the activities aimed at moral judgment like allotment of one period a week for moral education, brief talks on moral issues in the assembly, observation of birthdays of religious and social leaders by discussing their life and work and maintaining the cumulative records by the teacher. Bajpai (1990) conducted a study on educational intervention curriculum for value development and its facilitative effect upon the level of moral judgement of children. The results indicated that the intervention program greatly enhanced children's ability to judge and act as right and wrong and to understand the intention behind the act.

In the same lines, Joshi's (1998) study on the development of the democratic values through value analysis technique in civics at secondary stage was found to be effective in terms of developing democratic value among students, through the teaching of civics. Biswal and Srivastava (2005) focussed on designing and implementing co-curricular activities to inculcate social values among B.Ed. students was found to be effective in terms of student's conceptual knowledge and value perception in all the taken social values of tolerance, fellow feeling, cooperation, democratic leadership, equality, kindness, social service, social justice, sympathy, helpfulness, friendship, respect for others, sacrifice, social responsibility, kindness, social service and sense of living together. It was also found to be effective in terms of students' reaction towards the major components of co-curricular activities.

Significance of the Study

Modernity has left its foot-prints all around us. One of its impact has been unabated violence everywhere. The failing value system has weakened the foundation of our society. A society that lacks a value system can never grow. Therefore, it is of paramount importance that values need to be brought into the fore of schooling practices.

The Indian Government has emphatically stressed on the integration of values with education. Recently, the Gujarat Secondary and Higher Secondary Education Board and Central Board of Secondary Education have taken initiatives to give a value orientation to the school curriculum. However, a more systematic and a concentrated effort is required. Several approaches and student-centric pedagogy may be needed to give values a top priority, but time constraint faced by teachers to complete the syllabus needs to be actively considered. We need to develop programs that do not burden or stress the teachers or students. Ready instructional materials in the form of value-based modules, well integrated with the subjects and values may prove beneficial for teachers to impart values successfully.

A language is the primary means of communication, to integrate values with languages is natural and English language is no exception. Out of the many objectives of teaching English, one of the objectives is to instil values. The values of love, compassion, and helpfulness amongst others can be smoothly integrated with the content of English.

The review of literature revealed that several researches have been conducted in value education but there is a need for more experimental studies for value inculcation in schools. Out of the researches reviewed, the investigator did not come across any value–based module specially designed for teachers to instil values in learners through the teaching of English at the secondary level.

The current study aims to develop and implement a value-based module for teachers for teaching of English through the integrated approach for development of values of love, compassion and helpfulness in students. It further studies the effectiveness of the module in terms of value knowledge and value perception of students in the above values along with their achievement in English.

Null hypotheses were formulated and tested at 0.01 level of significance. It is therefore hypothesised that there will be no significant difference between the mean gain scores of students of control and experimental group of Class IX in the value knowledge and value perception of values of love, compassion and helpfulness. It is also hypothesised that there will no significant difference between the mean gain scores of control and experimental group in the achievement of English of Class IX students.

Method

Quasi experimental research design was adopted for the study. The Pretest/Post-test non-equivalent Control Group Design was followed in this research and convenient sampling technique was used to draw the sample. One section of Class IX students of one school formed the experimental group and another section of Class IX students of another school formed the control group. The groups were matched on the basis of an achievement test in English administered as a pretest. The groups were matched as the mean score of the experimental and control group was found to be 75.2 and 75.3. The final sample consisted of 20 students in the experimental group and 20 students in the control group. The participants who finally participated were (n=20) in both the groups.

Material

Achievement

An achievement test was constructed for English of Class IX to know the achievement of students before and after the intervention programme. The pretest scores were used to match the groups. The achievement test consisted of objective type, essay type and short type of questions. The achievement test was conducted semester wise. Each semester test contained 30 marks.

Value Perception

A value perception scale for students was constructed by the investigator to study the perception of students towards different values like love, compassion and helpfulness. The marks allotted for each value was 25 making it a total of 75 for the three taken values. The perception scale consisted of 15 items. Five items were constructed for each of the taken value. Each item had five value-based situations, which were on the scale of five. The situations ranged from strongly positive polarity, positive polarity, neutral, negative polarity

and strongly negative polarity. The corresponding five alternatives in the perception scale were strongly agree, agree, undecided, disagree, strongly disagree. The corresponding scores ranged were 5, 4, 3, 2, 1. The students had to tick mark in one appropriate alternative out of the given five alternatives. The situations were all jumbled up to avoid pattern error.

Value Knowledge

A value knowledge test was constructed by the investigator, which consisted of open-ended items. The questions were related to the conceptual knowledge of the taken values of love, compassion and helpfulness. There were 4 questions related to each value carrying 10 marks. The questions were related to meaning, definition and characteristics and strategies of development of the respective values. The total marks for the value knowledge test was 30.

Development of Module

The module was developed for the English teacher to inculcate values of love, compassion and helpfulness in students of Class IX. The content analysis of the English textbook was done noting the values of love, compassion and helpfulness that were prominently recurring in the chapters. The relevant sub topics from every chapter was identified, that had the scope for integrating these values.

The design of the module included a general introduction to the module and was divided into chapter name and chapter number in accordance with the English textbook. Each chapter had an introduction which introduced the importance of value integration with the content. The general objectives aimed to develop a broad-spectrum of understanding of the value and the instructional objectives which were more specific, stated in behavioural terms, gave a detailed understanding of the values were stated.

The chapter overview highlighted the gist of the chapter and the lesson content that included the sub-topics, integrated with specific values. The identified values were stated clearly. In the interactive session, reflective questions were put to the students to facilitate a discussion on the meaning, definition and characteristics of values identified in that chapter. There were short stories told which highlighted the values in the chapter, followed by discussion on those values.

The end of the chapter had various activities for value inculcation which included essay-writing, paragraph writing, composition, e-mail-writing, completion of stories, poetry, composition, slogan writing, picture analysis and diary writing. There were discussions held on personal experiences, stories, slogans, proverbs, contribution of great people, poems, every day value practices and value statements. Other

activities included debates, panel discussions, skits, role-plays, games, puzzle-solving, quiz, chart-making, poster-making, written exercises and many more.

Procedure

The study was conducted in five different phases. In the first phase, the value-based module for English for the teacher was developed according to the various steps of module development. In the second phase, the English teacher of Class IX was given a two-day orientation in the use of the module. The achievement test (first and second semester) in English, value perception scale and value knowledge test were administered to both the experimental and control groups in the third phase. In the fourth experimental phase, the experimental group was taught English with the help of the developed value-based module using the integrated approach by the English teacher for the entire academic year. The control group was taught English in the regular manner without the use of module. During the fifth phase, the post-tests were conducted. The achievement test (semester one) was administered and the achievement test (semester two) along with the value perception scale and value knowledge test were also administered to both the experimental and control group.

The collected data was analysed quantitatively using non-parametric statistics which included Mean, SD, and Mann Whitney U -Test. The mean gain scores were calculated by finding the difference between post-test and pretest scores of the experimental and control group.

Result and Discussion

The analysis shows that the experimental group (M= 5.50, SD= 0.88) differed from the control group (M= 0.90, SD= 0.91) in the value knowledge of love. The higher mean score of the experimental group in the value knowledge of love in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used as the sample was taken by convenience sampling technique.

Table 1 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of z, for $z <= -5.490$, the two tailed probability was found to be 0.00 which was lesser than our decided $\alpha = 0.01$. Hence, the null hypothesis was rejected. The findings suggest that the students of experimental group and control group differed significantly in the value knowledge of love. It can be concluded that the value knowledge of the value of love of the students in the experimental group was stochastically higher than the students in the control group which was due to the use of

value-based modules in inculcating values through the teaching of English.

The analysis shows that the experimental group (M= 6.35, SD= 0.93) differed from the control group (M=0.75,SD=0.96) in the value knowledge of compassion. The higher mean score of the experimental group in the value knowledge of compassion in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used.

Table 2 presents the result of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of z, for z <= -5.505, the two tailed probability was found to be 0.00 which was lesser than our decided α = 0.01. Hence, the null hypothesis was rejected. The findings suggest that the students of the experimental group and control group students differed significantly in the value knowledge of compassion. Hence it can be concluded that the value knowledge of compassion of the students in the experimental group was stochastically higher than the students in the control group which was due to the use of value-based modules in inculcating values through the teaching of English.

Table 1
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	610.00	0.000	-5.505	0.000
Control group	20	210.00			

The analysis shows that the experimental group (M= 6.5, SD= 0.82) differed from the control group (M=1.4,SD=0.99) in the value knowledge of helpfulness. The higher mean score of the experimental group in the value knowledge of helpfulness in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test

Table 2
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	610.00	0.000	-5.505	0.000
Control group	20	210.00			

the null hypothesis Mann-Whitney U test was used.

Table 3 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of *z*, for *z* <= -5.539, the two tailed probability was found to be 0.00 which was lesser than our decided α = 0.01. Hence, the null hypothesis was rejected. The findings suggest the students of the experimental group and control group differed significantly in the value knowledge of helpfulness. It can be concluded that the value knowledge of the value of helpfulness of the students in the experimental group was stochastically higher than the students in the control group which was due to the use of value-based modules in inculcating values through the teaching English.

The analysis shows that the experimental group (M=7.00, SD=1.58) differed from the control group (M=2.05, SD=1.19) in the value perception of love. The higher mean score of the experimental group in the value perception of love in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used.

Table 4 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of *z*, for *z* <= -5.392, the two tailed probability was found to be 0.000 which was lesser than our decided α = 0.01. Hence, the null hypothesis was rejected. The findings suggest that the students of the control group and experimental group differed significantly in terms

Table 3
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	610.00	0.000	-5.539	0.000
Control group	20	210.00			

Table 4
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	608.00	2.00	-5.392	0.000
Control group	20	212.00			

of their value perception of love. It can be concluded that the value perception of the value of love of the students in the experimental group was stochastically higher than the students in the control group which was due to the value based module used in the teaching of English.

The analysis shows that the experimental group (M= 7.50, SD= 0.94) differed from the control group (M=2.00, SD=0.85) in the value perception of compassion. The higher mean score of the experimental group in the value perception of compassion in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used.

Table 5 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of z, for z <= -5.537, the two tailed probability was found to be 0.000 which was lesser than our decided α = 0.01. Hence, the null hypothesis was rejected. The findings suggest that the students of the control group and experimental group differed significantly in terms of their value perception of compassion. It can be concluded that the value perception of the value of compassion of the students in the experimental group was stochastically higher than the students in the control group which was due to the value based module used in the teaching of English.

The analysis shows that the experimental group (M= 7.35, SD= 1.03) differed from the control group (M=3.50, SD=4.19) in the value perception of helpfulness. The higher mean score of the experimental group in the value perception of helpfulness in comparison to the control group may be attributed due to the use of value-based module for inculcating values through the teaching of English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used.

Table 6 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of z, for z <= -4.379, the two tailed probability was found to be 0.000

Table 5
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	608.00	2.00	-5.537	0.000
Control group	20	212.00			

which was lesser than our decided α = 0.01. Hence, the null hypothesis was rejected. The findings suggest that the students of the control group and experimental group differed significantly in terms of their value perception of helpfulness. It can be concluded that the value perception of the value of helpfulness of the students in the experimental group was stochastically higher than the students in the control group which was due to the value-based modules used in the teaching of English.

The analysis shows that the experimental group (M= 22.5, SD= 3.70) differed from the control group (M=25.15, SD=3.58) in the achievement in English. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, Mann-Whitney U test was used.

Table 7 presents the results of the Mann-Whitney U test. Referring the Table for normal probability (Table A of Siegel, 1956) under null hypothesis (Ho) of z, for z <= -2.480, the two tailed probability was found to be 0.013 to be more than our decided α = 0.01 Hence, the null hypothesis was accepted. The findings suggest that the students of control group and experimental group did not differ significantly in terms of their achievement of English. It can be concluded that the achievement in English of the students in the experimental group and the control was the same and the achievement in English did not go down in the experimental group due to the value integrated teaching through discussions and value-based activities.

The developed value-based module for the teacher was found to be effective in terms of acquisition of value knowledge and development of value perception in the students of Class IX in the values of love, compassion, and helpfulness. It is encouraging to note that student achievement in English was the same in both the groups and did not go down because of the time spent on different

Table 6
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	570.00	40.000	-4.379	0.000
Control group	20	250.00			

Table 7
Summary of Mann-Whiteney U-Test for the Value Knowledge of the Value of Compassion

Students	N	Sum of Ranks	U-Value	Z- Value	Probability (p)
Experimental group	20	319.00	109.000	-2.480	0.013
Control group	20	501.00			

value-based activities. The reasons attributed for value knowledge acquisition and development of value perception is the emphasis laid on the value discussions held in the class. The value–based module had various sub-topics of English integrated with the values including the description of all values. The value component was brought out and conceptual clarity related and the meaning, definition and characteristics of values and strategies for value development were given during these discussions. Vaidya's (1991) study related to life and human values in the physics textbook taught by the dramatisation method showed an increase in the moral values of students supports this finding. The effectiveness of the module was due to the various value-based activities like storytelling, games, quiz, poster making, essay writing, letter writing, paragraph writing, poetry writing, value dilemmas and presentations conducted in the class. A co-curricular activities program was found to be effective in terms of the development of the student's conceptual knowledge and value perception in the values of tolerance, cooperation, equality, friendship, fellow-feeling, amongst others (Biswal and Srivastava, 2005).

There was no significant difference in the achievement in English in both the groups. However, Bajpai's (1990) study revealed that variables like intelligence, academic achievement were found significantly related to the concept of moral judgment.

Conclusion

The study focused on the development and try out of value-based module for teachers in the subject of English, at the secondary level with an aim to inculcate values amongst secondary school students. The value-based modules for teachers were found to be effective in developing value knowledge and value perception in the values of love, compassion and helpfulness amongst students of Class IX. It was also observed that the achievement of the students in English did not go down inspite of the time spent on the value-based activities integrated with the topics of English. Value degradation can be observed everywhere in the society today. National development depends on a value-based society. The need for value education in schools today has been long realised. The school curriculum needs to emphasise on the teaching of values which is the need of the hour in the present violence-inflicted scenario. The teachers in schools can develop modules or instructional material containing value-integrated topics and value-based activities to teach different subject through the integrated approach which would help in value development in students. The schools and the teachers need to make serious attempts in this direction to bring in peace in the local and global environment.

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A Study of Social Anxiety among Students

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Abstract

The present study attempts to compare social anxiety among male and female students studying in ninth, eleventh, B.A. Part I and III, and M.A. third semester grades. Social Anxiety Inventory constructed by K.S. Misra has been used to collect data. Data analysis has been done by using one-way analysis of variance and LSD tests through SPSS 22nd version. It has been found that male students of M.A. third semester exhibit more social anxiety than students of ninth and B.A. Part I students of Class XI exhibit more social anxiety than students of Class IX. This has been reported with reference to social anxiety related to prestige, performance, emotional well-being and separation too. Female students of Class IX exhibit more social anxiety than students of other grades; female students of M.A. third semester exhibit more social anxiety than students of B.A. Part I and III, and female students of Class XI exhibit more social anxiety than students of B.A. Part I and III.

Introduction

Social anxiety can be defined as a state of socio-emotional worries and fears related to what others will say, perceive or do in various social situations. It is concerned with social interactions or their possible after effects which make us afraid. All students have a social life. Social life is full of situations which lead to anxiety. When one tries to have social contacts or make verbal and non-verbal communications, anxiety develops. Gradual exposure

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to anxiety inducing situations helps people to adapt their behaviours to minimise social anxiety. Social anxiety may influence students' self-esteem, emotional regulations, sense of belongingness or isolation, development of personality traits like — neuroticism, extraversion, dependence, agreeableness, conscientiousness, undemonstrative, happy-go-lucky, alienated, sociable etc. It co-exists with other mental health issues (Merikangas and Angst, 1950).

Clark and Wells (1995) found that social anxiety leads to distraction from academic information. Rapee and Heimberg (1997) found that social anxiety distorts the ability to monitor and modify communication with tutors. Seema and Venkatesh Kumar (2017) found negative relationship between social anxiety and self-esteem among adolescents. Shah and Lakhan (2010) found that social phobia among university students results in significant disability in work, social life and family life, as well as quality of life. Hajure and Abdu (2020) found that social phobia has negative effects on quality of life. Efforts are needed to understand social anxiety among students. Keller (2006), Shah and Kataria (2009), Harikrishnan, Ali and Sobhna (2016) and Abdallah et al., (2017) also pleaded for early identification of social anxiety and interventions to reduce it.

Perceptions about one's capacity to create desired impressions on others can be instrumental to higher social anxiety (Schlenker and Leary, 1885). Exposure to social situations like — addressing a social gathering, trying for social inclusion in a group, talking to strangers, meeting persons with authority or power, talking to persons of opposite sex, going to a new place, pressure to live with relatives or unfamiliar people, mobility to a new village, school or college, hostel life, participating in co-curricular activities, transfer to a new place, interacting with new friends or those possessing muscle power or having political or administrators' patronage, initiating and maintaining social relationships, deciding an appropriate conflict resolution style while interacting with persons having a different value system, meeting threats of social isolation or terror of physical discomforts, situations associated with loss of prestige or identity, dominance of others in decision making, risk of unpopularity or demand for social acceptance, eating or talking in public, working under observation of superiors, exposure to recording of interactions, attending or going to attend a party, making presentations in seminars or conferences, etc., can lead to increase in social anxiety. Social anxiety can arise in real as well as imagined social situations.

Shah and Kataria (2009) reported that more than 20 per cent university students most commonly feared situations like— acting, performing or giving a talk in front of audience, being the centre of

attention, urinating in a public bathroom. Honnekeri and De Sousa (2017) found that 7.8 per cent Indian undergraduates suffer from social anxiety disorder. Mehtalia and Vankar (2004) found that Social Anxiety Disorder is manifested in 12.8 per cent adolescents. Essau et al., (1999) found that the prevalence of social anxiety is more among girls than boys. However, Gupta (2019) found that females scored more than males in the area of interaction with opposite sex; males scored more than females in the areas of assertive expression of annoyance, disgust and displeasure and in interactions with strangers; and there is no difference in social anxiety on dimensions of speaking in public talking with people in authority, criticism and embarrassment. Topham and Russel (2009) surveyed university students and found that frequent anxieties have been reported in learning situations that involved interactions with students and staff members. Desalegn (2019) found poor social support, female sex, first year students and coming from a rural residence to be associated with social phobia symptoms. Misra and Kunti Kumari (2020) reported no differences in social anxiety among students from nuclear and joint families, urban and rural areas, different socially disadvantaged groups, hosteller, and delegacy groups. So, social anxiety seemed to be affected by age and education level. The present study attempts to study social anxiety among students studying in ninth, eleventh, B.A. Part I, B.A. Part III, and M.A. third semester.

Methodology

Sample for the study consisted of 273 male and 288 female students studying in two secondary schools, and in two departments of the faculty of Arts of the University of Allahabad, Prayagraj. Cluster sampling was adopted. One boys' and one girls' secondary school, and two departments of the faculty of arts of the university were randomly selected. All students studying in one section of ninth, eleventh, B.A. Part I, B.A. Part III, and M.A. third semester classes were included in the sample. The number of male students of ninth, eleventh, B.A. Part I, B.A. Part III, and M.A. third semester classes was 67, 57, 49, 50, and 50 respectively. The number of female students of ninth, eleventh, B.A. Part I, B.A. Part III, and M.A. third Semester classes was 47, 43, 98, 50, and 50. Social Anxiety Inventory constructed by K.S. Misra (2020) was used to measure social anxiety. This inventory measures social anxiety related to nine areas namely— relationship building, impression management, cognition, prestige, performance, expectation, emotional wellbeing, protection, and separation. One-way analysis of variance has been used to compare total social anxiety as well as social anxiety associated with nine areas.

Results

Table 1 shows that the value of F-ratio for total social anxiety (F=2.727) is significant at .05 level. Mean score on total social anxiety for male students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester classes are 62.26, 74.42, 64.16, 68.42 and 77.58 respectively. Table 2 shows that mean difference for three out of ten paired comparisons are significant at .05 level. They indicate that male students of M.A. third semester classes exhibit greater

Table 1
Mean Standard Deviations and F-ratios showing Differences in Social Anxiety among Male Students

Var. No.		Means for grade				SD for grade					F
	9	*11*	*B.A. I*	*B.A. III*	*M.A. III*	*9*	*11*	*B.A. I*	*B.A. III*	*M.A. III*	
1.	62.26	74.42	64.16	68.42	77.58	26.29	34.43	25.79	29.03	31.75	2.727*
2.	7.68	9.24	6.55	7.06	62.26	5.1	7.66	3.71	4.24	4.1	2.184
3.	8.1	8.54	8.02	8.34	8.76	4	5.03	4.2	4.28	4.29	0.26
4.	7.1	8.7	7.51	8.38	9.08	3.75	4.85	4.46	4.9	4.73	1.905
5.	6.5	7.57	7.12	8.46	8.92	4.2	5.19	4.4	4.16	4.72	2.59*
6.	6.95	8.82	7.14	7.76	8.78	3.47	5.18	3.92	4.28	4.24	2.441*
7.	7.05	7.14	6.32	6.56	8.46	4.39	4.48	3.42	4.31	5.24	1.751
8.	5.61	8.5	7.61	7.74	8.92	3.72	5.99	4.15	4.93	5.59	4.133*
9.	5.95	7.49	7.28	7.6	8.04	3.63	4.43	3.7	4.17	4.431	2.292
10.	7.28	8.38	6.59	6.52	8.24	3.9	4.4	3.5	3.43	4.32	2.600*

*$P < .05$
Note: 1. Total Social Anxiety 2. Relationship Building 3. Impression Management 4. Cognition 5. Prestige 6. Performance 7. Expectation 8. Emotional Well-being 9. Protection 10. Separation.

Table 2
Results of LSD Test showing Significant Mean Differences for Various Grade Groups of Male Students

Var.		Grade Groups								
	1 and 2	1 and 3	1 and 4	1 and 5	2 and 3	2 and 4	2 and 5	3 and 4	3 and 5	4 and 5
1	12.15	1.89	6.15	15.31	10.25	6.00	3.15	4.25	13.41	9.16
5	.61	1.95*	2.41*	2.42*	1.95*	2.41*	1.35	.88	1.34	.46
6	1.86*	.18	.80	1.82*	1.68*	1.06	.044	.61	1.63	1.02
8	2.89**	2.00**	2.12**	3.30**	.89	.76	.41	.12	1.30	1.18
10	1.10	.69	.76	.95	1.79*	1.86*	.14	.07	1.64*	1.72*

*/** $p < .05/.01$
Note: Grade Groups -1: 9, 2: 11, 3: B.A. Part I, 4: B.A. Part III, 5: M. A. third semester Var. - 1. Total Social Anxiety 5. Prestige 6. Performance 8. Emotional Well-being 10. Separation

social anxiety than male students of ninth and B.A. Part III and eleventh grades; male students of eleventh grade exhibit greater social anxiety than male students of ninth grade. No significant differences exist in the total social anxiety of male students of ninth and B.A. Part I/B.A. part III; eleventh and B.A. Part I, B.A. Part III, M. A. third semester; B.A. Part I and III; and B.A. Part III and M.A. third semester.

Table 1 also shows that the value of F-ratio for performance related social anxiety (F=2.441) is significant at .05 level. Mean score for male students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades are 6.95, 8.82, 7.14, 7.76, and 8.78 respectively. Table 2 shows that mean difference for three out of ten paired comparisons are significant at .05 level. They indicate that male students in M.A. third semester exhibit greater social anxiety than male students of ninth grade, male students of B.A. Part III grade exhibit greater performance related social anxiety than those of eleventh grade, male students of eleventh grade exhibit greater performance related social anxiety than male students of ninth grade. No significant differences exist in performance related social anxiety of male students of ninth and B.A. Part I, B.A. Part III; eleventh and B.A. Part III, M.A. third semester; B.A. Part I and III; and B.A. Part III and M. A. third semester.

Table 1 also shows that the value of F-ratio for social anxiety related to emotional wellbeing (F=4.133) is significant at .01 level. Mean score for male students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades are 8.50, 7.61, 7.74 and 6.95 respectively. Table 2 shows that mean difference for four out of ten paired comparisons are significant at .05 level. They indicate that male students of ninth grade exhibit less emotional wellbeing related social anxiety than the male students of eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades.No significant differences exist in emotional wellbeing related social anxiety of male students of eleventh and B.A. Part I/ B.A. Part III/ M.A. third semester; B. A. Part I and III; and B.A. Part III and M.A. third semester.

Table 1 also shows that the value of F-ratio for separation related social anxiety (F=2.600) is significant at .05 level. Mean score for male students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades are 7.28, 8.38, 6.59, 6.52 and 8.24 respectively. Table 2 shows that mean difference for three out of ten paired comparisons are significant at .05 level. They indicate that male students of eleventh grade exhibit more separation related social anxiety than the male students of B.A. Part I and B.A. Part III, and male students of M.A. third semester grade exhibit greater separation related social anxiety than male students of B.A. Part I. No significant differences exist in separation related social anxiety of male students of ninth and eleventh, B.A. Part I, B.A. Part III; eleventh

and M.A. third semester; B.A. Part I and III; and B.A. Part III and M.A. third semester.

Table 1 shows that the value of F-ratio for prestige related social anxiety (F=2.600) is significant at .05 level. Mean score for male students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades are 6.50, 7.57, 7.12, 8.46 and 8.92 respectively. Table 2 shows that mean difference for four out of ten paired comparisons are significant at .05 level. They indicate that male students of ninth grade exhibit less prestige related social anxiety than the male students of B.A. Part I, B.A. Part III; male students of eleventh grade exhibit greater prestige related social anxiety than male students of B.A. Part I, B.A. Part III and male students of ninth and eleventh, M.A. third semester, eleventh and M.A. third semester, B.A. Part I and B.A. Part III, M. A. third semester, Part III and M. A. third semester grades do not differ from each other on prestige related social anxiety.

Table 1 shows that mean scores for male students of eleventh and M.A. third semester students on social anxiety related to relationship building, impression management, cognition, expectation and protection are greater than means for students of ninth, B.A. Part I and B.A. Part III grades. Table 2 shows that the F-ratios for these five dimensions of social anxiety are not significant at .05 level. It means that male students of different grades do not differ from one another on social anxiety related to relationship building, impression management, cognition, expectation and protection.

Table 3
Means, Standard Deviations and F-ratios showing Differences in Social Anxiety among Female Students

Var.	Means for grade					SD for grade					F
	9	*11*	*B. A. I*	*B. A. III*	*M. A. III*	*9*	*11*	*B.A. I*	*B.A. III*	*M.A. III*	
1	93.06	81.62	56.19	60.06	73.32	20.59	28.35	31.99	29.96	32.52	6.157**
2	9.59	9.34	6.23	6.38	8.26	3.15	4.54	4.17	4.57	4.26	8.577**
3	11.40	9.95	6.14	6.82	8.62	4.24	4.23	4.91	3.38	4.52	14.598**
4	9.14	8.18	6.97	7.08	8.22	3.36	4.54	4.49	4.28	4.21	2.652*
5	10.06	9.13	5.56	6.80	9.08	3.84	4.04	4.58	3.76	5.76	11.551**
6	10.34	9.97	5.54	6.28	8.14	8.09	5.22	4.61	3.88	4.91	9.667**
7	11.02	7.44	5.49	6.34	7.04	4.72	3.83	4.50	4.49	4.44	12.790**
8	10.78	9.58	7.00	7.26	8.56	3.25	4.71	4.77	4.92	4.92	6.872**
9	10.02	9.04	5.54	6.58	7.34	3.80	4.13	4.46	3.79	4.60	11.303**
10	10.68	8.95	7.16	6.52	8.06	2.91	3.63	4.81	3.20	3.80	8.894**

*/** p <.05/.01
Note: 1. Total Social Anxiety 2. Relationship Building 3. Impression Management 4. Cognition 5. Prestige 6. Performance 7. Expectation 8. Emotional Wellbeing 9. Protection 10. Separation

Table 4
Results of LSD Test showing Significant Mean Differences for Various Grade Groups of Female Students

Var.		Grade Groups								
	1 and 2	1 and 3	1 and 4	1 and 5	2 and 3	2 and 4	2 and 5	3 and 4	3 and 5	4 and 5
1	11.43	36.86*	33.00*	19.74*	25.43*	21.56*	8.30	3.86	17.12*	13.26*
2	0.24	3.36*	3.21*	1.33	3.11*	2.96*	1.08	0.14	2.02*	1.88*
3	1.45	5.26*	4.58*	2.78*	3.81*	3.13*	1.33	0.67	2.47*	1.80*
4	0.96	2.16*	2.06*	0.92	1.20	1010	0.03	0.10	1.24	1.14
5	0.92	4.50**	3.26**	0.98	3.57**	2.33*	0.05	1.23	3.51**	2.28*
6	0.36	4.79*	4.06*	2.20*	4.43*	3.69*	1.83	0.73	2.59*	1.86
7	3.57*	5.52*	4.68*	3.98*	1.94*	1.10	0.40	0.84	1.54	0.70
8	1.20	3.78*	3.52*	2.22*	2.58*	2.32*	1.02	0.26	1.56	1.30
9	0.97	4.48*	3.44*	2.62*	3.50*	2.46*	1.70	1.03	1.79*	0.76
10	1.72*	3.51*	4.16*	2.62*	1.79*	2.43*	0.89	0.64	0.89	1.54

*/** p < .05/.01
Note: Grade Groups -1: 9, 2: 11, 3: B.A. Part I, 4: B.A. Part III, 5: M.A. III semester
Var. - 1. Total Social Anxiety 2. Relationship Building 3. Impression Management 4. Cognition 5. Prestige 6. Performance 7. Expectation 8. Emotional Wellbeing 9. Protection, 10. Separation

Table 3 shows that female students studying in different grades differ from one another on total social anxiety (16.157, p<.01) as well as seven dimensions of it namely — relationship building (F=8.577, p<.01, impression management (F=14.598, p<.01), cognition (F=2.652, p<.05), prestige (F=11.551, p<.01), performance (F=9.667, p<.01), expectation (12.79, p<.01), emotional wellbeing (6.872, p=.01), and protection (F=11.303, p<.01). And separation (F=8.894, p<.01). Further analysis was done by using LSD test. Mean differences for various grade group pairs have been given in Table 4.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on total social anxiety are 93.06, 81.62, 56.19, 60.06 and 73.32 respectively. Mean differences for seven out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more total social anxiety than the female students of B.A. Part I, B.A. Part III, M.A. third semester grades; female students of eleventh grade exhibit greater social anxiety than female students of B.A. Part I and B.A. Part III; M.A. third semester grades; female students of M.A. third semester grade exhibit greater social anxiety than female students of B.A. Part I and B.A. Part III; female students of ninth and eleventh, B.A. part I and III and eleventh and M.A. third semester grades do not differ from each other on total social anxiety.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M. A. third semester grades on social anxiety related to relationship building are 9.59, 9.34, 6.23, 6.38 and 8.26 respectively. Mean differences for six out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to relationship building than the female students of B.A. Part I and B.A. Part III; female students of eleventh grade exhibit greater social anxiety related to relationship building than female students of B.A. Part I and B.A. Part III; female students of M.A. third semester grade exhibit greater social anxiety than female students of B.A. Part I and B. A. Part III; female students of ninth and eleventh, ninth and M.A. third semester, eleventh and M.A. third semester, B.A. Part I and III grades do not differ from each other on social anxiety related to relationship building.

As given in Table 4 the mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on social anxiety related to impression management are 11.40, 9.95, 6.14, 6.82 and 8.62 respectively. Mean differences for seven out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to impression management than the female students of B.A. Part I, B.A. Part III and M.A. third semester grades; female students of eleventh grade exhibit greater social anxiety related to impression management than female students of B.A. Part I and B.A. Part III; female students of M.A. third semester grade exhibit greater social anxiety related to impression management than female students of B.A. Part I and B.A. Part III; female students of ninth and eleventh, eleventh and M.A. third semester, and B.A. Part I and III grades do not differ from each other on social anxiety related to impression management.

Table 4 indicates that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on social anxiety related to cognition are 9.14, 8.18, 6.97, 7.08 and 8.22 respectively. Mean differences for two out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to cognition than female students of B.A. Part I, B.A. Part III; female students of B.A. Part I, B.A. Part III do not differ from each other on cognition related social anxiety; and female students of ninth and eleventh, M.A. third semester, eleventh and B.A. Part I, B.A. III, M.A. third semester, and B.A. Part I and B.A. Part III, M.A. third semester do not differ from each other on social anxiety related to cognition.

As given in Table 4 mean scores for female students of ninth,

eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on social anxiety related to prestige are 10.06, 9.13, 5.56, 6.80 and 9.00 respectively. Mean differences for six out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to prestige than the female students of B.A. Part I and B.A. Part III; female students of eleventh grade exhibit more social anxiety related to prestige than female students of B.A. Part I and part III; female students of M.A. third semester exhibit more social anxiety related to prestige than female students of B.A. Part I and part III; female students of ninth and eleventh, M.A. third semester, eleventh and M.A. third semester, and B.A. Part I and B.A. Part III do not differ from each other on social anxiety related to prestige.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M. A. third semester grades on social anxiety related to performance are 10.34, 9.97, 5.54, 6.28 and 8. and 14 respectively. Mean differences for seven out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to performance than the female students of B.A. Part I, B.A. Part III and M.A. third semester grades; female students of eleventh grade exhibit more social anxiety related to performance than female students of B.A. Part I and Part III; female students of M.A. third semester exhibit more social anxiety related to performance than female students of B.A. Part III; female students of ninth and eleventh, eleventh and M.A. third semester, and B.A. Part I and B.A. Part III grades do not differ from each other on social anxiety related to performance.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on social anxiety related to expectation are 11.02, 7.44, 5.49, 6.34 and 7.04 respectively. Mean differences for six out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to expectation than the female students of eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades; female students of eleventh grade exhibit more social anxiety related to expectation than female students of B.A. Part I; female students of B.A. Part I exhibit less social anxiety related to expectation than female students of M.A. third semester; female students of M.A. third semester do not differ from students of B.A. Part III on social anxiety related to expectation; female students of eleventh and B.A. part III, M.A. third semester, B.A. Part I and B.A. Part III, and B.A. Part III and M.A. third semester grades do not differ from each other on social anxiety related to expectation.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. thirdsemester grades on social anxiety related to emotional well-being are 10.78, 9.58, 7.00, 7.26 and 8.56 respectively. Mean differences for five out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to emotional wellbeing than the female students of B.A. Part I, B.A. Part III and M. A. third semester grades; female students of eleventh grade exhibit more social anxiety related to emotional wellbeing than female students of B.A. Part I, B.A. Part III; female students of ninth and eleventh, eleventh and M.A. third semester, B.A. Part I and B. A. Part III, M.A. third semester, and B. A. Part III and M.A. third semester grades do not differ from each other on social anxiety related to emotional wellbeing.

Table 4 shows that mean scores for female students of ninth, eleventh, B.A. Part, B.A. Part III[rd] and M.A. third semester grades on social anxiety related protection are 10.02, 9.04, 5.54, 6.58 and 7.34 respectively. Mean differences for six out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related protection than the female students of B.A. Part I, B.A. Part III and M. A. third semester grades; female students of eleventh grade exhibit more social anxiety related to protection than female students of B.A. Part I or B.A. Part III; female students of B.A. Part I exhibit less social anxiety related to protection than female students of M.A. third semester; female students of ninth and eleventh, eleventh and M.A. third semester, B.A. Part I and B.A. Part III, and B.A. part III and M.A. third semester grades do not differ from each other on social anxiety related to protection.

Table 4 also shows that mean scores for female students of ninth, eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades on social anxiety related to separation are 10.68, 8.95, 7.16, 6.52 and 8.06 respectively. Mean differences for six out of ten paired comparisons are significant at .05 level. They indicate that female students of ninth grade exhibit more social anxiety related to separation than the female students of eleventh, B.A. Part I, B.A. Part III and M.A. third semester grades; female students of eleventh grade exhibit more social anxiety related to separation than female students of B.A. Part I and Part III; and female students of eleventh and M.A. third semester, B.A. Part I and B.A. Part III and M.A. third semester grades do not differ from each other on social anxiety related to separation.

Discussion

It can be inferred that gender difference exists in the development of social anxiety. In case of boys, social anxiety was greater among students

of M.A. third semester and eleventh grades and it decreased among the undergraduate students. In the case of girls, social anxiety has been found to be higher among the students of ninth grade, it was nearly the same among students of eleventh grade, it was reduced at undergraduate level but it again increased at postgraduate level. This trend has been visible with reference to social anxiety related to relationship building, impression management, cognition, prestige, performance, expectation, emotional wellbeing, protection, and separation. Results of the studies undertaken by Mehtalia and Vankar, Shah and Kataria (2009), Honnekeri and De Sousa (2017), and Misra and Kunti Kumari (2020) for university students and Harikrishnan and Sobhana (2016), and Abdallah, et al., (2016) in case of school students have also revealed that students feel social anxiety related to performance, making relations, performance in social situations, emotional wellbeing, metting social expectations, prestige and impression management. This seems to be a reflection of gender stereotyping in socialisation of girls and the pressure created by the parent-child interactions during adolescence. Finding of Abdallah, et al., (2016) lend support to it. They found negative relationship between authoritarian, over protective and neglectful parenting style and social phobia.

Demands for conformity to social roles are more in case of girls than in case of boys. Social anxiety was higher among male students of eleventh and M.A. third semester grades. It shows that exposure to social realities has made students feel anxious when they are students of these two grades. This trend has been found explicit with reference to emotional wellbeing, prestige, performance and separation too. Male students studying in different grades have not been found to differ from one another on social anxiety related to relationship building, impression management, cognition, protection and expectation. This can also be attributed to their less sensitivity to increasing social demands for management of social relations, use of abilities to understand social relationships in various social situations, impression management, and social protection. Perhaps social realities and the importance given by parents to male children is responsible for such a situation. Abdallah, et al., (2016) and Essau, et al., (1999) have reported that female students have more social anxiety than male students. Desalegn (2019) found female sex and being first year students to be associated with social anxiety.

Implications

The present study has revealed that male as well as female students differing with regard to grade levels differ in social anxiety related to prestige, performance, emotional wellbeing, and separation while female

students of different grade differ in social anxiety related to relationship building, impression management, cognition, and expectation too. It implies the need of special attention to female students of secondary schools and universities to provide counselling and other help to them to reduce their social anxiety. Gender differences have been found with reference to grade differences in social anxiety. Male students of postgraduate and eleventh grades reported more social anxiety whereas female students of ninth and postgraduate classes reprted more social anxiety. This requires more trust to handling of issues related to social anxiety having origin in efforts to provide equal opportunities in education, curbing sexual harassment, taking care of their human rights and co-education at the level of higher education. Parents, teachers and peer group members should also try their best to help students of ninth, eleventh and postgraduate grades to manage the increasing levels of social anxiety. Cooperative learning, stress reduction, and desensitisation strategies of teaching and personal-social counselling can be helpful in this.

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Academic Stress in Students
A Review

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Abstract

Everyone is focusing on performance, competition and perfection, which leads to menacing increase in stress. The signs of stress and its consequences are omnipresent. Every individual spends sufficient duration of their life in studying, therefore it is likely to have some kind of academic stress. This article examines what existing literature reveals about academic stress, particularly, attention paid to the sources of academic stress and its impact on students. Firstly, concept of stress is described and existing literature on students' stress is reviewed in light of two questions, which are the different sources of stress and how stress is affecting students. This article includes review of researches done in India and abroad with particular attention being directed to academic setting.

Concept of Stress

Stringere is the Latin word from where the term Stress has been derived and it refers to stretch tight. Cannon (1935) proposed the very first idea about the stress. According to him, passing a critical stress level, triggered by physical and emotional stimuli endanger the homeostatic control of organism. Dunbar (1947) defined stress as the quality of stimulus and individual's response to it. Walf (1950) had explained stress as a state of human organism. Stress is most commonly defined according to the Transactional Model given by Lazarus and Launier (1978). According to them, it is a relational concept, in which a person needs to balance demands and their abilities to meet these demands. It can have damaging effects on pupil's mental health. According to Hans Selye (1983), stress is the non-specific

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response of the body to any demand for change. Stressors are defined as situations that disrupt, or threaten to disrupt, individual's daily functioning and cause people to make adjustments (Auerbach and Grambling, 1998). Stress is also viewed as a negative emotional, cognitive, behavioural and physiological process that occurs as a person tries to adjust to or deal with stressors (Bernstein et al., 2008).

What is Academic Stress? Academic stress is a psychological torment related to exasperation caused by academic letdown or fear of failure (Gupta and Khan, 1987). According to Bisht (1989), academic stress is related to academics that tax or exceed the available resources (internal or external) as experienced by the student involved and it comprises of individual's perception of academic pressure, frustration, anxiety and conflict.

Academic stressors include the student's observation of the broad knowledge base required and the perception of an inadequate time to develop it (Carveth et al., 1996). Academic stress can be expressed by understanding the interaction between environmental stressors, the student's evaluation of academic related stressors and responses to the same (Lee and Larson, 2000). Stress often reaches its peak when there is a lack of resources to cope with the academic demands leading to physiological and psychological manifestations of it (Lou and Chi, 2000). However, stress is not always harmful. A little amount of stress is necessary to push a person to achieve a goal (Rudland et al., 2019). Academic stress has been identified as a damaging issue across various countries, cultures and ethnic groups (Wong, Wong and Scott, 2006). It has, therefore, become a salient topic and cause for concern in academic circles. Various mental health problems are happening due to increase in stress level where students report increased anxiety, depression and even suicidal ideations on one hand whereas on the other hand it could be a "career stopper" (Kadapatti and Vijayalaxmi, 2012). There are a lot of academic burdens on students such as, facing regular examinations, responding to the questions of teachers in classroom, compulsion of academic progress, efforts to grasp the lessons of teachers, feeling of cut throat competition with peer group, pressure of academic expectations from family and teachers (Sagar and Singh, 2017). As a consequence, they can be under stress, since above demands are related to achievement of an academic goal. So, academic stress is also related to the achievement of an academic goal (Lal, 2013).

According to Prabhu (2015), academic stress is the anxiety and stress that comes from schooling and education. There are many changes and transitions in an individual's life with time where stress becomes an inseparable part of their journey. "Adolescents are particularly

vulnerable to the concept of academic stress as the transitions occur at an individual and social level". It, therefore, becomes necessary to understand the sources and impact of academic stress to derive adequate and efficient intervention strategies. This review aims to understand academic stress at a psychosocial level highlighting the sources and the impact of academic stress.

Review Process

To conduct a comprehensive review of literature on academic stress in students, articles were collected from online databases such as Elsevier, Springer, Pub Med, Jstor and Google Scholar. Apart from this, review included perusal of books, dissertations, abstract and doctoral thesis. The review examines academic stress and its impact on students along with the sources of stress detailing Indian and Foreign findings. The review also considered the sources of academic stress for the students in the adolescent age group.

Review of Academic Stress Studies in Abroad

Sources of Stress— Sources of stress are the situations or events which lead to threaten people if they lack the resources to overcome the demand of that situation and these sources or stressors disrupt the daily functioning of person causing them to make adjustments.

a) At School Level

Kyriacou and Butcher (1993) conducted a study on Class XI school children to examine sources of stress in the school environment as part of a case study with a 30 item questionnaire and found that examinations were the most commonly reported source of stress, followed by deadlines for assessed work and revision as second and third most commonly reported sources of stress. The finding that examinations stand out as a particular source of worry and stress for secondary school students has been replicated in different samples of students (Aherne, 2001; Kouzma and Kennedy, 2004). Hodge (1996) in his study found that students vulnerable to anxiety were most commonly under stress. Gallagher and Millar (1996) found that the six of the top ten ranked worries were related to school work among which passing examinations was ranked as the top worry and the consequences of failing examinations for future employment ranked third.

Mohammadi (2011) studied student's coping with stress at high school level particularly at 11th and 12th grade at government secondary schools located in Tehran. He found that total twenty six percent of secondary students were under stress with main stressors including examinations, lengthy syllabus to prepare, etc.

Not only the adolescent children faced stress, but there are findings which suggest that children at primary school and infants also perceive some sort of stress. Dickey and Henderson (1989) found the top four stressors reported by 141 children in kindergarten, first, and third grades to be school work, peer relationships, personal injury or loss, and loss of personal comfort, space, or time. Connor (2001) has extended the study of academic stress to infant and primary school children. The results showed signs of stress and/or anxiety beyond a typical level. Other stressors mentioned by researchers include overcrowded classrooms, violence, peer pressure, disruptive behaviour of other students, poor teachers, boring curricula, long days (day care after school), and competition for grades and social status, and stage fright (Kersey, 1986; Youngs, 1985).

b) At College Level

There are numerous studies which show that students perceive stress as they reach to higher education. The transition of going to college from school sometimes poses great difficulties and demands which students are unable to handle. According to Morris (1990) and Chiang (1995), the academic arena is many times a source of student stress. Abouserie (1994) and Shirom (1986) revealed that students perceive stress at particular moments in the semester, especially during examination periods, studying for an exam, sitting for an exam, and also when writing final assignments and reports, the submission deadlines imposes great amount of stress among students. Carveth et al., (1996) added the time factor, stating that students perceive stress from not having enough time to finish their assignments. Fairbrother et al., (2003) encountered that the excessive amount of assignments or homework along with the grade competition, failures, and poor inter-relationships with peers and faculty represent sources of stress. According to Awino and Agolla (2008), stress also comes from overcrowded lecture halls, semester system, and inadequate resources to perform the academic work as well as from the pressure to perform well in the examinations (Erkutlu et al., 2006). Bataineh (2013) investigated the academic stressors experienced by the students at King Saud University. The result showed that academic overloads, course, inadequate time to study, workload of every semester, exam pressure, low motivation, and high family expectations were causing moderately stress among students. Misra et al., (2000) found that college women reported higher levels of stress than college men for some stressors such as frustration, self-imposed stress, and pressure in relation to academics. Similar observations have been found based on sex differences in reported for college students.

College women reported feeling more stress than college men (Abouserie 1994; Dusselier et al., 2005; Pierceall and Keim 2007). However, another study (Dyson and Renk, 2006) found no sex differences in college students' reported stress levels for college and family stressors. Ben-Zur H. et al, (2012) studied the appraisals, coping and affective and behavioral reactions to academic stressors by students from two cultural sectors—Jewish and Arab. The pattern of relationships between stress appraisals, coping and outcomes was similar for Jewish and Arab students, and in accord with the cognitive model of stress (Lazarus, 1999).

Review of Academic Stress Studies in India

a) At School Level

In India, there have been some researches done on academic stress at school level such as Latha et al. (2006) studied the "patterns of stress, coping styles and social support among adolescents". The authors found that there were many sources of academic stress such as rising up early in the morning for study, burden of study, lengthy concentration periods and long school hours. Ganesh and Magdalin (2007) conducted a study on perceived problems and academic stress in children of disrupted and non-disrupted families. The authors found that Indian children from non-disrupted families had higher academic stress than children from disrupted families. In a study by Bhasin et al. (2010) on students belonging to Classes IX to XII in Delhi, it was found that students appearing in board examinations were more stressed as compared to students of other classes. Chabbra and Sodhi (2011) worked on the factors that lead to psychosocial ill-health among adolescents in Amritsar and found that middle adolescents were more affected by psychological problems. These adolescents with psychological problems were having significantly more school related issues, disturbed families, domestic violence and lesser number of close friends. Tiwari and Balani (2013) studied the intervention program to stress education and reported that the working hours of school, workload, lack of resources to carry out their job, and the low level of reward were most frequently identified as stressors among students.

Academic stress has been studied, compared and correlated with different demographic variables such as gender, parental involvement, type of school (government.or private), academic achievement, year of study, locale and socioeconomic status of students in Indian studies. Hussain et al., (2008) studied on academic stress and adjustment among public and government high school students and found that the public school students were significantly stressed as compared to government school students. Aruna (2008) from a study concluded that stress of Class X

students had significant influence on their study habits. But, there was no significant difference between the study habits of boys and girls and their level of stress. Ranamanikham and Vasanthal (2008) conducted a study on the relationship between students' academic stress and adjustment in relation to their academic achievement and found that there was a significant positive correlation between academic stress and academic achievement.

Dhuria et al. (2009) studied the mental health status of senior secondary school students studying in Classes XI and XII of Delhi and found that boys were more prone to psychological issues than girls. Vamadevappa (2009) in a study revealed that the good parental involvement leads to higher academic stress and the stress of girls is less than the boys among the higher parental involvement group. Deb et al., (2014) studied academic stress among private secondary school students in India. The authors found that 35 and 37 percent students reported high or very high levels of academic stress and exam anxiety respectively. He also reported elevated stress level in general with low achieving students having high stress and vice versa in particular.

Joshi (2014) noted that second year students felt more stress in school factors than first year students. Rabbinic et al., (2014) observed that parental attachment is significantly and negatively related to the stress. Prabhu (2015) conducted a study on academic stress among higher secondary students studying in Namakkal District of Tamil Nadu, India. The study revealed that the higher secondary students were having moderate level of academic stress. The science subject student's academic stress was higher than arts student. The students whose parents were iliterate, their academic stress was higher than their counter part.

Sibnath Deb et al. (2015) investigated academic stress, parental pressure, anxiety and mental health among Indian high school students between various psychosocial factors and academic stress in Kolkata India. The study revealed that 63.5 per cent of the higher secondary students in Kolkata experience academic stress. The data revealed that parents with low level of education, i.e., non-graduates, pressure their children more than the parents with graduation and post-graduation background do. The examination related anxiety had been reported by 81.6 per cent of the students, especially the female students who were coming from Bengali medium schools and were not proficient in English.

b) At College Level

There have been researches done on academic stress at college level in India. In the perspective of age and gender differences between college students, Singh and Upadhyay (2008) explored academic stress. The results showed that the fresher students of first year felt more stressed than

the students of third year and it was prevalent in the female students. Tangade (2011) conducted a study which showed that elevated stress was present in final year students in which the level of stress was higher in male students compared to female students. According to the career choice decision, students forced by parents and those staying in hostels were found more stressed. Das and Sahoo (2012) studied the association between the levels of academic stress and depression and the impact of gender differences among post graduate students. Male students experienced elevated level of stress and depression as compared to female university students. Waghachavare et al., (2013) conducted cross-sectional study among students of medical, dental and engineering colleges from the urban area of Sangli district, Maharashtra, India, using a convenience sampling technique. The authors found that twenty four percent students out of total sample felt stressed and there was strong correlation between stress and stream of education.

Similarly, Reddy et al., (2018) conducted a study on final year university students to find out the level and the sources of academic stress perceived by gender and stream wise differences. The study revealed that high level of stress was observed in 48 per cent of students. There existed no significant difference in total academic stress experienced by males and females. There was a significant difference in academic stress across the four streams with the commerce stream reporting the highest stress in comparison to the Management and Science stream. It was seen that the students of Humanities stream had reported the least academic stress in comparison to the others.

Impact of Academic Stress

Various researches had examined the outcomes of academic stress in terms of performance outcomes; examination or course grades. Struthers et al., (2000) reported that higher level of academic stress is related to lower course grades, moderated by coping style in Canadian undergraduate students. Akgun and Ciarrochi (2003) reported a similar finding where the relationship between higher stress and lower grades was moderated by learned resourcefulness in Australian undergraduate students.

The other studies in India also implicate the negative consequences of academic stress as indicated in the research done by Rangaswamy (1982) and Verma et al., (2002). The relationship between high academic stress and suicidal ideations were also observed among students (Arun and Chavan, 2009). In another study, Khan and Kausar (2013) explored the effect of academic stress on students' performance and the impact of demographic variables like gender, age and educational level. The findings revealed a substantial

influence of academic stress on the student's achievement.

Conclusion

An attempt was made in this paper to review the literature on academic stress among the secondary school students and tried to present the causes, sources and consequences of stress. The review of literature indicate that the reasons for stress during adolescence are examination fear, overloaded and packed schedule, peer pressure, inability to cope with studies, and lack of competence. Examination fear has stand out as a major source of stress in students whether at school level or college level. Passing the examination and getting admission to the next level and future employment are also found to be in minds of students. At school level, the lengthy timetable and assignment deadlines pose great stress to them. The research discussed above provides evidence that school children of all ages can find examinations as a source of stress and worry. In this review, it was found that at college level, along with all the above said factors, the race, gender and geographical differences also act as stressors. Adolescents' growing habit of instant fulfillment of desires has contributed to a great deal of stress in them and has also affected interactions with family parents and peers. In the review, studies, depicted that role of joint family versus separate family is also countable as students from joint families have a marginally higher mean academic anxiety level than their peers from separate families, but statistically, this disparity is not significant. In India, academic stress has been studied in correlation with different variables such as public or government school type, study habits, academic adjustment, academic achievement, year of study, parental involvement, and socioeconomic status, type of family and education of parents. As far as impact of academic stress is concerned, from the above review it could be concluded that stress in academic life affect the academic performance and studies in India and abroad mention the existence of depression, phobia, anxiety and other behavioural problems in students due to high academic stress.

In order to overcome unusual behaviours, the parents, teachers and the school could play a constructive role in channelising energies of the adolescents. When in stress students need to be directed to a right path instead of letting them down and this care starts from family first. Parents must understand the current world scenario and should not compare it with their time. Also, putting their unfulfilled dreams on the shoulders of their children leading to over expectation could sometimes make the students feel helpless. Therefore, it is crucial to take proper caution in helping to make the best choices that should impact their future. Similarly, the role of teacher in reducing the

students' academic stress is really important because they could introduce the students with right ways to overcome their daily hassles. For example, if a student is unable to do the homework and feels burden in doing the homework because it could reduce their play time, the teacher could ask them to make a time table and divide their time for study and play. Also, student could be asked to break their work in small parts and utilise the free periods in school to complete some of the tasks. In such a way, students will learn time management in one hand and lesser stress in other hand. Also, teachers should do counseling of students and student must feel confident, secure and free to talk to teachers. While talking about the students' efforts, reducing anxiety and balancing time in combination with recreational activity can be an important method for college students to alleviate academic stress. Students should have the ambition or perception for their education, not above their capacities and knowledge, although choosing their courses at intermediate level, students may also require appropriate counseling. The family atmosphere should be comfortable and the learning experience should be fun and parents should stop making it a difficult occurrence for adolescents. Teachers and school environment should be student friendly and there should be a curriculum which does not lay any burden on the shoulder of students rather it should be so wisely constructed that it helps student to achieve their goals with confidence they feel secured about their future. The authors conclude that students need a positive and motivating environment to succeed in their academic career and to accomplish their goals or objectives and in this achievement there might be some hurdles which could be overcome through the constant support of parents and teachers leading to stress free healthy environment.

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A Study of Reflective Journals Written by Student-teachers during School Internship Programme

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Abstract

The main purpose of reflection is to make sure that all students learn more effectively and meaningfully. Reflective practice makes you accountable for yourself and for the progress of your students. By self-assessing strengths and weaknesses in your teaching, you can explore the factors that hamper your teaching-learning process and the areas where development might be needed.

In SCERT, Delhi D.El.Ed course student-teachers write their reflective journal for 40 days per year during the school internship programme as a part of practicum. The present study focuses on the reflective thinking, which student-teachers do before, during and after the teaching-learning process along with the self-assessment to improve their practices. All 26 student-teachers of two investigators were oriented about writing reflective journals but only four student-teachers were randomly selected as sample. Content analysis of the reflective journals written by the student-teachers showed various reflective aspects such as student-teacher relationship, teaching-learning process, self-assessment, teachers' responsibility— codes and conducts and classroom environment.

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Introduction

Reflection sharpens our mental process. It is the interpretation of what is going on between learning and thinking. Reflection is a systematic process of reviewing, this allows teachers to make links from one experience to the next, making sure that students make maximum learning progress. The reflective journals help to keep records of one's thoughts and ideas. Dewey (1933) stated that reflective thinking is "the active, persistent, and careful consideration of one's belief or a form of knowledge that support it and the further conclusions to which it ends." Reflective writing is a way of thinking to explore learning and to achieve clarity and better understanding of what have been learned. This process encourages working with others as one can share best practice and ask others for support. The main purpose of reflection is to make sure that all students learn more effectively and meaningfully as learning can be tailored to them. Reflective practice helps teacher to understand how students learn and what can be the best ways to teach them effectively.

The National Curriculum Framework for Teacher Education (NCTE, 2010) has focused on the need of reflective practice. By reflecting on one's teaching, one can identify the barriers to learning that students may have. Being reflective also helps teacher to have a wider range of skills by teaching students in new ways and develop abilities to solve problems. It allows you to take time to critically look at your teaching and improve or appreciate your own teaching strategies. Critical reflection is the most important characteristics of reflective practitioners. Until and unless teachers develop the practice of critical reflection, they found themselves in unexamined judgments, assumptions, expectations and interpretations, (Larrivee, 2000).

Reflective practice is a tool for self-assessment, which provides platform to improve your teaching by identifying your strengths and weakness in your teaching. Giroux (1988) describes teachers as transformative intellectuals who combine their reflection and practice to teach their students. Against the "banking education," where student is supposed to be the receiver of knowledge given by the teacher, education should develop student's self-reflection, and critical faculty. Therefore, it is the need of the hour for teacher-education programmers' to incorporate critical reflection in their curricula at all levels.

Reflection allows the teacher to understand one may have helped others to achieve and what this looks like in a practical learning environment? By asking students to share their thoughts, ideas and feelings on their learning, plays an active part in the learning process. This allows them to take ownership of their learning as self-aware and responsible students and also work with you and give feedback. Reflective

practice gives you the space to adapt lessons that suit your classes. Teacher can evolve new strategies and experiment these ideas and approaches to teaching-learning process to cater maximum number of students' success.

With such new ideas and experimenting with new approaches, students gain a richer learning experience. They will think more critically, imaginatively, creatively and resourcefully and be ready to adapt to new ways and methods of thinking and learning. Not only the prospective teachers but also even the practicing teachers should continually progress through the levels of reflective thinking with their day-to-day practices. As is the case with all skills, reflection too is learnt and flourished with active efforts made on the part of the practitioner. Bhogayata (2000) suggests, "Reflective practice is required as the future teachers should take reflective decision, set their goals, plan, implement and monitor their action; self-evaluate their results and reflect on their own professional thinking and growth."

Critical reflection has a positive impact on the teaching-learning process. Researches in this area had shown that self-reflection is very beneficial practice for teachers that promotes critical understanding and development of their professional practice (Husu et al., 2008, Ghaye, 2000).

When a teacher gives preferences to students' strengths and weaknesses, then learning is personalised more to their needs. Such teachers become more curious and well equipped to explore more deeply for their students. This whole process of critical reflection helps teacher to create an environment, which centers on the learner. This environment will support both of them to become more engaged, confident, innovative and responsible. The day you start the reflective process, your quality of teaching-learning will improve automatically. You will take into account various learning styles, the individual needs of learners, and plan new lessons accordingly based on these reflections. Therefore, when a reflective teacher focuses on the learning process, the learning outcomes and results of the learners are set by default to improve.

Significance of the Study

There are rather limited researches based on reflective journals of student-teachers in India, how they reflect on their learning when involved in School Internship Programme. Writing a reflective journal is a part of D.El.Ed curriculum of SCERT, Delhi. As a part of practicum, student-teachers write their reflective journal for 40 days per year during the School Internship Programme.

The present study focuses on the reflective thinking, which student-teachers do before, during

and after the teaching-learning process along with the self-assessment to improve their practices. Thus, the present study can be helpful for the student-teachers, teacher educators and practicing teachers of schools to improve their practice of teaching. In the light of above discussion, the following title was finalised.

Objectives

Following objectives were framed for the above study—

1. To study the reflective journals written by the student-teachers in School Internship Programme.
2. To analyse the reflective journals written by the student-teachers with respect to the pre, during and post teaching-learning process in School Internship Programme.

Methodology

Two investigators were having 26 student-teachers out of which 12 were from first year and 14 were from second year. Investigators randomly selected 4 student-teachers, two student-teachers each from first and second year respectively. Therefore, only 4 student-teachers were selected as sample. However, before going to School Internship Programme, all the student-teachers were oriented about writing reflective journals, and they were asked to follow the following pattern while writing the journal.

1. Why and what to teach?
2. How to teach?
3. To what extent was I successful in achieving the goals?
4. What was my learning?

Our student-teachers did School Internship Programme for 40 days in schools. From the very first day, they started writing their experiences of the school in their reflective journals. Every day they reflected upon the given pattern. The supervisor also gave them the feedback to improve their writing by conducting discussions during pre, during and post teaching learning process. Their reflected journals were collected after 40 days of School Internship Programme.

Data Analysis

Investigators used inductive analysis and synthesis method for the data analysis. This involved the process of data analysis by the data organisation, filtering of data, and formation of codes, constructing themes based on codes and followed by drawing of conclusions from the data.

Tallies of responses on reflective journals of the student-teachers were also marked category wise. Tallies were changed into frequencies and percentages. Various reflections of trainees were identified and classified into given below categories.

1. Student-teacher relationship,
2. Teaching-learning process
3. Self-assessment
4. Teachers' responsibility— codes and conducts.
5. Classroom environment.

Findings

Reflective Journals Written by Student-teachers

Table 1
Reflective Journals Written by the Student-teachers

S.No.	Reflective Aspects	Frequencies	Percentage
1.	Student-teacher relationship	23	8.39
2.	Teaching-learning process	71	25.91
3.	Self-assessment	64	23.35
4.	Teachers' responsibility codes and conducts	68	24.33
5.	Classroom environment	48	17.51
6.	Total	274	

The above table clearly shows that the 25.91 per cent, 24.33 per cent and 23.35 per cent of student-teachers reflected upon teaching-learning process, teachers responsibilities/ teachers ethics and self-assessment respectively followed by classroom environment 17.51 per cent and student-teacher relationship 8.39 per cent.

Student-teacher Relationship

With respect to the student-teacher relationship result, it was found that all the student-teachers were excited to be a teacher in the internship programme especially first year students, and they were also not confident regarding the rapport with their students.

According to student-teacher 1(ST-1), developing a connect with the students is the most important step in the teaching-learning process.
ST-1: "Introduced myself to the student's first but, still students were uncomfortable with me. Then I asked them to introduce themselves, and for that I gave them a structure such as —

I am _____ (name).

I live at _____.

My hobbies are_____."

ST-3: "I talked and interacted with them in a very polite and humble way, which helped me in my teaching."

ST-2: explained that dialogue and sharing with the students during the pre-teaching phase was most important to initiate the teaching-learning process. She felt more connected through the dialogue.
ST-2: "We started talking to each other".

During the course of the internship programme student-teachers felt that their students were eagerly waiting for them and actively participated by asking questions, talking to us, arranging materials on the desk for activity and ready with the extended work given in the previous

class. A democratic classroom environment provides students a room for discussion and dialogue to nurture the positive interpersonal relationships among students. Student-teachers also observed that majority of students preferred to work alone or with their bench mates.

According to ST-4: "I usually prefer group work and for this I rotated all the students during the group work, sometimes using the number 1, 2, 3, 4, 5..., sometimes on the basis of the month/day on which they were born, etc."

Teaching-learning Process

Informal setting, i.e., in schools we can say that learning can be through teaching, and this teaching process creates an arrangement of environment whereby students can interact to learn. In a nutshell the aim of the process of teaching-learning is to facilitate the learner to create the knowledge and acquire the necessary skills, attitudes, values and behaviour. In the early phase of internship programme, student-teachers were understanding the behaviour of learners. Some of their key observations regarding the learners were their interest, level of learning, eager to answer the questions, discarding the myth that few students of the class cannot learn and also getting more information from the parents about the students through first Parent-teacher Meeting (PTM).

According to ST-1: "One of the teachers of the school gave me the feedback about the class allotted to me saying that they cannot read the Hindi book. I also thought that they cannot learn but then I challenged myself and empathised with them. I will deliver today's lesson plan and try to understand their learning gaps. It was a relaxing experience for me when I found some of the students started to read few words that was a sign of encouragement for me".

Student-teachers also tested that local examples were more effective in learning of their students.

ST-3: "Today I learnt that while teaching if we use examples that are from their day-to-day life it makes teaching-learning interesting and more relevant."

The student-teacher developed the above conclusion after delivering so many lesson plans. Thus, it was found that reflections of the student-teachers that were earlier mere description of the events are now moving towards real practice and reflection.

ST-4: mentioned, "Today I face a problem in the introduction of the topic in social science subject, which I wish to improve."

This shows that student-teachers probed into their pedagogy and felt the scope of improvement.

Self-assessment

Self-assessment helps student-teachers play an active role in knowing their own practice. Teacher self-

assessment is the process of making judgments about the effectiveness of their own practice so that they can be improved. Student-teachers were doing self-assessment as well as improving their practice of teaching.

According to ST-1, she was unable to manage the class in the beginning of the internship programme.

"I am unable to manage this class, but in my next classes I will try to improve myself."

After few days of internship programme, ST-1 showed her improvement in managing the class in terms of engagement of learners. This showed that student-teacher not only self-assessed but also tried her best to improve the practice of teaching.

"I am able to manage the class and engaged all the learners in the process of learning"

Another student-teacher ST-3 mentioned that during the first PTM she was not so comfortable in conducting and interacting with parents and giving feedback about their wards, but during the second PTM they felt more confidence in interacting with parents and sharing the feedback.

ST-3: "Today I learnt how to give the feedback to the parents about their wards and sharing of their educational achievements."

Teachers' Responsibility—Codes and Conducts

The teaching profession has its own Code of Professional Ethics, which is indeed a pre-requisite to ensure its dignity and integrity. The Right of Children to Free and Compulsory Education Act, 2009 assigns teachers with some professional responsibilities. Some of the professional ethics practiced by the student-teachers are worth mentioning here.

ST-1: "Today I noticed some of the students after taking Mid-day Meal threw the left over into the dustbin. I told the students that we have limited supply of food and lots of people in our country do not get food so, we should not waste it."

ST-2: "Students do not give much attention towards their habit of cleanliness' I noticed that they take their food without washing their hands. Even students come to school without brushing their teeth. I decided to talk to their parents."

ST-3: "Today I transacted Hindi chapter *Pani Ray Pani* in Class V. I requested my peer student-teachers as well as two regular teachers of that school to observe my class and give me feedback, to improve my practice of teaching".

Above-mentioned practices clearly indicates that the student-teachers were following the ethical responsibilities towards the teaching profession as conceptualised in the guidelines of professional ethics shared by the NCTE such as obligations towards students, parents, community, society and towards teaching profession.

Classroom Environment

Creating a safe, diverse, inclusive and positive classroom environment is key to effective teaching-learning process. Students take interest in learning when they find that their needs, voices and ideas are being addressed and respected. Student-teachers mentioned in their journal that they tried their best to focus on the cleanliness of classroom. They used to tell their students not to throw the papers and food here and there and to check their school uniform daily. Students coming with dirty uniform and casual dresses were warned and intimated to their parents.

ST-2: "For the last few days ,I have noticed that few girls were coming in casual dress to school. On asking them, they replied that their school uniforms were very dirty. I explained the importance of uniform".

Student-teachers also found that students love to learn through games, poems, stories and activities. For example ST-4: "I was surprised to see in my class of EVS Class V, students were developing their own stories by adding words and sentences. Students are so creative."

One of the student-teacher mentioned that teachers could only understand their students and scaffold them in their learning as and when required. As per ST-3: "Students who were tagged as slow learners in the class, by the teachers and their classmates did not speak in the class and they have developed the inferiority complex in them. I changed their seats and brought them on the front bench. I gave them all the opportunities by which they can participate in classroom activities and could reduce their inferiority complex".

Discussion

Each teacher trainee is expected to keep a reflective journal that would help them revisit their experiences in the classroom over the period of School Internship Programme. The journal includes short descriptions of how the class was conducted, learners responses, followed by analytical and reflective statements about the preparedness for the class, responses to student's questions, and various issues of discipline, group, and individual and whole class activities. The findings of this study included five reflective themes, which was obtained by student-teachers by the reflection on why, what, how to teach, to what extent I was successful in achieving my goal and what I have learnt. This finding corroborates with the study of Bhogayata (2000) who found that reflective practice is required as the future teachers should take reflective decision, set their goals, plan, implement and monitor their action; self-evaluate their results and reflect on their own professional thinking. Writing reflective journals supports both the students' and the student-teachers' to become more engaged, confident, innovative and responsible. While teaching

the learners the student-teachers combined their self-assessment and critical reflection, the findings of this study is quite similar to the findings of Giroux (1988) who described teachers as transformative intellectuals who combined their reflection and practice to teach their students. Therefore, based on the above discussion it can be concluded that reflective journal is the need of the hour for teacher-education programmers' to incorporate critical reflection, to improve teaching-learning process as well as the professional growth. It should not only be practiced by the prospective teachers but also by the practicing teachers.

Conclusion

Reflective journals are useful documents in the process of reflection and reflective learning. The journal writing itself requires the student-teachers to think back on events that have taken place and provide opportunity for expression of personal thoughts. Reflective journals provide opportunity for the student-teachers not only to think back on the learning activities, to explicitly and purposely identify what they have learned, but more importantly, to assess what they have learned to their teaching practice, assess their practice in light of theories, and formulate action plans for improvement.

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A Study on the Relationship between Concept Mapping and Reflective Thinking

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Abstract

Concept mapping is a graphical organising technique, and it also work as a reflective tool for students as well as teachers and teacher educators. In the present scenario, learning outcomes is a big concern for any classroom. In this research paper, researcher wants to investigate the relationship of concept mapping and reflective thinking, and also want to analyse on the basis of gender and how much relationship has shifted in which direction? For fulfillment of this purpose, researcher selected three schools (one government and two private) from Ajmer city and selection was done through the sample purposive sampling. Researcher selected 48 boys' students and 28 girls' students and the total sample was 76 students. Researcher used descriptive statistics and inferential statistics for analysing the data. In inferential statistics, researcher used Pearson's bivariate correlation. Findings of this research paper highlighted that there is a minimal difference in relationship of concept mapping and reflective thinking on the basis of gender, and this difference indicates towards other factors.

Introduction

Concept mapping is a strategy intended to reinforce understanding of concepts and their relationships in a graphic and visual manner. This strategy is also metacognitive in nature because it provides ongoing reflection on the process as well as the relationships among concepts. It helps students to organise and represent their knowledge. The use of propositional concept maps, "using

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two or more concepts connected using linking words or phrases to form a meaningful statement" (Novak, 2006), was developed out of a long-term research project to identify changes in children's understanding of science concepts. The researchers in this study created a means of representing children's knowledge in the form of a concept map.

Concept maps are especially effective when used as an organisational strategy for complex learning tasks and to summarise information. One strength of the use of concept maps lies in the graphic representation to demonstrate growth in understanding (Enger, 1996; Jones and Vesilind, 1994). Visual images help learners understand and remember complex information and abstract concept relationships in a more concrete manner than abstract words (Armstrong, 2003). A study on the use of concept maps as a curriculum development aid for a knowledge-based science teaching model (Romance and Vitale, 2001) indicated that the continual enhancement of concept maps throughout the process provided both teacher and student a means of tracking the development of content acquisition and understanding. The concept maps kept the students focused on the core elements within the content and the hierarchal organisation of the concepts.

Concept Map

The concept map technique was firstly proposed by Joseph. D. Novak during his research programme in Cornell University, where he and his team followed and understood changes in student's behaviour. Novak (1990), said that concept map is a graphical tool for organising and representing knowledge. It includes few enclosed figures like circle and boxes which represent concepts or sub concepts, and these boxes linked with linking lines and nodes and these linking lines and cross links represents the relationship among different concepts (Novak, 1990). Further, concept maps were useful not only to represent the change in a child's understanding of topic, but also as excellent tool for the participating students to express their understanding about their courses.

Concept Mapping

Novak, Joseph and Cañas, Alberto (2007) said that concept mapping is a technique for visualising the relationship between different concepts. When created appropriately and systematically, concept mapping is an influential way for students to touch high levels of cognitive performance. Novak, Joseph and Cañas, Alberto (2007) highlighted that concept mapping tool is also an assessment tool we can use to estimate growth of learning, and it is very helpful for teacher educators. As students generate concept maps, they repeat ideas using their own words and help identify unfitting ideas and concepts; educators are able to see what students do not recognise, and it is helpful to understand the problem in students learning.

Reflective Thinking

The concept of reflective thought is firstly introduced by John Dewey in 1910 in his work designed for teachers named "*How We Think*". Dewey's most important thought was that learning improves to the degree that it arises out of the process of reflection (Dewey, J. 1933). After sometime past on these thoughts known as analytical thinking or critical thinking and some more word ordinated like problem solving and higher level thoughts. Reflective thinking is a meaning-making procedure that leads to a deeper understanding, that is, in an organised, laborious disciplined way of thinking (Dewey, J. 1933). Reflective thinking is important for success in a changeable and multifaceted situations such as working with customers or clients.

Review of Related Literature

Somers (2009) conducted a study on using concept maps to explore preservice teachers' perceptions of science content knowledge, teaching practices, and reflective processes. Gwo et al., (2007) work on application of automatically constructed concept map of learning to conceptual diagnosis of e-learning. Schwendimann (2011) conducted a study on mapping biological ideas: Concept maps as knowledge-integration tools for evolution education. D'Antoni (2009) impirically highlighted relationship between the mind map learning strategy and critical thinking in medical student. Sugihara at al., (2011) conducted a study *Experimental Evaluation of Kit-build Concept Map for Science Classes in an Elementary School*. Derbentseva (2004), conducted a study *Experiments on the Effects of Map Structure and Concept Quantification During Concept Map Construction*. Soleimani at al., (2012) worked on *Fill in the Map Related concept map technique on pre-university students.*

Need of the Study

At secondary level, generally teachers or instructors uses traditional teaching methods in which students learn through memorisation and recitation techniques thereby unable to develop their critical thinking problem-solving skills (sunel et al., 1994). On the other hand, modern or constructivist approach of learning quite famous these days but in real scenario due to lack of training of constructivist approach instructors are unable to implement this approach in the classrooms they are still rely on mostly lecture cum demonstration method of teaching which is less effective way of learning for the students for attaining desirable outcomes in the classroom it is very essential that while students are learning new concepts and they must reflect on ideas which help the student to develop their understanding in meaningful, logical and purposeful way. According to Novak (1998), Hay (2007, 2008) and others, concept maps have the value of 'making learning visible' as the

teacher can actually 'see' what ideas the student has about a particular topic and can evaluate students' learning and acquisition of crucial concepts (threshold concepts in Meyer and Land's language, 2006).

Statement of the Problem

A Study on the relationship of Concept Mapping and Reflective Thinking— Exploring its Significance on the basis of Gender at Secondary Level.

Delimitations of the Study

In the present study, English medium schools affiliated to C.B.S.E. board of district Ajmer have been included. It excluded schools with other medium of instruction like Hindi, Marwari, etc. The present study includes Class IX students of district Ajmer, Rajasthan. Students from other primary and secondary classes have been excluded. It also excludes schools affiliated to Rajasthan Board of Secondary Education (R.B.S.E.) and other boards. In the present study, selection of schools is done through purposive method of sampling technique. This study was conducted in the science subject.

Aim of the Study

The aim of the present study is to find out the relationship between concept mapping and reflective thinking, and check out the difference in this relationship on the basis of gender.

Definition of Operational Terms

While a variety of definitions of the following terms have been suggested, this study will use the definition related to the context of the study.

Concept

Spitzer (1975) highlighted an idea about something that is formed mentally by combining its characteristics; it is generally derived through specific instances and usually formed from a number of simpler elements. Spitzer (1975) said that concepts could be considered the building blocks of knowledge or the basic unit of knowledge.

Concept Map

Novak, Joseph and Cañas, Alberto (2007) implicitly highlighted that concept map is a visual graphic organiser designed to display concepts and the connections between them. Typically, concepts are displayed in the nodes or shapes, while relationships between them are shown with links, often titled with verbs (Novak,1990).

Reflective Thinking

Critical thinking and reflective thinking are frequently used synonymously (Halpern, 1996). Reflective thinking is the use of those cognitive skills or tactics that increase the probability of a needed outcome. Thinking that is purposeful, rational and goal directed — the kind of thinking involved in solving problems, framing inferences, calculating

possibilities, and making conclusions when the thinker is using skills that are thoughtful and effective for the specific context and type of thinking assignment. Reflective thinking is sometimes called directed thinking because it focuses on a desired outcome.

Objectives of the Study

1. To find out the relationship between concept map and reflective thinking at secondary level.
2. To find out the difference in relationship between concept mapping and reflective thinking at secondary level on the basis of gender.

Null Hypotheses

1. There is no significant relationship between concept mapping and reflective thinking in learning science of students at secondary level.
2. There is no significant relationship between concept mapping and reflective thinking for boy students at secondary level.
3. There is no significant relationship between concept mapping and reflective thinking for girl students at secondary level.

Methodology of the Study

The present study is a correlational study, which comes under the survey research and it is a part of Quantitative Research Design. In the present study, researcher established relationship between concept mapping and reflective thinking with the help of bivariate correlation method and draws some conclusion on the basis of this method.

Participants

For this study, the researcher has taken a sample of 76 students of Class IX from three schools of district Ajmer. During the study the researcher took one government school and two private schools as per the availability of classes in those particular schools. Sample was selected by the researcher through Purposive technique. The researcher had also collected a sample of 28 students from Demonstration Multipurpose School, Ajmer, 18 students from Bhagwan Mahavir Public School, Makarwali road, Ajmer, and remaining 30 students from Samrat Public School, Kotra, Ajmer.

Instruments

- Concept Map Achievement Test CMAT (Yadav, P. 2019): This tool consists of five fill in the blanks based on knowledge, understanding and application and later part of this tool based on Concept Map draw Ability skills and critical thinking. Face and Content validity of this tool find by the researcher which is satisfactory.
- Reflective Thinking Scale RTS (Yadav, P. 2019): This tool consist

of 28 items which is based on four dimensions that is concept map, reflective thinking, habitual action and critical reflection and internal consistency reliability (Cronbach Alpha) of this tool found by the researcher is 0.660.

Techniques of Data Analysis

The analysis of the present study was done on the basis of formulated objectives and hypothesis of the study. Since this research is a correlational study that is why the researcher used correlation 'r' coefficient between two variable.

Data Analysis

For analysing the complete data the researcher used IBM SPSS version 25 Statistical software as a tool, and the obtained results are cited below with the help of tables, along with the explanation.

Null Hypothesis 1: There is no significant relationship between concept mapping and reflective thinking in learning science at secondary level.

It is clear from the table below that the mean score of concept map achievement test score is 13.64 and standard deviation is 2.442. And the mean value of reflective thinking scale score is 104.83 and standard deviation is 10.907, where the total sample is 76.

The result shows that there is significant relationship between concept mapping and reflective thinking because value of correlation is .465 at 0.01 level of significance, which is significant and indicates a positive correlation between the variables.

Table 1.1
Sample Distributions

Name of the School	School Type	Boys	Girls	Total
Demonstration Multipurpose School, R.I.E. Ajmer	Government	15	13	28
Bhagwan Mahavir Public School, Makarvali Road Ajmer	Private	15	3	18
Samrat Public School, Kotra, Ajmer	Private	18	12	30
	Total	48	28	76

Table 1.2
Dimensions of Reflective Thinking Scale

Dimensions for Reflective Thinking Scale	No. of Items	No. of Negative Items
Concept Map	11	02
Reflective Thinking	07	01
Habitual Action	07	04
Critical Reflection	03	00
Total no. of Items	28	07

Table 1.3
Descriptive Statistics of Whole Data

	Mean	Std. Deviation	N
CMAT	13.64	2.442	76
RTS	104.83	10.907	76

Correlation is significant at 0.01 level of significance (2-tailed), hence with the above shown results researcher can reject the first hypothesis because there is significant positive correlation between concept mapping and reflective thinking. From the above data it is very clear that concept map and reflective thinking are positively correlated to each other in science subject at secondary level.

Table 1.4
Overall Correlation value of Reflective Thinking and Concept Mapping

Correlations			
		Total	Total
Total	Pearson Correlation	1	.465**
	Sig. (2-tailed)		.000
	N	76	76
Total	Pearson Correlation	.465**	1
	Sig. (2-tailed)	.000	
	N	76	76
** Correlation is significant at the 0.01 level (2-tailed).			

Null Hypothesis 2: There is no significant relationship between concept mapping and reflective thinking for boys students at secondary level.

When we take concept map scores of boys' students and simultaneously the reflective thinking score of boys students, we see that mean score of concept map achievement test of boys is 13.08 and standard deviation is 2.575, while on the other hand mean score of reflective thinking scale of boys is 103.94 and standard deviation is 11.664.

When we correlate the concept map scores and reflective thinking scores of boys students we find that there is a positive moderate 0.471** level correlation which is significant at 0.01 level of significance (2-tailed). Hence, with the above shown result the

Table 1.5
Descriptive Statistics of Boys Students

Descriptive Statistics			
	Mean	Std. Deviation	N
CMATB	13.08	2.575	48
RTSB	103.94	11.664	48

Table 1.6
Correlation of Concept Map and Reflective Thinking of Boys Students

Correlations			
		CMATB	RTSB
CMATB	Pearson Correlation	1	.471**
	Sig. (2-tailed)		.001
	N	48	48
RTSB	Pearson Correlation	.471**	1
	Sig. (2-tailed)	.001	
		48	48
** Correlation is significant at the 0.01 level (2-tailed).			

researcher rejects the null hypothesis because there is significant positive correlation between concept mapping scores and reflective thinking scores of boys students.

Null Hypothesis 3: There is no significant relationship between concept mapping and reflective thinking for girls students at secondary level.

The total no. of girls students is 28, so when we take both score of girls students on the basis of concept map achievement test and reflective thinking scale we found the following descriptive statistics.

Table 1.7
Descriptive Statistics of Girls Students

Descriptive Statistics			
	Mean	**Std. Deviation**	**N**
CMATB	14.61	1.873	28
RTSB	106.36	9.476	28

Mean score of girls students on the basis of concept map achievement test is 14.61 and standard deviation is 1.873, and mean score of girls students on the basis of Reflective thinking scale is 106.36 and standard deviation is 9.476.

When we correlate the concept map scores and reflective thinking scores of girls students we find that there is a positive moderate 0.417** level correlation which is significant at 0.01 level of significance (2-tailed). Hence, with the above shown result the researcher rejects the null hypothesis because there is a significant positive correlation between concept mapping scores and reflective thinking scores of girls students. From the above result, specifically on the basis of gender, we can say that concept mapping scores and reflective thinking scores of girls students correlates to each other.

Conclusions

It may be concluded that—

- If we see the first objective of this study then researcher found there is positive relationship between concept mapping and reflective thinking at secondary level. There is a positive moderate level (r = 0.465**) correlation existing between these two variables.
- After analysis of data gender wise, researcher finds that there is no significant difference between girl and boy students. We can see from the analysis of hypothesis 2 and 3, correlation between concept mapping and reflective thinking on the basis of gender almost same. In both cases, we see positive, moderate level correlation. Since mean score of girls students is high in respect to boys students but this may be because of we take only 28 girls for this study and number of boys is 48. So, there are many factors behind this result.
- The main purpose of this research paper is to identify on the basis of specific gender how much relation shifted in any direction that is may be positive or negative but researcher found on the basis of gender there is no difference in the correlation of Concept mapping and reflective thinking.
- On the basis of mean scores of concept map achievement test and Reflective thinking scale researcher can say ability of making concept map and reflecting over the content in girls is better than boys students.

Table 1.8
Correlation of Concept Map and Reflective Thinking of Boys Students

Correlations			
		CMAT G	RTS G
CMAT G	Pearson Correlation	1	.417*
	Sig. (2-tailed)		.027
	N	28	28
RTS G	Pearson Correlation	.417*	1
	Sig. (2-tailed)	.027	
		28	28
** Correlation is significant at the 0.05 level (2-tailed).			

Discussion

The result of the present study will be helpful to teachers as well as students, policy makers, administrators and head of the department and institutions for improving teaching-learning process and arrangement of learning environment in such a way that will meet the need of meaningful and effecting learning inside the classroom at secondary level.

It will also be helpful to the teacher to meet the challenges of 21st century classroom which is different from 20th century classroom by updating the knowledge of reflective pedagogy by the help of reflective tool in the classroom like concept map.

It will also be very helpful to the students to understand the difficult concept and relate those concepts to the real world experience. Result of the study also helps the students to retain the concepts in their mind in meaningful way and for a long span of time.

The findings of this study will also provide a theoretical background as well as evidence to the researcher to conduct further research. Last but not the least, it will be helpful in teacher training programmes organised by the Government of India, Specially Rastriya Madhyamik Shiksha Abhiyan (RMSA) for quality improvement in the teacher as well as classroom-learning environment at the secondary level.

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Language Learning and Early Literacy

Building Capacity of Preschool Teachers

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Abstract

A growing body of researches shows that teachers' knowledge and skills required to handle young children early literacy is crucial for children's smooth and successful transitions to primary school. The recent interventions under the study by the researcher entitled "Situational Analysis of DM schools and Designing of Model Preschools" in the four DM schools of NCERT provide additional insights about the significance of building capacity of teachers in language and emergent literacy. One of the prime objectives of this two-phased study was to design activity areas and promote early literacy in the preschools located at four Regional Institutes of Education (RIEs) of NCERT.

The preschool personnel of four RIEs were also interviewed and the findings indicated that the preschool and early primary teachers lack the disciplinary knowledge required to promote early literacy at the preschool stage. The present paper looks at the importance of early literacy in today's preschool education especially in the first five to six years of young children's lives. It is a basic human right of every child to get early literacy experiences through playful activities and games. It also examines various ways of implementing joyful and interactive activities to develop children's skills in early literacy across the preschool programme. The present paper focuses on how teachers' capacity need to be strengthened because early literacy is crucial to future learning and language is the basis to learn other subjects. It also recommends for strengthening the early literacy component in the training programs designed for the preschool and grade one teachers.

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Introduction

Why Early Literacy in Preschool Years?

Early literacy is most popularly defined as—what young children know about reading and writing before they can actually read and write. In fact, early literacy skills begin to develop right from birth. Positive early experiences of a child with books and language provide the basis for success in learning to read. The first foundational years of a child's life are critical since the rate of development in these years is more rapid than at any other stage in an individual's life. About 90 per cent of brain development has already taken place by the time a child is six years of age, making the early years a crucial stage for intervention. Through studies, it is observed that from birth to age five the brain develops more rapidly than at any other stages of life. It is also most sensitive to influences from the external environment (such as cognitive stimulation, language development, care, imagination, etc.). Under the *Samagra Shiksha* scheme, the pre school program is recognised as a critical component of the current *Padhe Bharat Badhe Bharat* programme, which focuses on basic early language and literacy learning, and early numeracy in early primary school grades, thus identifying the continuum from preschool to early school grades (Classes 1–3). Today the *Samagra Shiksha* scheme envisages the school as a continuum from Preschool to senior secondary stage. The Right to Free and Compulsory Education Act (RTE Act) which came into effect in April 2010 also addressed Early Childhood Education under Section 11 of the Act which states "with a view to prepare children above the age of 3 years for elementary education and to provide early childhood care and education for all children until they complete the age of six years, the appropriate government may make necessary arrangements for providing free pre-school education for such children". Goal 4.2 of the Sustainable Development Goals 2030, adopted by the Government of India states that "by 2030, all girls and boys should have access to quality early childhood development, care and pre-primary education so that they are ready for primary education". Add proper references and also provide the link of the website in reference section. There are many kinds of research that suggest that preschool experiences are linked with later primary school achievement and social and emotional wellbeing of children. Preschool education is a smart investment that a country like India should make to promote sustainable learning opportunities for all children. This would prevent the repetition of grades and dropout rates in primary classes. How young children acquire early literacy, has gained the attention of educators and policymakers. This can be clearly seen in the draft National Education Policy, 2019 (NEP) where the emphasis has been given to preschool education and

foundational literacy and numeracy. In the light of the current draft policy (NEP, 2019) the teachers and teacher educators in ECE are being asked to have an understanding of quality parameters of ECE, i.e., issues and challenges in ECE, how to provide rich, and meaningful early literacy experiences to all our young children who come to anganwadis and/or preschool centers.

UNESCO describes literacy as being capable of identifying, knowing, reading, developing, interacting, computing and using printed materials associated with different contexts. It involves a learning continuum to enable individuals to achieve their goals, develop their knowledge and potential, and fully participate in their community and wider society. Despite the fact that there is a strong relationship between early literacy learning and later academic success, very limited attention has been drawn on this aspect. Still, the pre-school and early primary grades teachers are not actually working together. There is a need to focus on how the teachers should work together for sustainable development.

To bring quality in primary school education and enhance the literacy levels of primary school children, it is essential that the standard of preschool literacy level should be improved and continuity needs to be maintained in early primary classes. For this there's a need to pay attention to few important parameters such as what experiences the young children are bringing from home, inputs of pre-service training and in-service training/workshops for teachers, parents involvement in pre-school activities (at the school and at home). Apart from this, the teacher-child ratio, classroom display, and overall environment, interactions among teacher and children on one- to- one basis, child to child interactions, play in small groups, availability of age and developmentally appropriate teaching-learning materials and pedagogical practices are some very important elements of quality preschool education that would help to attain early learning outcomes (ELOs). These parameters also would help to achieve other domains that are interdependent and interrelated namely—physical and motor, socio-emotional, linguistic, cognitive, and aesthetic appreciation development.

Objectives

The major objectives of the research paper are to—

1. study the preschool language learning environment,
2. develop and equip early literacy materials for children in activity areas,
3. provide inputs to teachers by using a variety of materials, and learning strategies,
4. follow the interventions by using a sustainable monitoring mechanism with the support of RIE faculty.

What were included in the Early Literacy Activity Area or Zone?

The focus was on child-initiated play in activity areas where each activity area was created and organised keeping the literacy in the context. Each activity area was developed into an interesting and valuable place for early literacy learning. These were stocked with developmentally appropriate materials so that children would get an opportunity to use and see the labels and print in a variety of ways such as when making a card for the parents or grandparents, teachers used to encourage children to use alphabet stamps to print the letter with which their name begins for example— teacher calls out and say, "Beena, you have 'B' in the beginning, so try to find out the letter stamp with 'B' on it and print with it on the card." Each area was equipped with a variety of print-rich materials-both information and graded storybooks, song picture books, big books, puppets, dolls, writing tables, running blackboard, chalks, crayons, lined and unlined papers along with writing tools (Thick crayons, markers, chalks). All areas have rug, small chairs and cushions. Each activity area was duly labeled with their names. These areas were further divided into zones using a rug or a shelf as a divider. Sometimes for example, in the block building area, children create own story about their construction (e.g., what they build with blocks). They also label and make signs for their buildings so as to make early attempts at functional writing. In these well-designed areas, children use language to communicate and exchange ideas and thus would increase their fluency and vocabulary. Materials and supplies that are frequently were kept in clearly labeled boxes. The activity area also has a 'word wall', age-appropriate sight words chart displayed at the eye level of children, attendance signing chart, alphabet charts, number charts, classroom job responsibilities chart and storage shelves that were duly labeled with print and pictures for easy accessibility of play materials for children, and so on. Samples of children's work were also displayed at the eye level. They had also introduced the 'technology area' although teachers still need to be guided about how to use it with children.

What kind of Intervention Strategies were used?

It has been assumed that pre-requisites of preschool personnel are well trained and qualified pre-school teachers who are groomed to handle young children and equipped with certain professional skills that helped them to offer high quality print rich and emotionally supportive early learning environments for young children so that they could reach their full potential. During the designing and interventions in these preschools, the preschool personnel of all the four RIEs has been guided on creating the print rich environment and duly labeled activity areas to provide meaningful experiences that were provided through variety of activities using activity areas in the

classroom. The teachers were guided to create a printrich environment in the classrooms by using a variety of pedagogical practices to promote early literacy. The investigator created the eight activity areas in the model preschools. These were— reading area or language area, block building area, dolls area, discovery area (early science area), manipulative area, art area, writing area, music and movement area, water and sand play area. Apart from offering free play facilities in small groups to explore and interact with the materials in these areas, the purpose was to make these areas meaningfully print rich and thus care was taken to integrate language and early literacy learning into the classroom environment along with all aspects of a preschool program. Promoting literacy in these activity areas for example, putting labels along with numerals in these areas, adding literacy related play materials such as alphabet and number dominoes, blocks, alphabet puzzles, graded storybooks, story cards, etc. The investigator also organised a one week orientation program for all the teachers. Before the interventions, four days training program for the development of teaching-learning materials and three days short training program on emergent and early literacy for the preschool and grade one teachers of the sampled preschools was also organised. That was intended to raise teachers' capacity in pre-school education (PSE). Even the children were small and not able to actually read, but looking at the pictures, graphic images with print accompanying these, and other prints in the environment helps children make connections between what is heard and said and the written symbols of language. Thus, the teachers need to focus on how a young child learns and how to prepare each child of her classroom to move from preschool to grade one. For example, apart from promoting literacy in activity areas, read aloud, phonological awareness activities, labeling on the learning material boxes, attendance signing chart for children at the eye level and sign at the time of entry to the classroom were used. These were just a few examples of transactional strategies for early literacy. However, as said earlier, teachers need to learn about the pedagogical practices for strengthening the early literacy domain at the preschool stage.

How to support and enhance young children's early literacy experiences at the preschool stage?

- Creating a print-rich environment and promoting literacy in activity areas at the preschool is the first and utmost priority of all the teachers. Accordingly, the teacher is supposed to plan how to use the environment to enhance children's learning. One of the most important responsibilities of the preschool and early primary grade teachers is to help young children develop skills in language and literacy.

- The way the children perceive, imitate and reflect on their experiences depends mainly on their skill of using verbal symbols. Secondly, a well-planned schedule or a preschool programme that has ample opportunities for both whole group and small group activities, teacher and child initiated activities such as storytelling by teacher and children looking at the books (print and picture) in the reading area or during circle time.
- Creating a reading area or language and literacy area is another important crucial area at the time of zoning of areas. Children need to be given lots of opportunities to listen, talk, pretend, look at, read aloud and explore writing so that they view themselves as literate.
- Storytelling or read aloud is a must do activity where the teacher reads the front and back cover, moves her finger beneath the print and draws children's attention towards print. Talking, singing, language games such as word games, sound discrimination games, matching sounds with printed letters, hunting the letters, etc., are some of the popular language and literacy games.
- Every part of the preschool education program should offer them opportunities for early literacy development. For this, teachers need to engage all her children coming from different backgrounds, having varying abilities and also connect with their families so that she could help them reach their full potential. The journey of early literacy begins before the child enters early primary school as the children listen to stories, sing songs or rhymes and play games in their social environment. Unfortunately, all the children do not get the appropriate literacy-rich environment during their early years.
- It is, therefore, the quality of the preschool environment which is very essential for language building interactions where children learn from age and developmentally appropriate play materials and resources. First of all, children need exposure to oral language experiences and activities, such as read aloud stories, reading labels and signs in the environment along with the teacher. The teachers need to further build the skills of children that they would require as they move to early primary grades. It is the pre-school teachers who have to take the lead and make major contributions so the children flourish in early literacy through play activities and experiences. In the study conducted by the investigator, storytelling is a daily activity of the preschool. Strong foundations in early literacy help children in making them ready for primary school education and develop a positive attitude towards lifelong learning. This is attained through the development of four basic language skills, i.e.,

listening, speaking, and in terms of early years of education, it is reading readiness and writing readiness.

- Developing a sustainable foundation in early literacy empowers young children to continue and complete their elementary and senior school education, and thus the chances to go for higher education increases to a great extent Therefore, it is essential that whatever language experiences are provided need to be meaningful and functional so that children can use these for a range of purposes in their daily routine activities. The study also recommended linkages between pre-school and early primary grades as it is an area of concern for different stakeholders. It is recommended that there is a need to have a continuum in curriculum planning and transactional strategies with early primary grades especially in language and literacy for a smooth transition.

To sum up, designing such training programs for both the preschool and early grades teachers is the need of the hour. It is a well-known fact that appropriate professional teacher development opportunities for building teacher knowledge in language and early literacy domains are critical to the future academic success of children. Children who have strong foundational skills in language and early literacy enter grade one smoothly without any stress and are ready to learn read and write age appropriately. All preschool and early primary grade teachers play a very important role in enhancing early literacy interests and abilities of young children in their care. Therefore, teachers should give appropriate attention to issues of continuity in language and early literacy pedagogy during transitions from preschool to early primary grades also.

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Cognitive Abilities of Visually Impaired Students in Relation to their Certain Demographic Variables

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Abstract

The primary objective of this paper is to assess and compare the cognitive abilities of visually impaired students studying in Class VIII with regard to certain demographic variables. This study has covered three demographic variables namely gender, age of onset of visual impairment and students categorised on the basis of visual impairment. Data of the study were collected from ninety-one visually impaired students of Class VIII studying in special schools of Kolkata using two stage random sampling design. Indian adapted version of WISC-R (Verbal) for the visually impaired children developed and standardised by National Institute for Empowerment of Persons with Visual Disabilities (NIEPVD), Dehradun was used as a tool for data collection. The collected data was analysed with the help of statistical techniques like mean, SD and t value. The results of the statistical analysis revealed that there is a significant difference in the cognitive abilities between visually impaired boys and girls. It indicates that visually impaired boys are having relatively higher cognitive abilities than visually impaired girls. Furthermore, it was found that visually impaired student's cognitive abilities did not differ significantly with respect to age of onset of blindness as well as to students categorised on the basis of visual impairment.

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Introduction

Vision is one of the most important medium for acquiring knowledge. An individual's perceptual senses are directly or indirectly linked through vision and it is through visual perception that we can best understand his cognitive development (Cohen, 1969). The role of vision in the intellectual development process is clearly evident in the theory of Piaget. Since visually impaired persons lack vision, the effects of blindness are basically cognitive in nature. It implies that vision plays an important role in cognition. So, for children with visual impairment, their needs in this area will show specific differences as compared with other sighted children. Numerous speculations have been offered with respect to possible effect of visual impairmenton cognitive functioning and also to assess whether or not, conceptual development varies in cases of visual impairment.

Lowenfeld (1948) had identified and pointed out clearly that blindness imposes three general restrictions, all of which may have influence on cognitive development: (i) in the range and variety of experiences (ii) ability to get about (iii) control of environment and self in relation to environment. This is also in consonance with the work of Elonen and Zwarensteyn (1964) who had found in their study that ability to conceptualise depends on two things simultaneously, i.e., on all of the concomitantly developing skills and experiences of each child through all his senses. On the other hand, Corso (1967) found that sensory deprivation did not, in general, affect cognitive functioning. Similarly, Bateman (1967) and Jurma (1967) postulated that blindness itself is not seen to be a "factor hindering differentiation" of mental ability, and if the brain (information processor) and expressive abilities (output systems) are functioning properly, cognitive abilities would not be affected. Pathak (1992) reported that cognitive abilities develop more slowly in visually impaired children than in sighted children. However, Rathore (1990) reported that there is no significant difference in cognitive abilities between blind and sighted children. It means that a visually impaired child needs for cognitive development is a systematic and appropriate instruction to overcome the deprivations resulting from loss of vision. Hallahan et. al. (2009) conducted a comparative study on cognitive abilities of adolescents with visual impairments with their sighted peers that found cognitive abilities is similar in most cases and finally concluded that vision loss does not result in lower cognitive abilities. One reason for this finding might be explained by them that, blindness does not necessarily involve the brain. So, no cognitive deficit is expected to occur due to lack of sight. Various studies suggest that by promoting effective usage of all other sense organs amongst children would facilitate systematic development of

cognitive functions. The educational program must include opportunities for utilisation of residual vision and other sources of sensory input to maximise sensory stimulation.

Need of the Study

There are many explicit and ample number of studies available, which have explored the cognitive abilities of sighted students and its relationship with various psychological as well as demographical variables. However, there are very few studies that have been conducted to find out relationships between cognitive abilities of visually impaired students and certain demographic variables, i.e., gender, age of onset of visual impairment and students categorised on the basis of visual impairment. Hence, it was considered worthwhile to study and find out the probable association between these variables. To bridge this lack of information, the present study has tried to explore associations between these variables with reference to visually impaired students.

Motivation

Gottfredson (1997) and Trippe (2005) stated that cognitive abilities are collection of abilities which enables an individual to reason, think abstractly, plan, solve problems, comprehend complex ideas, learn quickly and learn from experience. It was further reported by Cronbach (1984) and Dicken (2008) that cognitive ability refers to overall mental ability of an individual and can be used synonymously with intelligence and can be assessed with the help of intelligence tests.

Vision plays a pivotal role in cognition, and children having impaired vision would have difficulty in experiencing things through other senses. The need for holistic understanding of cognitive abilities of visually impaired children is of great importance and demands more attention at present time. Against this backdrop, researcher has tried to assess cognitive abilities of visually impaired children with reference to certain demographic variables.

Objectives

The study purports to compare—

1. the cognitive abilities of visually impaired students studying in Class VIII with respect to gender,
2. the cognitive abilities of visually impaired students studying in Class VIII with respect to category of visual impairment,
3. the cognitive abilities of visually impaired students studying in Class VIII with regard to age of onset of visual impairment.

Hypotheses

As per the objectives of the study, following null hypotheses were formulated and tested at 0.05 level of significance.

1. There is no significant difference in cognitive abilities of visually impaired students with respect to gender.

2. There is no significant difference in cognitive abilities of visually impaired students classified on the basis of category of visual impairment.
3. There is no significant difference in cognitive abilities of visually impaired students with respect to age of onset of visual impairment.

Keywords

In this section, the major keywords used in the present study are given.

1. Age of onset of visual impairment – It refers to age at which sight is lost or child becomes blind. It is divided into two age groups:
   A. Congenital Visual Impairment: A child who is born blind or lost his sight before he was 5–7 years of age refer to congenital blind. They do not retain a useful visual imagery nor most likely any color ideas. They rely completely upon their nonvisual senses and must be educated by methods adapted accordingly (Lowenfeld, 1973).
   B. Adventitious Visual Impairment: An adventitious visually impaired child is one who lost his sight (may be gradual or abrupt) later in life and may retain visual imaginary and color ideas of which they make use in their learning process. However, they are not able to make any current visual observation (Lowenfeld, 1973).
2. Students categorised on the basis of Visual Impairment— Students with Visual Impairment (VI) display a wide range of visual disabilities, ranging from total blindness to relatively good residual vision. The Persons with Disability Act (1995) defines visual impairment in terms of blindness and low vision.
   A. Blindness refers to a condition where a person suffers from total absence of sight or visual acuity not exceeding 6/60 in the better eye with corrective lenses or limitation of the field of vision subtending an angle of 20 degree or worse.
   B. Low vision refers to a condition where a person with impairment of visual functioning even after treatment or standard refractive correction, but who uses or is potentially capable of using vision for the planning or execution of a task with appropriate assistive device.
3. Cognitive abilities in the present study refers to scores obtained by visually impaired students on six sub-tests such as information, similarity, arithmetic, vocabulary, digit span and comprehension which are the parts of Indian adapted version of WISC–R (Verbal) developed and standardised by NIVH for visually impaired children.

Methodology

Keeping the objectives of the study in mind, descriptive survey method was used to collect the data.

Tools used

In order to assess the cognitive abilities of visually impaired students, an Indian adapted version of WISC-R (Verbal) for the visually impaired children developed and standardised by National Institute for Empowerment of Persons with Visual Disabilities (NIEPVD), Dehradun was used in the present study. This test consists of six subtests, i.e., Information, Digit Span, Similarity, Arithmetic, Vocabulary and Comprehension. Wechsler considered these subtests as the most important cognitive abilities and classified them as being primarily verbal test (Wechsler, 1974). During the adaptation process reliability was established by test–retest technique by NIEPVD and was found to be ranged from 0.89 – 0.98 for six subtests. During the adaptation process, validity was determined by Concurrent Validity and found to be 0.94.

Sample and Sampling Design

A two-stage random sampling design was followed in the present study. Four blind schools from eight blind schools functioning in Kolkata namely Ram Krishna Mission Blind Boys academy (located in Narendrapur), Light House for the Blind (located in Kalighat), Kolkata Blind School (located in Behala) and Voice of World (located in Behala) were selected randomly in the first stage of sampling.

After that, for the second stage of sampling, from each of the sampled blind schools selected in the first stage, all the visually impaired students studying in Class VIII, i.e., whole class was selected in order to get a suitable number of samples for the study. Visually impaired students of Class VIII were particularly chosen. This was done as students of this class comes under adolescent stage. This stage is referred as Formal Operational stage in Piaget theory of cognitive development. Piaget asserted in his theory that most of the cognitive abilities are likely to develop in a child at this particular stage. This is also invariably observed among visually impaired students studying in this class (Advani, 1992). However, in case of visually impaired children, this stage of cognitive development like other stages of cognitive development proposed by Piaget may be delayed by some time depending upon their early identification and intervention but couldn't be skipped altogether (Advani, 1992). Thus, the sample consisted of a total of 91 visually impaired students (66 visually impaired boys and 25 visually impaired girls, 31 students having low vision, 60 students were blind, 61 students having congenital visual impairment, 30 students having adventitious visual impairment.

Data Analysis

The mean, SD and t-test were used for data analysis.

Results

The results are presented in the following tables—

It is found from Table 1 and Figure 1 that computed value of t exceeds the critical value of t with 89 degree of freedom at 0.05 level of significance. This indicates that differences are significant and consequently null hypothesis is rejected. It can be concluded from the obtained results that the cognitive abilities of visually impaired boys and girls differ significantly, and this difference should not be attributed merely due to a chance factor. The mean scores of visually impaired boys (103.14) on WISC-R (Verbal) are higher than the mean scores of visually impaired girls (94.93). Hence, it could be inferred that visually impaired boys have relatively higher cognitive abilities than their counterparts and cognitive ability gets affected by gender.

Table 1
The t-test of the Mean Score of Visually Impaired Boys and Girls on WISC-R Verbal

Variable	Gender	N	Mean	Mean Difference	Standard Error Difference	t-value	Level of Significance
Gender	Boys	66	103.19	8.25	2.58	3.215 (significant)	0.05
	Girls	25	94.93				
df=89, Table value of t=1.99							

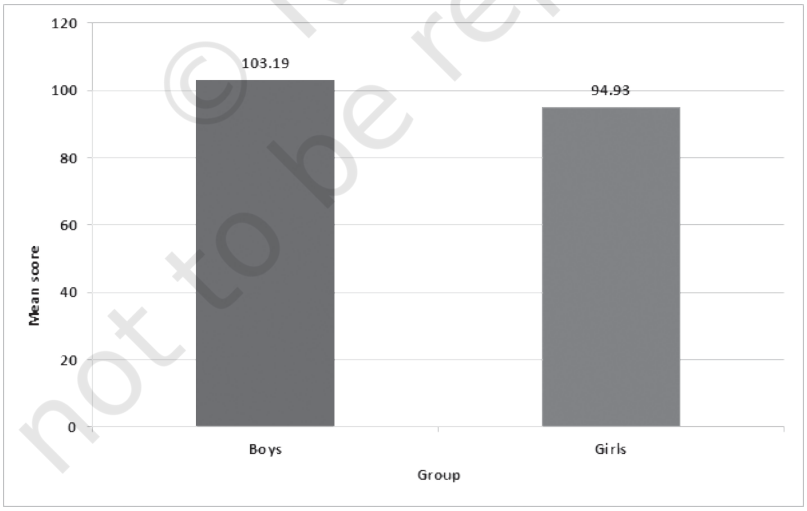

Figure1: Mean sores of visually impaired boys and girls on WISC-R (Verbal)

It is found from Table 2 and Figure 2 that computed value of t is less than the critical value of t value with 89 degree of freedom at 0.05 level of significance. This indicates that result is statistically not significant and consequently null hypothesis is accepted. It can be concluded from the obtained result that both groups, i.e., students having low vision and those students who are blind do not differ significantly on WISC-R (Verbal), and the difference is likely due to chance factor. The mean scores of these two groups are 101.3 and 100.6 respectively. This difference is not significant and it can be inferred that students with low vision and blind students performed in a similar way on WISC-R (Verbal) and cognitive abilities do not get influenced by low vision or blindness.

Table 2
The t-test of Mean Score of Low Vision and Blind students on WISC–R Verbal

Variable	Group	N	Mean	Mean Difference	Standard Error Difference	t-value	Level of Significance
Gender	Low Vision	31	101.3	0.660	2.55	0.25 (significant)	0.05
	Blind	60	100.6				
df = 89, Table value of t = 1.99							

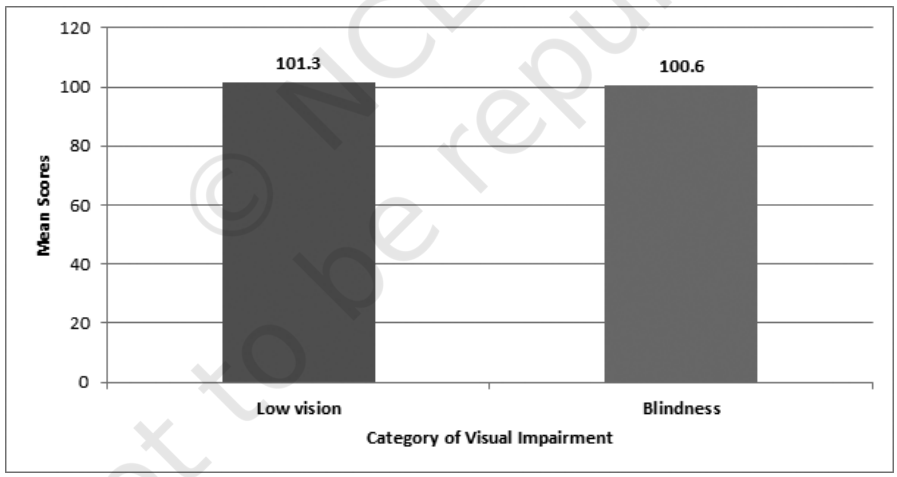

Figure 2: Mean scores of low vision and blind students of on WISC-R (Verbal)

It is found from Table 3 and Figure 3 that computed value of t is less than the critical value of t value with 89 degree of freedom at 0.05 level of significance. The result is statistically not significant and consequently null hypothesis got accepted. It can be inferred from obtained result that both groups, i.e., congenitally and adventitiously visually impaired children do not differ significantly on WISC-R (Verbal) and the difference is likely due to chance. The mean scores of these two groups are 101.3 and 100.6 respectively. Although the difference is not significant but it indicates that Congenitally blind students performed slightly better than Adventitiously blind students in WISC-R(Verbal).

Table 3
The t-test of Mean Score of Congenital and Adventitious Visually Impaired Students on WISC-R Verbal

Variable	Group	N	Mean	Mean Difference	Standard Error Difference	t-value	Level of Significance
Age of onset of Visual Impairment	Congenital	61	101.7	2.431	2.43	0.994 (significant)	0.05
	Adventitious	30	99.2				
df= 89, Table value of t = 1.99							

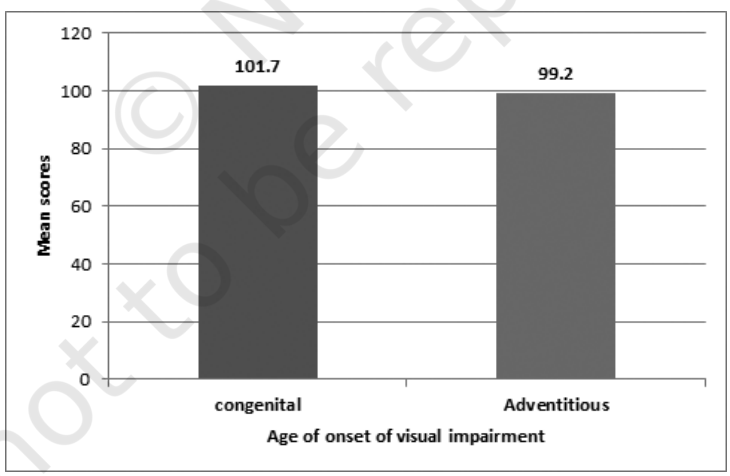

Fig.3: Mean scores of congenital and adventitious visually impaired students on WISC-R (Verbal)

Findings

The findings of the study are presented in this section.

- Visually impaired boys and girls children differ significantly in their cognitive abilities. It implies that visually impaired boys students have relatively higher cognitive abilities than visually impaired girls.
- Low vision and blind students do not differ significantly in their cognitive abilities. It implies that students having low vision and those who are blind are almost at par in their cognitive abilities.
- Congenitally and adventitiously blind students do not differ significantly in their cognitive abilities. It implies that performance of congenitally blind students seems to be relatively better than their counter parts.

Discussion

From the analysis of data, it was observed that there is a significant difference in cognitive abilities between visually impaired boys and girls. This indicates that visually impaired boys performed comparatively better than their counterparts on WISC (verbal). The discrepancy perceived in the cognitive abilities with reference to gender may be attributed to the effect of sociocultural factors. Anjalmose and Arumungam (2018) and Ranganathan and Wadawa (2017) reported in their studies that sociocultural factors are large scale forces like family patterns, family's financial status, parenting styles, interpersonal relationship, cultural deprivation and attitude that are present within culture and society that affect thought, feelings and behaviours of the gender. This in turn influences their cognitive abilities. This finding also corresponds with the findings of some previous studies conducted by Shah and Godiyal (2008) who found that boys reported higher cognitive abilities than girls and also claimed that cognitive performance of students depends on sociocultural factors. Begum (1993) and Singh et. al., (2010) reported in their studies that parents have a tendency to exhibit more favorable attitude towards their differently abled son than towards their differently abled daughter. Further, sometimes due to early intervention and early entry in the school, visually impaired boys receive sufficient training in their plus-curricular skills as compared to their counterparts (Singh et. al, 2010). In order to perform well in curricular aspects, a visually impaired child needs a compensatory curriculum referred as plus-curricular activities which includes braille reading and writing, daily living skills, orientation and mobility, multi-sensory training, using assistive devices (Mani, 1992). In due course of time, they tend to discover different study procedures and study habits in comparison to their counterparts that may lead to their better performance in testing conditions.

Further, it was found that performance of students with low vision is somewhat similar to blind students of class in WISC-R (Verbal). It is obvious that a child who was born totally blind experiences the world around him in a different way than the child who is having low vision. The former must make use of his non-visual senses, while the latter can gain knowledge of the world by use of his vision as well as of his other senses. Individualised educational plan (IEP) based on students' current level of functioning in the following area (academic skills, communication skills, sensory motor skills, daily living skills) developed by the school for both groups might be probable reason which enable them to perform in a similar manner in the test. Along with this, resource room was equipped with embossed 3D models, books in braille and print, magnifier and other optical and non-optical aids. Availability of various useful software (for enlarging prints and to convert print to audio) in the school is another probable reason that facilitates and fosters their learning which in turn help them to perform well in academics.

Another finding of the study indicates that congenitally blind students reported slightly better than adventitiously blind students on WISC-R (verbal). The results of this study get sustenance from an exploratory study that was carried out by Kapoor and Sen (1984), who had compared the congenitally and adventitiously blind with their sighted peers with respect to some cognitive and psychological variables. They claimed that performance of congenitally blind students is better than adventitiously blind students on cognitive variable. In Congenital blindness the external world is specified right from the beginning in terms of information contents of non-visual stimulation and central nervous system is programmed accordingly, whereas when blindness sets in at a later stage, nervous system reprogrammed and behavioural sequences depending upon visual feedback discontinued and new behavioural sequences are to be assembled and maintained. Consequently, the child faces lots of problem in adjusting to the new media of reading and writing, i.e., braille that in turn lowers their self-confidence. These may be the probable reasons of the above findings.

Conclusion

To sum up, we can infer that visually impaired children need systematic instruction to overcome the deprivation resulting from loss of vision. Assessment of their cognitive abilities with respect to gender, age of onset of visual impairment and categorisation on the basis of visual impairment will render a great help to teachers, special educators, parents and curriculum designer in structuring and improving total teaching-learning process. And through some pedagogic innovations, teachers can incorporate various activities in the classroom that will help to strengthen cognitive abilities in visually impaired children.

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