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राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
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About the Journal

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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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EDITOR'S NOTE

National Education Policy, 2020 has highlighted the importance of holistic development of learners and it further recommended that in order to realise this, our education system needs to move away from the culture of rote learning and should move towards real understanding and learning 'how to learn'. Policy further mentioned the aim of education as building character and creating holistic and well-rounded individuals equipped with the 21st century skills, apart from cognitive development. It also underlines the importance of using appropriate pedagogy in classroom, which is experiential, holistic, integrated, enquiry-driven, discovery-oriented, discussion-based, and enjoyable. The present issue of *Journal of Indian Education (JIE)* discusses some of these themes, ideas and concerns through research papers, articles and case studies.

In 'Towards Competency based Education—*National Policy on Education, 2020*', Sandhya Sangai has elucidated the significance of competency based education approach for school children. In this regard, the researcher has discussed the suggestions given by *National Education Policy 2020* to take forward the learning outcomes based approach to make education system more organic and responsive. The second paper by Sankaranarayanan Paleeri, through an empirical study, has explored the effectiveness of creative dramatics teaching method on achievement in social science, learning joyfulness and creative sense. The study reveals that the creative dramatics method is effective in developing achievement in social science among secondary school students. Findings also reveal that this method has high impact on learning joyfulness and creative sense.

Gender equity is one of chief goals listed under Sustainable Development Goals and the nascence of imparting self-consciousness with knowledge is a significant milestone in the journey of accomplishing the stated goal. Tripti Bassi calls the attention on the subject through the article titled 'Emancipatory Pedagogy— Teaching of Gender in an Elementary Teacher Education Programme'. The paper focuses on the driving force of emancipatory pedagogy that brings in liberating experiences through the process of self-reflective enquiry, thus addressing issues central to the lives of women.

Rakesh Kumar and Moushmi Kumari have studied the effect of cooperative learning activities in enhancing logical thinking, problem solving and decision making skills among 50 students from Class X Bhagalpur, Bihar. The study concludes that cooperative learning plays a significant role in enhancing these skills and academic achievement of mathematics of Class X students. Tanya Marina Brooks, through the study 'CLIL— A Helpful Teaching and Learning

Approach in the Changing Indian Educational Scenario', has found that students showed great interest in Content and Language Integrated Learning approach and felt it could be useful in the future. 'A Cross-sectional Study of Language Creativity in Hindi Language Learners in relation to Academic Achievement', a study by Anjali, Neha and Pinku, found that language creativity of Hindi language learners in writing skills is affected by their academic achievement levels.

In 'Activity Based Learning in Primary Classrooms—Through the Lens of Philosophical Assumptions', Abhilasha Bajaj has talked about the nature of active learning from the philosophical perspective of Dewey's theory of progressive education, Vygotsky's theory of social context, and the theory of constructivism. These theoretical frameworks have been substantiated with the examples based on observations of teaching-learning practices.

Suparna Aniruddha Murkute has done a study to understand the characterisation of cognitive styles of students of five cultural groups—South Indians, Punjabi, Gujarati, Sindhi and Marathi. The study concludes that the various cultural groups still retain their cultural ideologies and while girls are systematic in cognitive style, boys follow step-by-step approach for solving problems and arriving at a conclusion. In 'Relationship of Psychological Variables with Depression—A Study on School and College Students', Rupan Dhillon and Mehak Arora has found that 'hardiness' is a personality trait that can combat depression and parents can support children by helping them build a 'hardy personality'.

Sian Lalchandami and H. Malsawmi have analysed the exercises of NCERT English textbooks for secondary school students based on the Revised Bloom's Taxonomy. The result reveals that most of the questions were within the first two levels—remembering and understanding and most of the exercises were testing only the factual knowledge. Snehalata D. Ghatol has done an empirical study on gender differences in academic stress among 1000 students from 13 higher secondary schools of Anand district of Gujarat. The study indicates that there is a significant difference between the academic stress of boys and girls. The boys, especially of commerce stream, have high academic stress than the girls.

In 'Tracing the Idea of Fit and Healthy Students in the Thoughts of Some Eminent Educationalists of India', Ritesh Gupta has traced the idea of healthy students in the educational thoughts of Vivekananda, Aurobindo, Madan Mohan Malaviya, Lala Lajpat Rai and Syama Prasad Mukherjee. The paper reveals that these figures were concerned about the health and fitness of Indians and appealed for physical education and sports in schools and colleges.

In 'Widening the Scope of National Testing Agency', Jagdish Singh and B.P. Bhardwaj have suggested short and long term pathways to enhance the scope of National Testing Agency. By analysing different international experiences, the authors argue in favour of making NTA a statutory body, which will provide teeth in terms of providing it financial and administrative autonomy. Shariqa Hussain and Reetu Chandra have presented a book review of the book titled *Rethinking Play as Pedagogy* edited by Sophie Alcock and Nicola Stobbs, and have found the book worth reading for readers who want to understand the use of play as pedagogy and tool for child development. The researchers have emphasised that this piece of literature would be fruitful for those who would like to take up research studies in this area or implement this concept into practice.

This issue of JIE presents 14 thematic and research papers on a variety of themes and issues under School Education and Teacher Education and One book review. We hope that our readers will be able to relate their personal experiences with the issues and concerns discussed by the authors of these articles/research papers. We also look forward to suggestions and comments on the articles published. We invite our readers to contribute to the journal by sharing their knowledge in the form of articles, research papers, case studies and book reviews.

Vijayan K.
Academic Editor



Empowerment of Girl Child, Responsibility of All

Towards Competency Based Education National Education Policy, 2020

SANDHYA SANGAI*

Abstract

Competency based Education (CBE) is an outcome-based approach, which focuses on ensuring proficiency in learning in terms of skills, values, attitudes and knowledge required for real-life situations. In the context of school education, this refers to such systems of teaching-learning, assessment and academic reporting wherein students exhibit that they have learned the knowledge and skills they are expected to learn as they progress through different grades and levels of education. CBE is essentially a learner-centred approach, and teachers are the facilitators who would enable the transfer of knowledge and skills, and create a positive attitude and motivation for learning. However, in the present context, complete implementation of the principles of CBE is not possible. The system should focus on the development of appropriate ways of achieving learning outcomes for each grade and stage. The learning outcomes are expected to represent the holistic development of the learner. It is crucial to take teaching, learning and assessment together, one complementing the other and portrays a holistic picture of the child. In order to make the education system organic and responsive, the National Education Policy 2020 has suggested certain actions to be taken forward following the learning outcomes based approach.

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INTRODUCTION

One of the fundamental principles of the *National Education Policy (NEP) 2020*, which will guide both the education system at large, as well as the individual institutions within it, is identifying and furthering the unique potential of each student by sensitising children, teachers and parents and making them partner in the holistic development of each child. Conceptual understanding should be emphasised rather than rote learning. Developing and nurturing essential life skills, such as communication, cooperation, teamwork and resilience on one hand and creativity and critical thinking on the other hand to encourage logical decision-making and innovation are core to the policy. The policy also bats for regular formative assessment for easy learning and holistic development (360 degrees) instead of summative assessment that encourages rote learning or learning for exams. Besides these academic aspirations, the makers of the policy have envisaged that the curriculum and pedagogy of our institutions must develop among the students a deep sense of respect towards the Fundamental Duties and Constitutional values, bonding with the country, and an awareness of one's roles and responsibilities in a changing society.

Competency based learning or Competency based Education (CBE) is an outcome-based approach to education. The focus of this approach is to ensure proficiency in learning

by students through demonstration of the knowledge, skills, values and attitudes required for dealing with real-life situations. The competencies or proficiencies need to be identified and marked at the age and grade-appropriate level.

COMPETENCY BASED EDUCATION— THE CONCEPT

The word 'competency' has been framed from the word 'competence', which means having the ability or skill needed to achieve something. It represents a mix of knowledge, skills and attitudes and it is a set of demonstrable attributes and skills that would enable and improve the performance of a task or job. Taking the cue, the word 'competency' can be understood as the representative mix of observable and measurable knowledge, skills, abilities and personal attributes contributing towards enhanced performance and ultimately success. In the context of education, competency-based education refers to such systems of teaching-learning, assessment and academic reporting wherein students exhibit that they have learned the knowledge and skills expected from them to learn as they progress through different grades and levels of education. The concept of Competency based Education (CBE) evolved after several years of research. CBE is essentially a learner-centred approach and it is based on the following four key beliefs: learning belongs to individual;

it is competency based; it takes place anytime, anywhere; and children have ownership over their learning. In a CBE system, teachers are considered as important facilitators who would enable transfer of knowledge and skills, and create positive attitude and motivation for learning. Such a system, when guided by a well-planned set of educational goals, leads to a deeper learning process, which yields necessary outcomes, required to prepare every student for life ahead.

WHAT ARE ESSENTIAL SKILLS?

The foundational skills like communication, creativity, critical thinking, problem solving, collaboration and many others are identified as 21st century skills. These skills are core not only for individual success but also for organisational success. In the case of education, it is increasingly felt that the turnouts of the system are not doing good enough on these essential skills and this is why we find a mismatch in the world of education and the job market. However, the present policy takes a serious cognizance of it when it says: 'Curriculum content will be reduced in each subject to its core essentials, to make space for critical thinking and more holistic, inquiry-based, discovery-based, discussion-based, and analysis-based learning'. (Para 4.5 *NEP, 2020*). Interestingly, the Committee on 'Deeper Learning and Defining 21st Century Skills' conducted an assessment of

literature related to the development of these skills (*Education 2012*). The committee indicated that 21st century skills are important dimensions of human competence. In their scheme of classification, 21st century skills consists of three broad but overlapping cluster of competencies that included cognitive, intrapersonal and interpersonal domains. The cognitive is related to concerns, reasoning and memory, the intrapersonal domain involves the ability to manage behaviour and emotions to achieve one's goals and the interpersonal domain entails expressing ideas, comprehending and responding to thus messages. The *National Research Council (NRC) Report (2012)* supports that young people who develop and apply these intertwined competencies are likely to be more successful.

Competency Based Education and Learning Outcomes

In the context of school education, in general, it will be appropriate to say that while the goal of competency based learning is to ensure that more students learn what they are expected to learn, due to the ineffective

Research on teaching and learning has begun to illuminate how intrapersonal and interpersonal competencies support the learning of academic content. A primary product of deeper learning is the ability to know how, why and when to use and transfer knowledge, to answer questions and solve problems.

and incomplete implementation of the principles of CBE, the picture changes and instead students study till the end of the academic year. Students are promoted to the next grade, whether they have fully learned the concepts and skills or not. However, students' progress is observed and recorded on the basis of competencies achieved, without a time-barred compulsion. Therefore, in the school education context, it would be better to make the system focus on the development and achievement of learning outcomes for each grade and stage in such a way that it represents holistic development of the learner. In common understanding, the basic difference in competency and learning outcomes is that competency is a general statement that describes the desired knowledge, skills and behaviours of a student passing out a programme or completing a course, whereas competencies are the applied skills and knowledge that enable people to successfully perform in professional, educational and other contexts. On the other hand, outcomes is understood in terms of a *specific* statement that describes what a student should be able to do and it is measurable in some way. There could be more than one measurable outcome defined for a given competency. Let us try to understand the concept with a few examples.

Let us say 'Critical and Creative Thinking' is a competency. The specific learning outcomes for this competency will be different for

different stages, from foundational to the secondary level. At the end of preparatory stage (Class V), the learning outcomes for competency building could be such that the child makes connections across subjects and situations; asks relevant and probing questions; tries to think and express critically; offers one's own solutions; tries to use aesthetic sense (drawing, story developing, etc.) to support viewpoint, etc. When we move to the higher stage, the learning outcomes could be that the student recognises the differences among facts, opinions and judgments; meaningfully responds to logical fallacies; seeks feedback; evaluate and reflect to revise the outcome; uses aesthetic ways to appreciate and support the development of the learner's competencies in different spheres across the different subjects. The educators and policy makers should plan and prepare on broad learning outcomes to ensure uniformity if in case the large-scale assessments are to be conducted. Teachers and schools should be given freedom to break these learning outcomes for assessing the learning progress of the child authentically. The NCERT had discussed this concept in its document titled *Learning Indicators and Learning Outcomes (2015)*.

Learning Outcomes and Assessment

A learning outcome should be written in such a way that it is precise and

can be assessed. It should focus on what the student is able to do after learning a particular concept and ultimately at the end of a class. Thus, learning outcomes become the basis for an assessment programme focusing on what a student can or should be able to do either upon completion of a course or class. The approach can also provide educators and teachers with more detailed or fine-grained information about student's learning progress, which can help them identify academic strengths and weakness, as well as the specific concepts and skills that the students have not yet mastered. When the academic progress is tracked and reported by learning outcomes in schools, teachers and parents often know more precisely what specific knowledge and skills students have acquired or may be struggling with.

Assessment needs to nurture Higher Order Thinking Skills (HOTS) among children. It is evident that all children do not learn at the same pace and in the same way. Learning is largely associated with inherent talents and abilities and therefore, it requires using multiple strategies to deal with a set of students in the classroom. That is why, the need for individualised assessment as an integral part of teaching-learning process is emphasised. The system of CCE and School based Assessment (SBA) is considered more helpful so that the learning needs, difficulties and gaps are identified at an early stage and timely appropriate interventions

are provided to help all the children progress. Both CCE and SBA are based on learner-centric approach with an emphasis on assessment for learning. The only difference is that, under SBA, more freedom needs to be given to the school and to the teacher in the matters of assessment and taking further actions based on assessment. Such a system of assessment is likely to motivate teachers to use action research methodology, review and reflect on their methods of teaching and make necessary improvements, if needed. Rote memorisation and fear or stress from structured syllabus and textbooks will be done away and a new era for developing skills of 21st century will start taking shape. Thus, in order to make education system organic and responsive, it is imperative to take teaching, learning and assessment together, each complementing the other and portraying a holistic picture of the child. For the purpose of reporting, instead of getting grades (A,B,C, etc.) on an assignment or test, each of which may represent a specific achievement level, students are graded on specific learning outcomes, each of which describes the knowledge, skills and behaviour that the students are expected to acquire.

Providing quality education to every child, a resolve of the RTE Act, requires ensuring learning against the expected learning outcomes within the academic year and with the support of the system. These learning outcomes are based on the syllabi considering all round development

of the child—performance in subject areas, various skills, interests and aptitudes, etc.

Taking forward Competency based Approach through Learning Outcomes

In the earlier section, it has been discussed that in the pure form of CBE, students' progress is observed and recorded on the basis of competencies achieved, without a time-barred compulsion. However, in the school education context, it would be better to make the system accountable (as far as possible) for the achievement of learning outcomes by children by developing learning outcomes for each grade and stage. These learning outcomes should represent holistic development of the learner. Some necessary and urgent measures to take forward the learning outcomes based approach, as desired under the National Education Policy 2020 could be as follows:

- All States should prepare SMART (Specific, Measurable, Achievable, Relevant and Time bound) Learning Outcomes (LOs) mapped to the curriculum for every subject and class across different stages (from ECCE to Class XII). These LOs shall be based on the broader LOs developed by the NCERT.
- These learning outcomes should be codified and disseminated to all stakeholders—educational administrators, teachers, students,

parents, community members, etc. These should also be displayed in classrooms and other places of public view and popularised using media and locally popular methods to make them understandable to the public at large.

- Teachers should be given freedom to prepare classroom schedules based on experiential learning and integrating art and other aesthetic activities with education, etc.
- A variety of teaching-learning material including print material, audio-visual material, live TV programmes, phone-in programmes, etc., should be made accessible to students and teachers along with self-assessment questions to assess the attainment of Learning Outcomes on a continual basis.
- Classrooms and schools may be tracked by the SCERTs and similar agencies for achievement in each of the learning outcomes. Their roles may not be limited to monitoring, rather they should be accessible as mentors also for the teachers particularly.
- Regular and continuous capacity building should be undertaken by States/UTs for all the stake holders. In case of teachers, Continuous Professional Development (CPD) should be rigorously planned, and as far as possible, it should be customised to the needs of the teachers.

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Effectiveness of Creative Dramatics Method on Academic Achievement, Learning Joyfulness and Creative Sense of Learners

SANKARANARAYANAN PALEERI*

Abstract

This paper examines the effectiveness of creative dramatics method on the achievement in social science, joyfulness in learning and creative sense. Observations cum opinion schedule for teachers, joyfulness inventory and achievement test in social Science for students were used as the tools. The study revealed that the creative dramatic method is effective to develop— (i) the achievement in social science, and (ii) learning joyfulness and creative sense among secondary level school students.

INTRODUCTION

“The school of the future will, perhaps, not be a School as we understand— with benches, blackboards and a teacher’s platform—it may be a Theatre, a Library, a Museum or a Conversation”, as observed by Leo Tolstoy. Tolstoy’s prediction was a

century old, but now we find both openness and active involvement of different resources in the education of children and young people (Cohen, 1981). One of such active resources identified recently is Creative Dramatics. The use of drama as a tool for teaching is not new, both

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creative drama and theatre have long been recognised as potent means of education and indoctrination (Caslin, 1996).

In the Indian school of situations, the social science teachers use traditional lectures, demonstrations, a few experiments, group work, dyadic grouping, paper and pencil assignments and tests in classrooms. These are not satisfactorily appealing to many students (Vasudevan, 2003). In most of the cases, the constructivist approach soon becomes replication, dull and also coil to mere group learning activities. Teachers must use effective methods to have an active participation of learners in the teaching sessions. The significance of one of the new approaches, like Creative Dramatics is mentioned below.

Creative Dramatics

Creative dramatics is a multi-dimensional and improvisational form of art, designed especially for educational purposes. It emphasises the thinking and creative processes rather than the products (Bailey, 1993 and Wastson, 1998). Creative dramatics combines all the arts, such as drama, music, dance, movements, rhythm, communication, puppets, masks, drawings, role-plays, mono-acts, miming, mimicry and simulation for the purpose of teaching-learning process (Paleeri, 2017). Creative dramatics is a compendium of activities, simulations, mock-ups, games, oral performances, percussion

concerts, videos, interactive videos and presentations. Creative dramatics is a form of imaginative play, facilitated by a leader or a teacher, and is an improvisational group of processes, which is not scripted, pre-planned or memorised but is created on the spot in most of the cases pre-planned (Bailey, 1993 and Wastson, 1998). The strategy from this compendium can be used alone or together for transacting the content. Such a method is highly viable and promotes the exact aim of teaching social sciences.

Creative Dramatics based Instruction

The difference between creative drama and other forms of drama lies in its main goal, which is, to 'Promote growth and educational development of the players, not to entertain an audience or to train actors' (Heathcote, 1998). Audience and production are crucial elements of theatre. But, creative drama deals with learning and self-discovery of an individual in a process (Annarella, 1999). Creative drama proceeds without depending on written text or school textbook. In theatre, players usually with a given text while playing their roles. Participants in creative dramatics can set out their actions from their own experiences with their own creative findings, ideas and knowledge (Chester and Fax, 1996). The participants are learners, not artists.

Creative drama requires participation from all learners of the

a class. The learners have to create ideas, share, interrogate, criticise and judge. Learners gain permanent behaviours as a consequence of determining and studying the content actively (Ward, 1993). It develops the students' attention with an exciting, motivating and interesting learning environment. It increases creativity, sensitivity, flexibility, emotional stability, cooperation and cognitive abilities and divergent thinking and communicational skills (Anderson, 2008). Creative dramatics is not a common strategy in the Indian classrooms and further, researches will enrich its scope for effective implementation.

Review of Studies

Nicholson (2019) observed that education and theatre are closely related, particularly on active learning tasks. Theatre elements support the learner participation, both, in classroom learning tasks and in the school environment. The site-specific performances of learners through theatre elements contribute to the social and political learning tasks.

Theatre elements are already used by teachers knowingly or unknowingly. Kraemer (2012) explained that

- (i) 80% of teachers use creative dramatics in the teaching process.
- (ii) using creative dramatics in the classroom is difficult for 14% of the teachers.
- (iii) creative dramatics supports better comprehension of ideas

and active involvement of the learners during learning activities.

- (iv) 84% of the teachers assume that creative dramatics can be used without specific training and 65% of the teachers are sure that additional time is not needed for utilising it.

Samuel and Chukwu (2011) developed a theoretical framework after observing the participation of learners in learning activities through creative dramatics. This study was conducted among the model school students of Azikiwe University, Nigeria. The researchers observed that creative dramatics can be highly instrumental to the development of children's awareness and sensitivity. Children gain insight and experiences and master realities around them while they expand the dramatic activities. (In mastering these realities, their sensitivities are sharpened together with them.)

Researches in the area of education, theatre or creative dramatics are scarce. Arieli (2007) studied about the integration of drama method in science teaching. The study proved that the approach is effective in teaching science at different levels of schooling. Vasudevan (2003) researched among primary children and reached on a conclusion that primary school children are highly enthusiastic and happy at school if the classroom atmosphere is in drama approach. Kamen (1991) studied the effect of

creative drama on elementary school students' understanding of science concepts. The study proved that creative drama method is effective in the enhancement of children's understanding of science concepts. The study revealed that students express much interest in laboratories if they are conveyed the science concepts through creative dramatics. Violin (1986) studied on using theatre games in classrooms and proved that theatre games enhance different qualities of children, like communication, empathy, attitude and consideration.

Statement of the Problem

To assure knowledge and skill development of students, the teaching method must be creative. It should develop creative sense and other related qualities. This study aimed to realise the effectiveness of creative dramatics, which was conducted among secondary school students, enrolled under Kerala State School Syllabus. In this context, the study is titled "Effectiveness of Creative Dramatics Method on Academic Achievement, Learning, Joyfulness and Creative Sense of Learners."

Definition of Key Terms

The major terms in the title are defined below:

Creative Dramatics

Wessels (1987) stated that 'Creative dramatics is something we all engage in daily for learning'. 'Creative

drama is improvisational activities that emphasis self-expression with the choice of characters or flow of events with or without a teacher direction' is the definition by Catterall (2002). Caslin (1996) defined creative dramatics as 'a way of learning, a means of self-expression, a therapeutic technique and a social activity rather than an art form'.

Creative Sense

Individuals tend to be creative in every activity. Here, 'creative sense' means the sagacity of individuals to interpret creatively in different situations.

Joyfulness of Learning

The phrase 'joyfulness of learning' indicates student's happiness and interest in learning social science.

Research Questions

Creative dramatics is relatively a new phenomenon to the present days' pedagogy. This paper discusses the scope of creative dramatics as an effective pedagogical approach. it is assumed that it has a vital role and is helpful in infusing the world of the child to understand and assist him to master the realities of his surroundings. On these observations, this research is prepared on the basis of following questions:

- (i) To what extent can creative dramatics be configured as a method of teaching to teach social sciences at the secondary level?

- (ii) Will the creative dramatics based method of teaching be effective on achievement in social science?
- (iii) Can creative dramatics be an effective method to develop creative sense and joyfulness of learning?

Objectives of the Study

1. To find the effectiveness of creative dramatics method on academic achievement in social science among the secondary level school students
2. To find the effectiveness of creative dramatic method on developing learning joyfulness and creative sense.

Design

The study is quasi-experimental. Pre-test and post-test experimental design is employed to get the quantitative data. The same test has been administered at pre and post-test levels. The data are collected and analysed quantitatively and qualitatively.

Sample

The study was conducted in a randomly constituted homogenous sample of 80 students of Class IX. The Control Group and Experimental Group included 40 students in each, from Ezhur Government, Higher Secondary School, Tirur Education District, Kerala, India.

Regular teachers of the division who were selected as part of the

experimental group were also a sample group. Five teachers were chosen for this purpose. The selected teachers taught different subjects in the class. They were directed to note their observations at three different occasions during the intervention.

Tools used for the Study

The following tools used were properly constructed by completing all the steps of standardisation—

- Lesson transcripts in social science for Class IX for selected content areas based on creative dramatics method and constructive approach.
- Achievement test in social science for class IX of kerala school syllabus— the test was for 25 marks. The test was constructed as per the designed blueprint after giving proper weightage to process dimensions, knowledge dimensions and difficulty levels. The achievement test was standardised as per norms.
- Observation cum opinion schedule for teachers to remark on the creative sense of students. The face validity and construct validity of the observation cum opinion schedule is established.
- Joyfulness of learning inventory of students for approximation of their perceived joyfulness— the inventory was standardised properly. The *t*-value of each item was found out and only items with significant values at 0.05 levels were considered. The reliability

was proved with the value of Cronbach Alpha coefficient of correlation, 0.83.

The Experiment

The constructivist method of teaching was followed in the control group. The constructivist method is different from the creative dramatic approach. The constructivist approach need not use the elements of creative dramatics during the classes. The experimental group is intervened with the creative dramatics method. The experimental session prolonged for 19 working days and data collection from teachers extended for another five days.

The lesson plans are prepared for 45 minutes sessions. The units 'Towards Freedom' and 'Kerala History' were selected for this purpose. The handbook suggests total 19 sessions of 45 minutes each for these units. In the improvisation phase of lesson plans, students were required to use events and objects symbolically in a make-believe environment. Conceptual understanding on content and activities were constructed

in this phase. Some techniques, such as role playing, simulation, oral presentation, etc., were used according to objectives.

The teaching content is combined with a bundle of activities. The whole class is engaged with creative activities that are closely associated with the content to be learnt. The entire class was simulated to an informal theatre temperament.

Analysis of Data

Creative dramatic method of teaching is effective in enhancing achievement in social science among secondary level school students.

Data were collected from 40 students of the experimental group and 40 students of the control group. Achievement test in social sciences was conducted in both groups before and after the intervention. The intervention or experiment was with constructivist method in the control group and creative dramatics in the experimental group. Results of these pre- and post-tests were used for comparison. Table 1 displays the results.

Table 1
Descriptive statistics for pre-test and post-test scores of academic achievements in Social Science among class IX students

Group	Variable	N	Mean	Median	Mode	SD
Control	Pre-test	40	7.63	8.00	8.00	1.69
	Post-test	40	13.54	13.50	12.00	2.11
Experimental	Pre-test	40	9.01	9.00	9.00	2.01
	Post-test	40	18.06	18.00	21.00	2.25

The measures of central tendency viz. Mean, Median, Mode and Standard Deviation of pre-test scores of the experimental and control groups are almost equal. The distribution of the pre-test scores of experimental and control groups shows that they do not depart significantly from normality.

Comparison of Mean Pre-test Scores of Experimental Group and Control Group

The comparison of difference in the mean pre-test scores of control and experimental group was done by using independent sample *t*-test and the results are given in Table 2.

Table 2
Data and results of test of significance of mean pre-test scores of achievements in social science among Class IX students

Group	No. of Pupils	Mean	SD	Critical Ratio	Remarks
Experimental	40	9.01	2.01	1.54	Not Significant
Control	40	7.63	1.69		

The critical ratio (1.54) computed for comparing pre-test scores of experimental and control groups was found to be not significant at 0.01 level. This shows that there exists no significant difference in the pre-test scores of experimental and control groups.

Comparison of Mean Post-test Scores of Experimental Group and Control Groups

The mean post-test scores of control and experimental groups were compared by using independent sample *t*-test and the result are given in Table 3.

The *t*-value (7.63) is greater than the table value 2.58 at 0.01 level of significance. The mean score of the experimental group (18.06) is significantly higher than that of the control group (13.54). It indicates that there is a significant difference in the post-test scores between control and experimental groups.

Comparison of the Mean Pre-test and Post-test Scores of Experimental Groups

The effectiveness of the creative dramatics on achievement in social science was tested and compared by using the paired *t*-test. The results are given in Table 4.

Table 3
Data and results of test of significance of difference in the mean post-test scores on achievement in social science among Class IX students

Group	No. of Pupils	Mean	SD	Critical Ratio	Remarks
Experimental	40	18.06	2.25	7.63	Significant at 0.01 level
Control	40	13.54	2.11		

Table 4
Significance of difference in the mean scores of pre-test
and post-test of experimental group

Group	No. of Pupils	Mean	SD	Critical Ratio	Level of Significance
Experimental Pre-test	40	9.01	2.01	18.02	Significant at 0.01 level
Experimental Post-test	40	18.06	2.25		

The obtained critical ratio (18.02) is significant at 0.01 level, which indicates that there is a significant difference between the mean pre-test scores and post-test scores of the experimental group. The result explains that there is an effective development in achievement among students after the intervention. This indicates that the creative drama-based instruction is an effective method of teaching.

Comparison of the Mean Pre-test and Post-test Scores of Control Group

The difference in the pre-test and post-test scores of control group was estimated by employing paired sample *t*-test. The results of the test are given in Table 5.

table value at level 0.01. The result indicates that there is a significant difference in the pre-test and post-test scores of control group also; who were instructed by the presently pursuing constructivist method. But, the gain in achievement is comparatively lesser than that of the experimental group.

Comparison of the Mean Gain Scores of Experimental Group and Control Group

Gains scores in terms of academic achievements were computed by taking the difference between the pre-test and post-test scores. To test the significant difference the mean,

Table 5
Difference in the mean scores of pre-test and
post-test of control group

Group	No. of Pupils	Mean	SD	Critical Ratio	Level of Significance
Control Pre-test	40	7.63	1.69	9.98	Significant at 0.01 level
Control Post-test	40	13.54	2.11		

Table 5 reveals that the pre-test and post-test scores of the control group differ significantly. The critical ratio (9.98) is greater than the

of gained scores of the experimental group and control group was done by independent sample *t*-test and the results are given in Table 6.

Table 6
Difference in Mean Gain Scores of Experimental Group and Control Group

Group	No. of Pupils	Mean	SD	Critical Ratio	Remarks
Experimental	40	7.97	2.31	4.57	Significant at 0.01 level
Control	40	4.77	4.48		

The results indicate that achievement in social science is higher for experimental group than that of the control group. The exact mean value of the experimental group post-test is 18.06 and that of control group is 13.54. The critical ratio obtained by comparison of gain scores of the groups and higher mean value of the experimental group post-test show that creative drama-based instruction is more effective.

Impact of Creative Dramatics Teaching Method on Developing Creative Sense of Students

Creativity is the result of creative sense. The creative sense that students acquire from the classroom is a depending factor of the teaching method. The students' initiation to organise classroom activities, participation in the activities, like role-play or group works, active participation in the teaching-learning processes and performing with socialised simulation skills and some other items were considered as the factors that determine creative sense.

The development of creative sense was estimated from the teachers' evaluation of students. Five teachers who taught in the class which was

selected as experimental group were given an Observation cum Opinion Schedule to mark their students' performance for a week. Teachers who teach (i) Social sciences, (ii) English Language, (iii) Malayalam Language, (iv) Chemistry and (v) Biology were selected for this purpose. The following directions were given to the teachers:

- (a) Provide different activities to the students during the lesson.
- (b) Intensively observe their participation and trends
- (c) Record the students' performances in the observation cum opinion schedule after the class.

The teachers intentionally observed the students' tendencies for five working days in their classes and other occasions. The record they maintained is considered to estimate the students' creative sense. The observation schedule has a column to mark the teachers' opinion on students' creative sense. The observation was not made on each student, but on the whole classroom group. The results are concluded in Table 7.

Dramatics method includes participation in different types of activities by the students. The activities are not mechanical but active to gather student attention on the

Table 7
Teachers' remarks on students creative sense after the intervention

S. No.	Criteria of Creative Sense	Teacher Remarks	No. of teachers remarked thus (out of 5)	Status after intervention
1.	Students' initiation to organise classroom activities	High and enthusiastic	5	Highly increased
2.	Participation in the activities, like role-play	High and enthusiastic	4	Highly increased
3.	Active participation in the teaching learning processes	High and enthusiastic	5	Increased
4.	Performing with socialised simulation skills	High	4	Increased
5.	Passive listening	Low	5	Decreased
6.	Communication with teachers	High	5	Highly increased
7.	Shyness and withdrawal	Low	4	Highly decreased
8.	Response towards classroom tasks	High and enthusiastic	3	Increased
9.	Interest in taking responsible roles	High and enthusiastic	4	Increased
10.	Response towards different types of learning situations	High and enthusiastic	5	Increased

tasks and encourage their voluntary participation. This might be the reason that influenced the development of students' creative sense.

Finding 4

The creative dramatics method effectively develops students' joyfulness of learning.

To find out the students' joyfulness of learning, a qualitative method of interpretation was adopted with score-based analysis. The joyfulness of learning inventory was distributed to all the students in both sample groups—control and experimental. The tool includes five dimensions with five statements in each. The inventory was prepared in Malayalam Language for better understanding of the students. Students were addressed by the researcher to respond to each of the statements in all the five dimensions. They were directed to select any of the scores from the given three scores for each statement according to their favourableness on the statement. The scores were 0, 1 and 2. If they marked 2 for all the statements in a dimension, the total score would be 10 for that dimension. Table 8 provides details of the dimensions.

Students of the experimental and control groups were informed that the total scores will indicate their verdict on the dimension regarding the joyfulness of the classes taken by them in the subject social science.

If the total score comes to 39 or above out of 50, it indicates that classroom teaching was highly joyful, the score in between 29 to 38 indicates the classroom teaching was partially joyful, and the score between 19 to 28 indicates mildly joyful, and the below 19 indicates that the class was 'not joyous.

The score-based analysis comes to the finding that the experimental group highly enjoyed the classroom atmosphere based on creative dramatics. The control group also had joyfulness of learning and the score indicates it was partial joyfulness. Details of score-based analyses are given in Table 9.

Table 8
Dimensions selected to be assessed

Dimensions	Maximum Scores
Interest in Classroom Tasks	10
Interest in the Drama Activities/Group Activities	10
Interest to be in the Social Science Class	10
Atmosphere of the Social Science Class	10
Supportability to learn Social Science Subject	10
Total	50

Table 9
Students' scores on their experiences in creative dramatic method social science class-experimental group (N: 40) (Score:10 to each dimension)

Dimensions	Scores of each dimension for total sample group (N — 40 × score 10 = 400)	
	Experimental group	Control group
(Individual Score 10)		
Interest in classroom tasks	368	213
Interest in the drama activities	400	213

Interest to be in the social science class	362	344
Atmosphere of the social science class	368	316
Supportability to learn social science subject	382	342
Overall score (50) (N 40) =2000	1880*	1447**

Note: *Score indicates high acceptance and **Score indicates partial acceptance

Result and Discussion

The scores by the students clearly indicate their perception of joyfulness of learning as it is estimated on each of the dimensions by the Inventory. The experimental group scored highly in all the dimensions. The control group too possesses high scores in dimensions, except in the case of interest in classroom tasks and interest in drama or group activities. It is a fact that the group activities in constructivist approach and cooperative learning soon become mechanical in operation. Students feel passive in such group activities. This might be the reason for very low score in the second dimension (Interest in Drama Activities/Group Activities) by the control group. Students get a variety of activities in creative dramatics and it never feels that they are imposed to learn the content. This spontaneity of activities might be the reason for high score on the dimension by the experimental group.

The students are getting into the activities with own interest. The atmosphere of the class itself will be actively oriented for participation by the students. This might be the reason for high score by the experimental

group in the first dimension, that is, interest in Classroom Tasks.

The thematic part of the study zeroed in on the development of a framework of creative dramatics as a method of teaching the subject social science at secondary level. It is successfully intervened at the secondary level Class IX in the subject social science.

The study revealed other findings and they are:

- The creative dramatics method is an effective teaching method and that significantly developed academic achievement of learners. The intervention with the creative dramatic method proved that it is effective in enhancing achievement in social science among secondary level school students.
- The creative dramatics is an effective method to develop the learning joyfulness of students. The intervention proved with the remarkable hike of joyfulness among students by using the creative dramatic method for teaching them.
- The creative dramatics method is highly effective in developing the creative sense of learners.

Reflections, Generalisations and Educational Implications

The existing teaching method followed by the state syllabus schools in Kerala has many advantages; but it is not free from mechanical ways of teaching. Many students fail to follow this method meaningfully and effectively. The secondary level social science textbooks contain so many concepts, which are presented in a comprehensive manner and that are to be transacted through student-centred activities. So creative drama-based instruction helped these students to attain better results in learning, developing their creative sense and joyfulness of learning. A common complaint from teachers of social science is that students are less interested in learning the subject. The students feel the subject as dull and they are not interested in it. These problems can be refurbished by using the creative dramatic method. The method is very hopeful on certain topics of social science textbooks, particularly on Kingdoms, Freedom Movement, and National Integration and so on.

The following suggestions are possible on the basis of conclusions:

- The creative dramatic method instruction should be encouraged among teachers of secondary level since it has proved much effective.
- The existing method or methods need not be avoided, and sticking on a particular method is unnecessary. Teachers should have options to select a teaching method according to the content and its scope. Since the creative drama based instruction has been found more effective, it can be incorporated with other instructional designs so that they are mutually benefitted.
- Creative dramatics must be a choice for certain topics that intends to promote emotional sensitivity of students.
- Creative dramatics method should be introduced to in-service teachers.
- Teaching through creative dramatics method provides considerable creative sense development and joyfulness of learning. Hence, it should be promoted and integrated with all the other subjects.

Based on the findings of this study and the magnitudes of creative dramatics method, it can be suggested that the teachers should provide a meaningful learning environment for their students in which they would provide connections between sociological, geographical, economic and historical concepts and everyday context. The teachers should emphasise every student's participation in dramatic activities.

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Emancipatory Pedagogy Teaching of Gender in an Elementary Teacher Education Programme

*TRIPTI BASSI

Abstract

This article focuses on the transaction of Gender and Schooling course to final year graduate students of B.El.Ed programme of University of Delhi in achieving knowledge goals—self-awareness, actualisation and change agency by these student-teachers. NCF 2005 and National Education Policy 2020 emphasise the need to address gender-related issues in our schools and in the society at large. Gender relations are a lens to study inequity between women and men in the society. These are essentially relations of power in which women have far less substantive power in relation to men. These relations manifest in explicit and implicit ways. The student-teachers study the Gender and Schooling course in their final year for theoretical understanding as well as critical examination and application during their school internship in the same year, operationalising what NCFTE calls the linking of book-view to field-view. The gender course in the B.El.Ed. programme acts as a discursive field of knowledge, empowerment and action.

INTRODUCTION

Gender relations are a lens to study gender inequality in society. These are essentially relations of power which manifest in explicit and implicit ways. Statistical indicators like sex ratio, health and nutrition measures, crimes against women, ownership

of property, occupancy in jobs, employment, authority positions, political positions, etc., explicitly reveal the unmistakable nature of gender inequality in society. Implicit measures are entrenched in power relations and hierarchies which are complex to quantify, being situated

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in the realms of custom, religion, culture, household dimensions, etc. Such inequalities in turn reinforce unequal power relations, unequal decision-making and unequal control over resources, resulting in lower status of women. These indicators also serve as tools for government policy to identify inequalities and redress them towards the goal of equality and equity.

Issues of gender being central to our lives, also need to be examined within the spaces of learning. The National Curriculum Framework Position Paper on ‘Gender Issues in Education’ states that “knowledge, teaching and learning should be linked with the objective of allowing gendered inquiry and not only ‘fixing it’ in conventional designs. It needs to provide avenues to educate students to think analytically, contest with relations of power, and envisage versions of an inclusive world open to dialogue and dissent” (2006:38). In the same vein, the recent National Education Policy, 2020 emphasises the critical role of education in attaining social justice and equality (2020:24). Thus, gender discourse is now gaining attention in academic discourses as well as professional programmes. Teachers are change-makers and their engagement with such issues creates a positive impact on the lives of future generations, also liberating them in this process to think discursively and critically about their own situations in society as conscientious citizens.

Significantly, the National Curriculum Framework of Teacher Education (NCFTE) 2009 also states that engagement with gender need not be limited to the book view focusing on theories but need to get extended to the field view dealing with practical social realities.

In this backdrop, this paper seeks to build an analytical narrative about the change-experiences of the student-teachers through a course that acts as a ‘discourse’ on gender in helping them understand their life-situations better and gain agency to create possibilities of change. Intensive dialogue on student-teachers’ perceptions, beliefs and ideas can pave the way for connecting gender theories to their personal experiences.

‘GENDER AND SCHOOLING’ IN B.EL.ED. PROGRAMME

The Bachelor of Elementary Education (B.El.Ed.) is a four-year professional graduate programme of teacher education introduced by University of Delhi in the year 1994, now offered in eight women’s colleges. In the B.El. Ed. programme, the first year social science papers — like Contemporary India and Core Social Sciences also have space to discuss and debate gender issues. However, in the final year, a compulsory paper of ‘Gender and Schooling’ is offered to students with the objective of firstly “critically examining gender inequities in society through feminist theoretical frameworks”, and secondly “to

observe and analyse manifestation of gender inequities in the schooling process besides developing strategies for intervention". The present paper examines the significance of the 'Gender and Schooling' course in the teacher education programme in enabling the teacher trainees to become empowered in order to act as such agents of change. In this paper, the students of this programme are henceforth referred to as 'student-teachers' to recognise their conscious self-orientation as teachers in the making. This paper draws from the author's experience and engagement over several years with the student-teachers while teaching the 'Gender and Schooling' course to them.

METHODOLOGY

Action Research

Action research, referred to as 'practice changing practice', is a mechanism for change and progress that alters the 'practitioner's practice, their comprehension of that practice and the situation in which they practice'. It is both a 'democratic and democratising process' (Cohen, Manqion and Morrison, 2018: 440–41). It can be used in any situation where a problem concerned with people, tasks and procedures needs to be addressed and immediate remedies sought. Thus, a problem is posed and a solution arrived at. This method has the potential to germinate new ideas, empower

individuals as well as groups and also motivate people towards reflective practice. In fact, Carr and Kemmis (1986) term it as 'self-reflective inquiry' which is pursued to improve people's understanding of situations and ensure enhanced 'social justice for them'. Similarly, Grundy states that action research seeks to improve the 'social conditions of existence'. It is geared to modify both individuals and institutions, societies and cultures to which they belong. Action research includes components of diagnosis, action as well as reflection where the researcher attempts to conduct research on herself basically (Ibid: 442).

This paper uses action research methodology on a study sample comprising 42 final year students (all women) of 2019–20 batch of B.El.Ed. programme who are participants in this course. It is pertinent to mention that this research idea has taken shape while transacting the course with their previous batches by means of observation and discussions held. The instant paper, however, for the purpose of specificity, contains the qualitative data obtained from the study sample of 42 student-teachers through observation and discussion methods using action research methodology. Although the author's experiences with previous batches of student-teachers are similar, this present paper would discuss the responses of the aforementioned sample. The names of the

student-teachers have been changed for the sake of confidentiality.

Research Questions

In a way, the elements of action research are embedded in the curriculum and pedagogy of the ‘Gender and Schooling’ course itself. However, employing action research, the data has been collected through classroom-based intervention strategies to address certain questions: How to enable students to become critical thinkers and emerge as instruments of empowerment and emancipation? What role can a course like ‘Gender and Schooling’ play in turning this aspect into reality? What measures can we adopt to respond to this system? According to Bell Hooks, schools are important in reinforcing certain feminist values. This vision can become a possibility only when society gets intertwined with theory, and teaching with learning thus contributing to essentially “response-able” forms of knowledge and its practices (Revelles-Benavente and Ramos, 2017).

In this perspective, this paper attempts to explore novel feminist approaches thereby advancing a horizontal perspective on teaching where both students and teachers are partners in creation of knowledge and operate in a decentralised environment. The central questions therefore are: How to conceive of gender pedagogy? In what way can feminist philosophy of ‘teaching with responsibility’ emerge? As co-

learners in knowledge production and dissemination, how do we probe systems of knowledge that are both racial and gendered in nature (Revelles-Benavente and Ramos, 2017:2–3). How far can gender and women be discussed by focusing on pedagogical, theoretical and political aspects of teaching and learning? As teacher educators, how do we enable gender pedagogies to question gender biases, stereotypes and prejudices prevailing in our society is an objective of exploration for this paper.

Finally, the data gathered in this study are put to critical analysis to figure out how emancipatory pedagogies can emerge, thereby creating liberating systems of educational practice. It is to indicate to what extent feminist classrooms are possible especially where conflict is used as a means to learn, unlearn and relearn. It is also to see how spaces can be created to question experiences. Epistemologies that reinforce gendered notions need questioning and this can happen when students realise such politics of hegemony that functions to create hierarchies in our society.

THE BOOK VIEW

Academic Theories and Lived Experiences

Although girlhood is a subset of childhood, yet it gets designed in a way to counter the free and emancipated spirit that childhood embodies. The family and the community both socialise a girl in expected ways

of emphasised femininity. Next, education through the school system structure her personality to create an educated citizen, without countering such socialisation into a subordinate gender identity. All these gendered dimensions reflect in the growing up of girls and finally attaining womanhood. Kumar, in his book *Choori Bazar Mein Ladki* (meaning A Girl in the Bangle Market) which is a significant contribution to the field of women's studies, uses the trope of a bangle market to underscore this transition to a gendered identity. He shows the bangle shop as suggestive of the hegemonic masculine world that controls and manipulates a girl's life at different stages. A girl entering a bangle shop learns to conduct and present herself according to the needs of the market and society, dressing herself in a manner which conforms to societal ideals of beauty, and gains admiration, thereby creating or reinforcing the feminine ideal (2013:73).

However, in the educational realm, the concepts of gender and sexuality are not dwelt upon and pushed away in order to avoid 'embarrassment'. A closer look at the student-teachers' life experiences as observed during this present study suggests that the way they think about gender is integral to forming an understanding of relations of power as exist in our society.

In teacher education programmes, discussion on gender issues can be crucial in order to develop sensitivity

and empathy amongst learners. The B.El.Ed. programme offers 'Gender and Schooling' as a compulsory half paper to the final year student-teachers while they also undergo internship training in select teaching schools. These student-teachers have already read about gender in various papers in the previous years and the focus in the final year is to start with an in-depth analysis of one's situation *vis-a-vis* the wider world outside.

At the beginning of this course, student-teachers are helped to decode what they think or mean by 'sex', 'gender', 'masculinity', 'sexuality', and 'feminism', etc., how they interpret these and what inferences they draw from their own lives. Moving ahead, the purpose is to enable them to relate their personal experiences with theories they have studied. The move is clearly to make a shift from the personal to the academic realms. These ideas and concepts need to be revisited as part of an academic practice and dimension of daily lives.

Through Focused Group Discussions, critical reflection of personal and social realities, fact and interpretation method and media deconstruction method, the course 'Gender and Schooling' tries to comprehend students' localised knowledge and its situatedness in the wider global milieu. How do learners interpret concepts of 'sex', 'gender', 'sexuality', 'masculinity', 'patriarchy', 'feminism', to name a few, and identify with them. Also, it

aims to examine how wonder-tale narratives focus on particular gender roles and expectations. The role of media in extrapolating these ideas in culturally-specific terms is also examined.

It is observed that feminism in general is read quite differently by the student-teachers. The initial discussion on feminism brought out their reluctance in identifying themselves as ‘feminists’ since they thought it pulled them away from men altogether. A student-teacher, Reema, stated that she was “wary of using the label ‘feminist’ because they are considered to be anti-men” while Anu observed that “such women are isolated by society”. Thus, they were cautious of this term and its usage. However, gradual acquaintance with the concept and the follow-up discussions helped them understand that feminism is a ‘way of life’ rather than being just a concept. After discussing various strains of feminisms like liberal, radical and socialist, among others, students started exploring as to which feminist theory should be adopted, with what strategy, and why. They then shared their understanding of coeducational and single-sex girls’ schools and reasons for their preference for one of those. Liberal feminism appealed to most of the students. They found its strategies were much possible. Some others preferred radical feminism since it challenged the patriarchal system and ideology. This turned out to be the beginning of the debate

as to which feminism can actually alter or modify the current situation of subordination and exclusion of women. It was observed that personal situation and experiences had a big role to play in their choice of the academic strand.

The student-teachers also undertook content analysis of textbooks that they were teaching as part of the school internship programme. Now, they began to be able to critically look at the textbooks using a gender lens. They were able to add these subtle cues to the existing schemas to challenge gender stereotyping that largely prevailed.

PERSONAL REALMS

Negotiating Restrictions

Control over sexuality seemed quite obvious to the student-teachers and they realised what was expected from them was compliance and subservience. A student-teacher Gauri remarked how her parents have always tried to be protective and in the process denied her any outings to her friends’ places. She was not even allowed to go to her own terrace for the fear of being ‘seen by boys’. However, she said she had now been able to negotiate outings to places outside Delhi with friends (Classroom Discussions). Many student-teachers shared that their mobility remained restricted by and large and they had started gradually negotiating with their families to allow them access to spaces of their choice.

A student-teacher Meera shared a similar experience that her younger brother was seen as her guardian or custodian (*"I was seen as a 'liability' and my younger brother would escort me whenever I travelled from one place to another."*) Her parents were keen to get her married and also kept a close vigil on her to check any 'transgressions'. She was, however, keen to gain higher education and worked very hard to secure highest marks so that her parents could not cite low marks as an excuse to deny her further education (Focused Group Discussions). This is just one indication of the struggles and pressures a girl has to deal with within the household.

Visibility and Invisibility

A student-teacher Saroj who belonged to Haryana shared that her *parda* (veil) was an *"everyday reality and women of the household are expected to abide by such customary practices"*. A remarkable finding came out in her narration that earlier in her family, photographs of women were taken with *parda* over their faces, thus making it difficult to distinguish the identities of the persons (Classroom Discussions). Visibility allots power while invisibility makes women powerless and vulnerable. Every student-teacher seemed to agree that power vests in men who take the major decisions of the family. Girls felt that as they grew up they were gradually pushed to less-visible or invisible spaces while the boys

started occupying the more-visible or visible spaces. Between the parents, the mother is relegated to the realm of less-visibility, reducing her power and decision-making capabilities. The girls felt empathetic towards their mothers who were assigned household chores (Focused Group Discussions).

Striving for Economic Agency

In their struggle to study, gain education and become financially independent, the student-teachers have sought to carve out a space for themselves. A student-teacher, Hema, described that after finishing school she tried to be self-dependent by giving tuitions to fund her own education as well as to contribute to family finances. She was happy that she was able to buy a costly mobile phone of her choice from her own savings which also upscaled her status within her family. However, the burden of expectations on her started increasing and her family wanted her to buy a laptop for her brother. She found herself under pressure and sometimes clueless as to how to deal with such situations. Yet, girls did realise their potential and were also eager to fulfil their responsibilities towards their families. A student-teacher, Beena, shared that her father was dependent on his elder brother (her *Tau*), a situation not to their liking and that she was their only hope to be able to earn and support the family finances. She said, *"I want to support my parents and look after them after graduating*

in B.El.Ed. and getting a teaching job and thus wanted to be the ‘son of the house’ (Classroom Discussions).

Most student-teachers are trying to carve out some space for themselves within their families while trying to understand patriarchal systems and operation of gender inequities in society. A student-teacher, Deepa, whose parents had gone ahead to have three daughters in their wish to beget a son narrated that “*she and her sisters were initially looked upon as liabilities by their extended family*”. The absence of a son is always questioned by society and the family is seen as incomplete. Her parents wondered how they would live after their daughters were married off. She, however, assured them that she was keen to be with them somehow and extend them all possible support.

THE FIELD VIEW: INTERNSHIP EXPERIENCES

Dealing with Stereotypes and Prejudices

During the school internship programme, student-teachers could assess how the approaches adopted by male teachers differed from those of female teachers. As teacher-interns their status remains ill-defined and inconsistent and they were not assigned due status either by the students or by regular teachers. In some schools, the boys of senior classes would try to enter their classes or pass comments which they disliked and tried to keep a check upon. In a particular case, a student-

teacher was referred to as ‘*Cheh kamre wali*’ (occupant of the room number six) because she was teaching the sixth class. She expressed her discomfort to the headmistress of the school and also to the male class teacher. Still this practice continued much to her discomfort until she sternly asserted her authority. Although it may be said that their temporariness as teacher-interns also has to do with such lack of status, one wonders if male teacher-interns would also have to face such demeaning behaviour. Through such situations, student-teachers have learnt to identify demeaning, sexualised comments and gestures and have started questioning those because of the learning that gender equality needs to be emphasised in all spheres.

A common question that each batch of student-teachers raise is why the B.El.Ed. programme is limited only to girls’ colleges. Perhaps co-educational spaces also can be useful in socialising boys to become conscientious of gender issues. They feel that issues central to ‘masculinity’ need more effective addressing in spaces where male socialisation process could be brought under close scrutiny.

Another challenge which the student-teachers faced is with regard to the usage of abusive terms and expressions by students, both girls and boys. Girls told them that they use it upon seeing the boys use it, meaning thereby that these were perceived to be masculine and

powerful. The student-teachers kept checking their students and reinforce the practice of discarding such phrases.

In an internship school, a regular teacher wanted to ascertain the community background of a student-teacher who belonged to a scheduled tribe. She felt distressed and teacher educators had to intervene with the school to address this matter. It was then learnt that the regular teacher wanted to recommend her to somebody she knew for a matrimonial alliance. The outlook of educated persons towards women at professional work is also coloured by patriarchal lens.

In a particular incident, when some students of a school were taken out on a picnic to a nearby park, a student-teacher Reema also joined. While she was lying down feeling unwell, a male teacher asked her to get up and be active. Reema replied that she was 'down' and feeling quite unwell. Feeling embarrassed, the male teacher left. However, later on, he was heard stating that he also had mother, wife and sisters at home and was well aware of the trials and tribulations of women, however "*women should not talk about their menstruation issues uninhibitedly*". This matter was elaborately discussed in the 'Gender and Schooling' class and viewpoints were shared as to how does one draw boundaries between personal and professional spheres and also create her own special space

to manage life-situations which are exclusive to women.

Confronting Deviant Male Behaviour

Mobile phones and internet have become a part of everyone's life now. Some student-teachers narrated that they came to know that certain students in their classes watched pornographic contents on their phones. This became obvious when some students were found showing their phones to one another. Pornographic images, films and pictures are part of a discourse which has its own signs and meanings wherein it is visually and contextually suggested that women are to be 'dominated'. It is like a strategy of domination and violence which is used to degrade and humiliate women and is surely a 'crime against humanity'. The second aspect is that it is used as a 'warning' to create fear— as a result of which women are expected to stay in tandem with the system (Wittig, 1978: 344). Mackinnon similarly states that media now-a-days is a medium through which sexuality is socially constructed—women get objectified as 'things' for sexual use. Those who consume it then create a desire for women to not only possess them but also dehumanise them (Mackinnon, 1989). For student-teachers, it came as a big challenge to deal with such incidents due to their own identities of being women. They narrated that they experienced anxiety and humiliation internally

while trying to discipline the deviant male students without possessing the requisite 'male' authority.

Student-teachers as Change Agents

What is projected in this paper is a miniscule slice of experiences shared by the student-teachers. While they acted as change agents for themselves, within personal spheres, and in the work sphere too, they began acting as change agents for their students too, as described in the instances in aforesaid sections. They acted sensitively towards their students and tried to cater to girl students particularly. They motivated them to be vocal in expressing their ideas and opinions.

The student-teachers tried to encourage children to participate in cross-gender interaction and learn about different perspectives not usually available. They made small groups to facilitate discussion on disciplinary themes. When girls in their classes appeared reticent and shy, and not so keen to share their observation in classroom transactions, they made special efforts to involve them in teaching-learning practices. They assigned leadership roles to girls in games and activities to enhance their self-confidence. In certain situations, when they saw girls absenting themselves from school processes, they ensured their attendance that led to not only their access but also success, to an extent. They also attempted to sensitise the

boys to not bully girls and treat them as equals.

Besides such initiatives, at times, the student-teachers felt desperate to introduce many changes which the school system was mostly reluctant to introduce. However, many such efforts continue both officially and unofficially to address concerns of gender equity. In their limited time and roles, the student-teachers still showed the way towards more egalitarian school and society. Many issues of gender and sexuality surfaced on the school premises but these got pushed aside or ignored in various ways in those settings. This caused discomfort to student-teachers who tried to deal with these issues within their own capacities and also brought these along to the 'Gender and Schooling' class for discussion and deliberation.

CONCLUSION

Towards an Emancipatory Pedagogy

A course like 'Gender and Schooling' goes a long way in nurturing the possibility of understanding differences and bring about change through self-consciousness and informed action. It ensures a secure space for expression, voicing and resolution of conflicts to strive for achieving gender equality. Education system should make room for emancipatory pedagogy that brings in liberating experiences in a process of self-reflective enquiry. It is only

through such education that change can occur, and therefore, it must allow space for reflection, deliberation and action to address issues central to the lives of women. As the ancient Indian puranic *shloka* (*Shri Vishnu Purana*, 1-19-41, ancient Indian philosophical text) states, the goal of education and acquirement of knowledge is emancipation of the self and liberation of the soul.

तत्कर्म यन्नबन्धाय सा विद्या या विमुक्तये ।
आयासायापरं कर्म विद्यञ्ज्या शिल्पनैपुणम् ॥

—श्री विष्णुपुराण ॥१-१९-४१॥

Tatkarma yanna bandhāaya
sā vidyā yā vimuktaye |
āyāsāyāparam karma vidya'nyā
śilpanaipunam ||

—*Shri Viśnu Purāna* || 1-19-41 ||

{That is action which does not lead to bondage; That is knowledge which liberates.

All other action is mere effort; Any other knowledge is merely another skill in craft.}

The course 'Gender and Schooling' embodies this spirit in theory and action to make the student-teachers conscious selves who as change-agents act to bring about change in their immediate environments and also in their encountered worlds. The student-teachers who were of the opinion that often they tended to naturalise the patriarchal system, state that through the 'Gender and Schooling' course they get a window to think, reflect and act.

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Study of Effectiveness of Cooperative Learning on Academic Achievement of Mathematics of Class X Students

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Abstract

Teamwork is a hallmark of the digital era, and cooperative learning provides a sustainable platform where all students develop beneficial lifelong learning skills. Mathematics makes our lives systematic and prevents chaos and students require both cognitive and practical experience throughout their mathematics education. The academic achievement in mathematics of students taught through different activities of the cooperative learning method is better than the traditional method. Students develop their logical thinking, the problem solving and decision making skills through the applicability of concepts with the learners, resulting in social, communication, teamwork, conflict management and leadership abilities. They are motivated to work with cooperation and respect everyone's presence. Students receive feedback, challenge one another, and teach, encourage and motivate their teammates. It gives them an opportunity to learn from each other in a healthy, friendly and welcoming environment. Thus, cooperative learning is an effective method which helps students attain their life goals and enhance their understanding of the world around them. It also provides them with better opportunities and improves their quality of life.

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INTRODUCTION

The basic objective of education is to prepare students solve the problems of daily life leading to the development of ideal citizens of the nation. Every student needs to achieve the expected learning from teaching-learning material provided by teachers and institutions, but the present situation is beyond this basic objective, i.e. students work by sharing thoughts and developing their team spirit. Classroom environment of the present system of education is based on competition. The aim of education is a commitment to democratic values of equality, justice, freedom, concern for others, well-being, secularism, respect for human dignity and rights (NCF, 2005). Work related experiences in school should help in inculcating a mental framework while evolving a spirit of cooperation. Most schools do not facilitate students to learn and overcome problems with their experiences and knowledge rather than to become knowledge creator, instead preparing them as information receivers. Usually, students respond by answering the teacher's questions or by repeating the teacher's voice or words. They are not provided any opportunity to take initiative. The monotonous classroom of mathematics generates passivity and creates anxiety in students, causing discomfort in daily life activities involving numeracy and logical thinking. Learning is more or less change in behaviour through practices.

Learning occurs when the mind is exposed to an ever changing surrounding. Mathematics provides an opportunity to think logically and reflect thoughts systematically thus, consequently exposing the mind to various new opportunities and experiences. So there is an urgent need to improve the teaching-learning process. Cooperative learning is an innovative practice where students work together in small groups to maximise their own and each other's learning in a cooperative atmosphere (Johnson, Johnson and Holubec, 1998). In the era of competition and adverse circumstances, cooperative learning promotes learning through cooperation with healthy competition. This approach of learning creates a sense of togetherness and well-being among the students. In cooperative learning, students have a common goal that can be achieved together and valued by peers. They motivate each other to learn and build the capacity to interpret the teachers' language. The most significant aspect of cooperative learning is when students need to organise their thoughts in order to explain them to their teammates. They must engage in thinking that build on others' ideas, which greatly affect their own understanding (IT Learning and Development, Penn State University, 2017). Johnson and Johnson (1999) outlined the five basic elements that allowed successfully learning in small groups. These five elements, also known as soul of cooperative learning, are as follows:

- Positive interdependence: work of one member of the group helps the other members substantially and other group members' works also help tremendously. Members of a group cannot succeed alone. Each and every group member is important to complete a task. Students feel responsible for their own and the group's efforts (*Teachers Handbook Volume 2: Scientific Literacy*). It also allows students to feel like an important asset to their classmates, resulting in high confidence level.
- Face-to-face interaction: students encourage, motivate and support each other and this learning environment encourages discussion and eye contact with expected reflective outcomes.
- Individual and group accountability: students are responsible for completing their part. The group is accountable for achieving its common goal. Each group member's personal responsibility is to achieve an overall goal.
- Social skills: group members learn to develop interpersonal, social and collaborative skills, needed to work together.
- Group processing: group members analyse their own and the group's ability to work together.

The classroom activities of mathematics related to cooperative learning offer students the opportunity to practise most of the life skills. Teachers deliberately

create opportunities for students to cooperate with each other, share responsibilities, solve problems and control conflicts (Melissa Kelly, 2019). In individual learning, or traditional learning, students work independently, sometimes it may be against each other. Cooperative learning inculcates not only educational and social skills but also helps in developing skills such as, problem solving and conflict resolution. Keeping the above facts in mind, the researchers focus on 'the study of effectiveness of cooperative learning on academic achievement of mathematics of grade X student's.

Review of literature

Slavin (1987) revealed that teachers need to recognise students' individual learning with flexibility in class grouping and provide students with the opportunity to work together. The classroom becomes a learning environment structured in a way that ensures students work together and are able to see the diverse view points or ideas of their classmates. The richness of cooperative learning compel students to interact, solve problems and build relationships that provide a positive learning environment for all.

Slavin (1991) found that cooperative learning usually supports the teachers' way of teaching by providing students an opportunity to discuss information conveyed by teachers. Activities of cooperative learning methods also help students

to find or discover information on their own.

McCracken (2005) pointed that cooperative learning is a teaching strategy where small groups work together for a common goal in a structured learning environment to see diverse viewpoints or ideas for betterment. Efe et al., (2008) stated that teachers have to focus on learning approaches that support the social development of learners, which increases the persistence of learning and enjoying the experiences. Cooperative learning meets the needs and expectations and draws attention as an important option as cooperation exists in the nature of human beings.

Bruning et al. (2014) found that mathematics is an innate skill that leads to the fact that ordinary persons are not expected to understand 'what is desired' and they develop a negative attitude towards mathematics. Yalcin Karali and Hasan Aydemir (2018) concluded that cooperative learning practices in mathematics should be started at the elementary stage for students to benefit from each other.

OPERATIONAL DEFINITION OF IMPORTANT TERMS

Cooperative learning

Cooperative learning is defined as structured learning strategies in which students are held responsible for their contribution, participation and learning. Students are also rewarded for working as a 'team'.

STAD (Student Team Achievement Division)

In STAD, the teacher gives a topic from a particular subject to the students and they learn it in groups and present it in explicit ways through charts and models. The groups are tested and consequently given scores individually and collectively. The group securing the highest scores is announced as the winner.

Jigsaw II

It is a group activity where each member is responsible for mastering ones' own part of the content, while experts are responsible for explaining their material to other members of the group and then the score of each member is declared on the basis of tests. Finally accumulative scores of the whole team is calculated on the basis of individuals' improvement scores.

Team Game Tournament

The students are divided in pairs where they discuss the given instructional material. Then they are divided into two groups and play several games of quiz cards. The scores are given individually and collectively as well and the group securing high scores is announced as the winner.

Need and significance

The language of mathematics depends on numbers and knowingly or unknowingly everybody uses mathematics in their daily life (M.P. Chaudhary, 2013). Today's

teaching–learning process is shifted from ‘sage on stage’ to ‘guide on the side’, but teachers mostly follow the traditional method of teaching, like lecturing, explaining, etc. which pushes the students to become a bookworm and ultimately they develop a convergent thinking and finally their minds become fossilised. This type of teaching–learning process makes the students information receivers not knowledge creators. Teachers act as facilitators, motivators, guide, philosopher and friends, they must provide such an ecology where the maximum skills of the students and their ability with their to apply for the general knowledge concept can be nourished, nurtured and cultured. Cooperative learning strategy lubricates the mind and exposes it in a variety of ways. The activities brush up the students’ mind and try to inculcate the skills of concept mapping and social values in an interesting and enjoyable environment.

Objectives of the study

- To study the affect of activities of cooperative learning for enhancing the logical thinking skill in academic achievement on mathematics for X grade students.
- To study the affect of activities of cooperative learning for enhancing problem solving skill in academic achievement on mathematics for X grade students.
- To study the affect of activities of cooperative learning for enhancing decision making skill in academic achievement on mathematics for X grade students.
- To study the affect of activities of cooperative learning for enhancing applicability of concept in academic achievement on mathematics for X grade students.

Hypotheses

In the present study, researchers formulated the following null hypotheses:

- H_{O_1} —There is no significant difference between pre-test scores of academic achievement on mathematics of students taught through cooperative learning method (experimental group) and through traditional method (control group).
- H_{O_2} —There is no significant difference between the post-test scores of logical thinking skill in achievement test on mathematics of experimental and control group students.
- H_{O_3} —There is no significant difference between the post-test scores of problem solving skill in achievement test on mathematics of experimental and control group students.
- H_{O_4} —There is no significant difference between the post-test scores of decision making skill in achievement test on mathematics of experimental and control group students.
- H_{O_5} —There is no significant difference between the post-test

scores of applicability of concept in achievement test on mathematics of experimental and control group students.

Material and method

In the present study, the researchers manipulate the effect of independent variables, that is, activities of cooperative learning method and traditional method, in order to observe the effect of manipulation upon the dependent variables, that is, academic achievement for logical thinking skill, problem solving skill, decision making skill and applicability of concept in mathematics of X Grade students. So, the researchers selected pre-tests post-tests designs under the true experimental methodology. experiment was conducted in three the phases. During the first phase, the researchers administered the achievement test on mathematics to observe the prior experiences as a pre-test. On the basis of the pre-test scores, the students were divided into two groups consisting of high achievers, average and under achievers. One group was named as control group and the other as experimental group. During the second phase, treatment was administered where control

group students were taught through traditional method and the experimental group students were taught the same content by the activities of cooperative learning method. For controlling the affect of teachers' quality by different teachers, both groups worked under the guidance and supervision of researchers themselves. During the third phase, the same test as post-test in similar control condition as in pre-test was conducted on both groups. The difference between the mean of T_1 and T_2 was found each other and this mean difference score was compared with the help of appropriate statistical test in order to ascertain whether the experimental treatment produces a significant effect over the control group or not.

Sample and sampling technique

Researchers selected 50 students of Class X from one of the laboratory schools of College of Teacher Education, Bhagalpur, Bihar through random sampling technique. To collect the evidence of data, the researchers prepared testing and non-testing tools. The testing or measuring tool showed achievement test on mathematics, while the non-testing or instructional tools

Pre-test	Randomly assignment	Independent variable	Post-test
T_1E	Experimental group students	Taught through cooperative learning method	T_2E
T_1C	Control group students	Taught through traditional method	T_2C

showed the lesson plan on the topic 'pair of linear equations in two variables' based on traditional method as well as cooperative learning method. These tools were standardised by verifying their reliability and validity. The learning plans were discussed with subject experts, educational technology-friendly and skilled resource persons and accordingly, alteration and modification were done. Learning plans were ready for final administration. The testing instrument's reliability was verified by test-retest method of coefficient of correlation and validity was checked with the experts' opinions.

Experimentation

The control group was taught 'pair of linear equations in two variables', 'graphical method of solution of a pair of linear equation', 'substitution method and cross multiplication method of solving pairs of linear equation', and 'equation reducible to a pair of linear equation in two variables' of the topic 'pair of linear equations in two variables' with the prescribed textbook and using some teaching-learning material in the traditional way by the researchers themselves.

The experimental group had been taught the same contents through three activities for cooperative learning—Student Team Achievement Division (STAD), Team Game Tournament (TGT), and Jigsaw II. These activities were followed by a quiz in order to evaluate individual

and group performance. Researchers applied Slavin improvement scores. This scoring system reflects each individual improvement scores and their active participation and contribution in the groups. The total number of participants were 25 in experimental group, so five groups consisting of five members each, were formed. Each group was now engaged in performing their task as given below in activities:

Activity 1 (STAD)



All groups were assigned the subtopics separately—'pair of linear equations in two variables', 'graphical method of solution of a pair of linear equation', 'substitution method' and 'cross multiplication method of solving pairs of linear equation' and 'equation reducible to a pair of linear equation in two variables' from the main topic 'pair of linear equations in two variables' of Class X mathematics for discussion and were asked to prepare and display charts, explaining it in explicit ways. Researchers observed and checked the groups and helped them understand the process. Then each group displayed their presentations in front of the other groups. After this, a quiz was carried out in which each member

of every group had to answer at least one question. This was done in order to avoid snubbing of shy respondents and, the improvement scores were thus calculated and then the team which scored the highest marks was announced the winner.

Activity 2 (Jigsaw II)

In this activity, all the five groups were assigned five different subtopics of linear equation and asked to discuss for 15 minutes, then one expert member from each group moved to the second group and so on and explained the subtopic, which was assigned to them. At the end of the activity, quiz cards were distributed to each group and again the group which scored the highest marks was announced as the winner.



Activity 3 (TGT)

In this activity, the group was broken into pairs and applied 'think in the pair and share' activity. One subtopic 'pair of linear equations in two variables' was assigned to all the pairs and they were asked to discuss for 10 minutes. After that, the partner member of each pair has to exchange their place and was asked again to share the knowledge gained. This process was repeated for all the subtopics. The students were then divided into two large groups and the fish bowl game was played, in which the bowl was filled up with some quiz cards. The bowl was passed from one student to another, with music, and as music stopped, the passing of bowl also stopped. The student who had the bowl was supposed to pick a card and answer the question. This process was continued till each student answered. Finally, the individual and team improvement scores were calculated and the team that scored the highest was announced as the winner.



Data collection

Finally both groups (experimental and control) were administered achievement with the test on mathematics as

post-test after completion of the experiment. Two types of scores—pre-test and post-test were used for both inferential as well as graphical analysis of data.

Result and discussion

Based on the result of data analysis, the following would describe the description and interpretation of research data.

Table 1 shows that the calculated value of 't' is 0.53 at df 48 at 0.05 level of confidence. This indicates that the null hypothesis is failed to reject. Therefore, there is no significant difference between the pre-test scores of experimental and control group students. Both groups have high achievers, average and low achievers.

Table 1
 't' value for the comparison between the pre-test scores of achievement test on mathematics of experimental and control group students

Level compared	Number of students	M	SD	SEM	SED	df	Calculated value of 't'	Tabulated value	HO ₁
Experimental group students	25	5.2	3.19	0.68	1.14	48	0.53	1.67	A*
Control group students	25	5.8	4.71	0.94					

*= fail to reject H₀ = Null Hypothesis

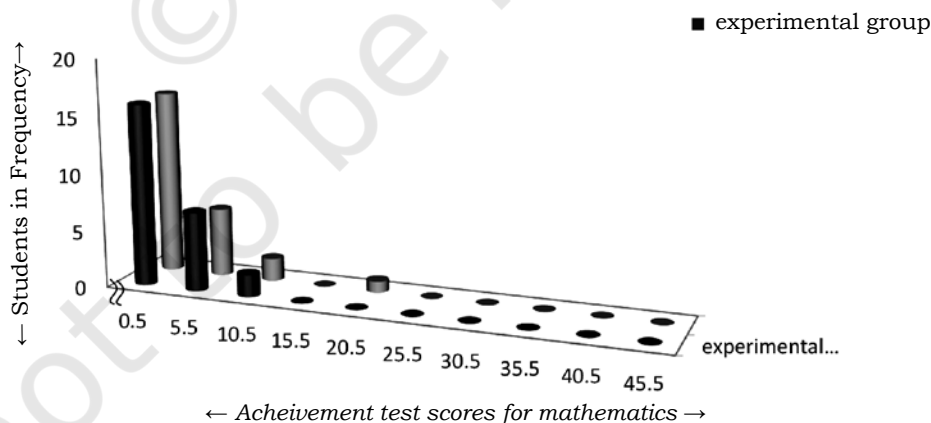


Fig. 1: Comparison between the pre-test scores of achievement test on mathematics of experimental and control group students

Table 2
't' value for the comparison between post-test scores of achievement test for logical thinking of experimental and control group students

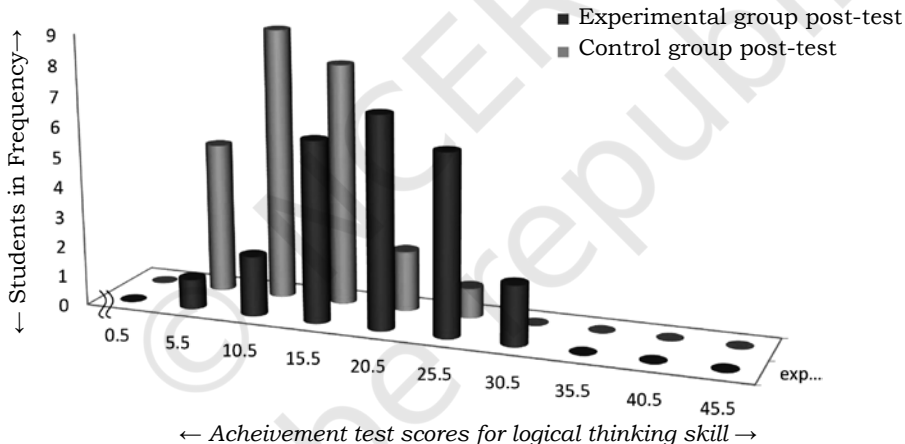
Level compared	Number of students	M	SD	SEM	SED	df	Calculated value of 't'	Tabulated value HO ₂	
Experimental group students	25	19.68	6.05	1.2	1.58	48	4.34	1.67	R*
Control group students	25	12.8	5.1	1.02					

*= Reject

HO = Null Hypothesis

Table 2 shows that the calculated value of 't' is 4.34 at df 48 at 0.05 level of confidence. This indicates that a null hypothesis is rejected, which means there exists a significant

difference between the post-test scores of achievement test on mathematics for logical thinking skill of experimental and control group students.



← Achievement test scores for logical thinking skill →
Fig. 2: Comparison between post-test scores of achievement test for logical thinking of experimental and control group students

Table 3
't' value for the comparison between post-test scores of achievement test for problem solving skill of experimental and control group students

Level compared	Number of students	M	SD	SEM	SED	df	Calculated value of 't'	Tabulated value	HO ₃
Experimental group students	25	16.08	6.86	1.37	1.7	48	1.92	1.67	R*
Control group students	25	12.8	5.1	1.02					

*= Reject HO = Null Hypothesis

Table 3 shows that the calculated value of 't' is 1.92 at df 48 at 0.05 level of confidence. This indicates that a null hypothesis is rejected, which means there is a significant difference between post-test scores of achievement test on mathematics for problem solving skill of experimental and control group students.

Table 4 shows that the calculated value of 't' is 5.08 at df 48 at 0.05 level of confidence. This indicates that null hypothesis is rejected, which means there is a significant difference between the post-test scores of achievement test on mathematics for decision making skill of experimental and control group students.

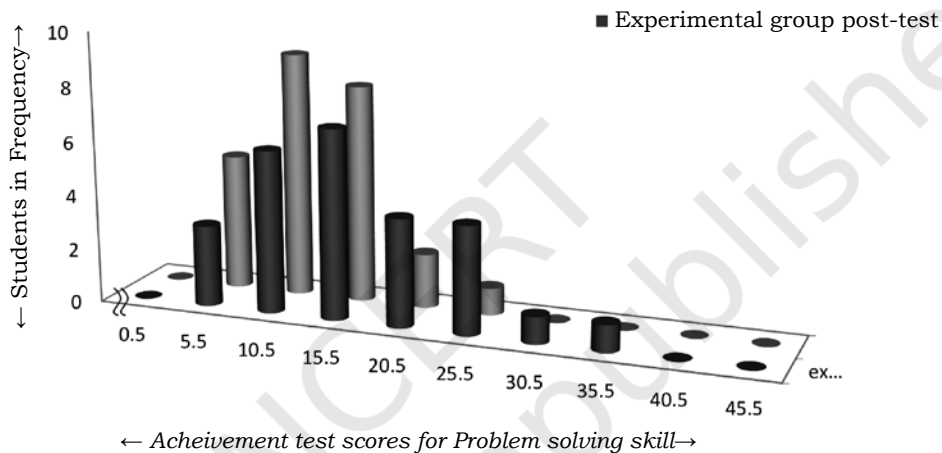


Fig. 3: Comparison between post-test scores of achievement test for problem solving skill of experimental and control group students

Table 4

't' value for the comparison between post-test scores of achievement test for decision making skill of experimental and control group students

Level compared	Number of students	M	SD	SEM	SED	df	Calculated value of 't'	Tabulated value	HO ₄
Experimental group students	25	22.5	7.31	1.46	1.97	48	5.08	1.67	R*
Control group students	25	12.44	6.66	1.33					

*= Reject H0 = Null Hypothesis

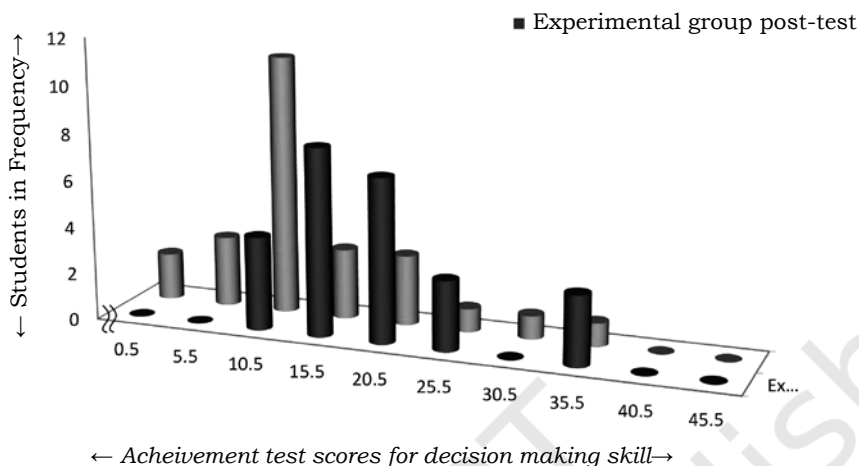


Fig. 4: Comparison between post-test scores of achievement test for decision making skill of experimental and control group students

Table 5

't' value for the comparison between post-test scores of achievement test for applicability of concept of experimental and control group students

Level compared	Number of students	M	SD	SEM	SED	df	Calculated value of 't'	Tabulated value	HO ₄
Experimental group students	25	19.9	7.27	1.45	1.96	48	3.25	1.67	R*
Control group students	25	13.5	6.62	1.32					

*= Reject H₀ = Null Hypothesis

Table 5 shows that the calculated value of 't' is 3.25 at df 48 at 0.05 level of confidence. This indicates that null hypothesis is rejected, which means there is a significant

difference between the post-test scores of achievement test on mathematics for the applicability of concept of experimental and control group students.

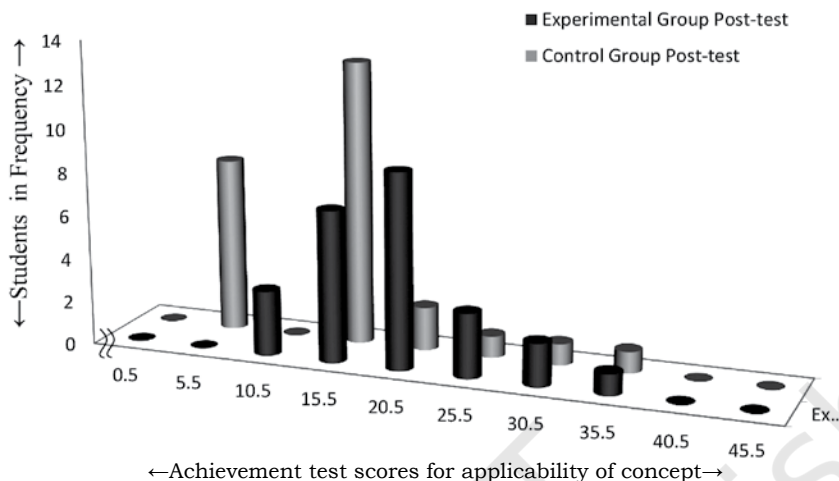


Fig. 4: Comparison between post-test scores of achievement test for decision making skill of experimental and control group students

Major findings of the study

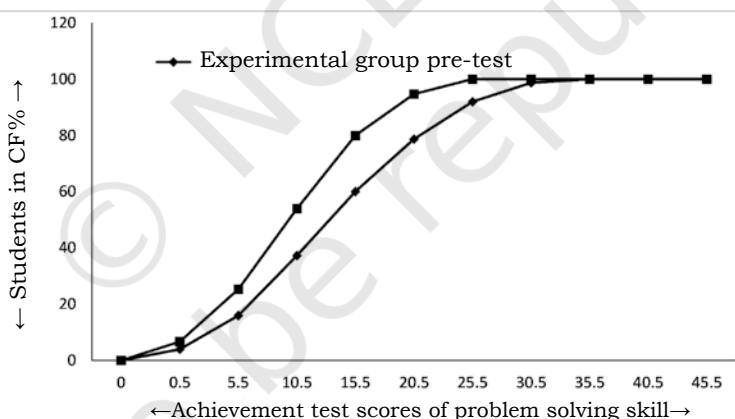


Fig. 6: Comparison between the pre-test scores of achievement test on mathematics of experimental and control group students

The paired ogive as shown above reflects the comparison between the pre-test scores of experimental group and control group students in academic achievement test. It is found that both the groups consisted

heterogeneous levels of students—high achiever, average and low achiever. Thus, the researchers observed results of the effect of cooperative learning method over the traditional method accurately.

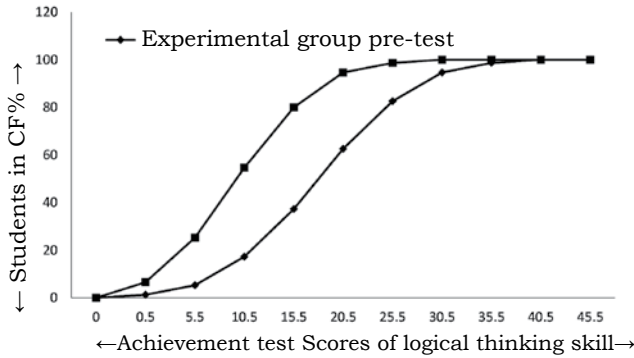


Fig. 7: Comparison between post-test scores of achievement test for logical thinking skill of experimental and control group students

The paired ogive reflects the comparison between post-test scores of achievement test for logical thinking skill of experimental and control group students. It is found that the students taught through

cooperative learning method develop their skill to think logically by participating in various activities of cooperative learning method better than the students taught through traditional method.

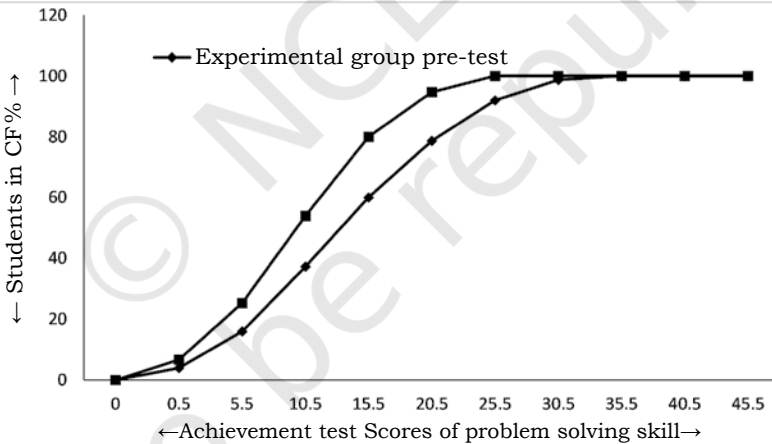


Fig. 8: Comparison between post-test scores of achievement test for problem solving skill of experimental and control group students

The paired ogive reflects the comparison between post-test scores of achievement test for problem solving skill of experimental and control group students. It is found that the students taught through

cooperative learning method develop their ability to solve the problems easily by participating in various activities of cooperative learning method better than the students taught through traditional method.

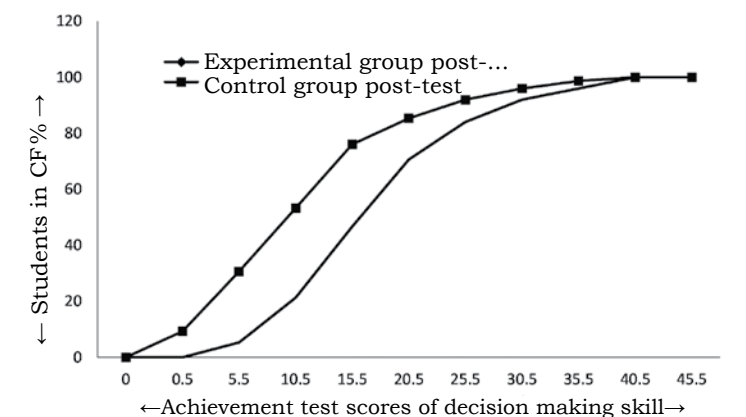


Fig. 9: Comparison between post-test scores of achievement test for decision-making skill of experimental and control group students

The paired ogive reveals the comparison between post-test scores of achievement test for decision-making skill of experimental and control group students. It is found that the students taught through cooperative

learning method develop their skill of making decisions more easily by participating in various activities of cooperative learning method than the students taught through traditional method.

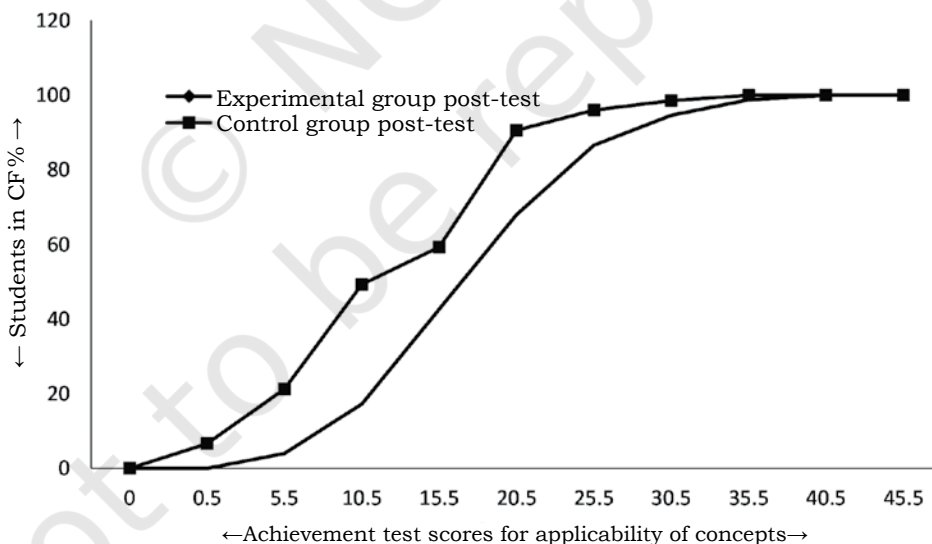


Fig. 10: comparison between post-test scores of achievement test for applicability of concept of experimental and control group students

The paired ogive reveals the comparison between post-test scores of achievement test for the applicability of concept of experimental and control group students. It is found that the students taught through cooperative learning method develop their applicability of gained concepts more easily in daily life situations by participating in various activities of cooperative learning method than the students taught through traditional method.

CONCLUSION

It is concluded from the study that cooperative learning plays a significant role in transforming students as knowledge creators and divergent thinkers. It creates a healthy competition among the students with cooperation. The students try to reach their goal along with their teammates or classmates without combating and standing against each other which is the essence of this method. Student Team Achievement Division (STAD) activity forces students to think over—‘if $2x+6=0$, then which value of x satisfies the given equation?’ They solve problems with mutual understanding and identify the required value of x . With the help of ‘word problem’ in their discussion, they associate this concept to the daily life problems. Here, they develop team spirit with social skills. This activity also enriches their logical thinking and problem solving skills as they argue for the solution. This also helps them to use the

concept and logic to other areas for solving the problems. Similarly other groups also develop their understanding of the concept or topic with healthy competition in a friendly environment and enjoy a lot. Jigsaw II develops their communication skill as they move from group to group and expresses the concept of the concerned topic conceived by them. It also clarifies their ambiguity and helps them develop the skill of conflict management. They also acquire the leadership ability and when the expert of one group moves to explain the concept to an other group, they behave and present themselves confidently. Consequently, students feel pleasure in answering a question raised by the expert correctly, that was not discussed in the group and was also new for them. It suggests that it also helps in enhancing their decision-making abilities, logical thinking and application of experienced concepts in a new situation. Team Game Tournament (TGT) or activity ‘think pair and share’ provides equal opportunity to all students for active participation with excellence. It helps in removing hesitation of shy respondents. They express themselves with their divergent thinking and perform the activities in a friendly environment with healthy competition. All students (weak, average and high achievers) contribute their best and got equal importance. They also developed social skills, communication skills, problem solving skills and decision-making

skills, as well as the applicability of concept. The cooperative learning method provides an atmosphere that enables the students to observe the information and better than the traditional one. The best part of this method is that each and every student participates in all the activities actively and enjoys them. They learn to respect each others' ideas and views which positively motivates the lagging students in the group. Teachers' role is important here because they incorporate the basic elements of cooperative learning and activities among students. These activities are performed under their supervision. The cooperative learning activities involve students to be more active participants, to share and discuss their ideas, to engage

in arguments and debates, to play varying roles between the groups and to internalise their learning.

RECOMMENDATIONS

1. Cooperative learning method is used here in the school but it can be applied in other higher educational institutes also.
2. Cooperative learning method should be given for a long duration to observe its efficiency effectiveness.
3. Here, only three types of activities are applied; more and different activities should also be applied for better results.
4. The research should be conducted on a large sample for generalisation of the findings.

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CLIL

A Helpful Teaching and Learning Approach in the Changing Indian Educational Scenario

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Abstract

Approaches towards language teaching and learning always remain under scrutiny in terms of their goals and scope, their aims and their extent. With time, language education has welcomed several approaches from communicative language teaching to cooperative language learning. The approach of Task-based instruction has also seen an increased acceptance as a preferred method for teaching and learning. However, all of the approaches face pertinent questions about how well they work in given circumstances and how they can contribute towards a multilingual language setting. The article aims to introduce the Content and Language Integrated Learning (CLIL) approach as a welcoming alternative to the approaches used at present at various academic levels. and it moves ahead from the traditional approaches. The article presents an intervention study conducted in the city of Guwahati, to highlight the views of students and teacher-observers about the CLIL approach. The study, in a detailed manner, touches upon the stages of pre-intervention, intervention and post-intervention, to give an exact representation of how the approach works and helps the teaching and learning of content and language together. The article reflects findings of the intervention, along with analysis and also highlights the limitations of the study, so as to encourage more research in the area, and to help the approach grow.

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THE CONTEXT

Various conferences and webinars have been held in recent times on English Language Teaching and Development, which have broadly focused on language learning and teaching courses undertaken for higher academic levels in India, and also to seek explanations to pertinent questions, such as:

- What should be the goals of language teaching?
- What approach would work best, and in what circumstances?

The above questions will act as the research questions for the study, and the present article would look at the Content and Language Integrated Learning (CLIL) approach as a possible solution to the questions raised and will try to provide a clearer understanding of CLIL as a much needed approach in India.

WHAT IS CLIL?

'Content and Language Integrated Learning (CLIL) is a dual-focused educational approach, in which an additional language is used for the learning and teaching of both content and languages.' (Coyle et al., 2010). The CLIL approach, emphasises both content and language, with the relative importance of one over the other, depending on the lesson and the type of CLIL the teacher wants to use. Coyle stated that CLIL is different from other approaches as it emphasises the unification of context, cognition, communication students and culture

(Coyle, 2007). Thus, the crux of CLIL is to improve the communicative expertise of the learners, along with their content knowledge. The approach is performance-based, working on the principles of WALT (We are learning to...) and WILF (What I am looking for...) popularised by the educational consultant Shirley Clarke, making it easier for learners to understand and verbalise learning objectives in a less abstract manner.

CLIL in the Indian context

In India, the adoption of CLIL is at nascent stage and mostly limited to school level of teaching and learning, different from the greater acceptance and development in most of the developed world. In Asia, the countries of Thailand, Taiwan, Malaysia and Japan have extensively contributed to the growth and research of CLIL as an approach.

Vency and Ramganesha conducted a study at the secondary level, in which the teaching of English and science was done through CLIL. This study demonstrated that language learning was made possible by using science and employing the CLIL approach (Vency and Ramganesha, 2013). Fabian Marbaniang conducted a PhD. research on CLIL among the Khasi tribe in Meghalaya in the year 2016. The research put the approach to test and found significant improvements in the demonstrable outcomes of English language education among the Khasis in Meghalaya. Lal and George suggested that the content and

language teachers should add more depth to their existing knowledge, for CLIL to be successful in India. They stated that the teachers should learn about other subjects too, as it would help them as CLIL teachers (Lal and George, 2017).

An important CLIL project named CLIL@INDIA was running in India from 2016 to 2018 and was co-funded by the Erasmus + Programme of the European Union. The project centre was at the Manipal Academy of Higher Education, Manipal, Karnataka. The CLIL@INDIA project was a three-year project that aimed at introducing CLIL methodology and pedagogy to the Indian educational system, especially at the school level. The Project aimed at developing a new model of bilingual education by adapting the CLIL approach to the Indian context. The project started the study of CLIL adaptation by using pilot CLIL modules in primary schools, both in the public and private sectors. It also tried to disseminate knowledge to the relevant stakeholders, such as academia, non-profit educational organisations and policymakers. The project began in the year 2016 and focused on six languages, namely. English, Hindi, Kannada, Tamil, Marathi and Punjabi. The team at CLIL@INDIA had on board former state level teachers as their associates, who provided much-needed support for the lesson plans. Activities played a significant role in classroom teaching, and the research associates were assigned the task of preparing charts, displays and

other fun activities for all the schools. The results from the intervention did showcase that CLIL, as a new method of education, can mainly address multilingualism in a much better way and that with the right impetus, it has the potential to be an alternative approach to the present system of education in India.

Need and Significance of the Study

This article aims at discussing and introducing the Content and Language Integrated Learning (CLIL) approach as a welcoming alternative to the approaches presently used at various academic levels. The need for this paper stems from the vital need of the educational system to introduce new and effective approaches to the teaching and learning process. The significance of this paper shall be in introducing CLIL as an approach, which can bridge the gap between language and content that shall benefit teachers and learners in their teaching-learning process.

Research Methodology

The present study is a quasi-experimental intervention research based on field work. It is dual in nature, as it is both exploratory and experimental. The qualitative nature of the research shall help in understanding the underlying motivations, reasons and opinions of the sample. The intervention study took place in three phases, namely the

pre-intervention phase, intervention phase and post-intervention phase.

The study used the following tools:

- In the pre-intervention phase, a need analysis was conducted, with the help of a questionnaire, devised to know language needs of the learners.
- The intervention phase included a pre-test, administered to check the language level and content understanding of the learners. Classroom observation by a teacher documented the teaching practices and methods applied to teach content and language in an integrated manner—the teacher concerned interspersing between being the language teacher as well as the content teacher.
- The post-intervention phase included a questionnaire, with both open- and close-ended questions that helped to decipher the learners' assessment of the course. Second, a post-test was conducted to test, both, the language and content knowledge of the students and put the intervention phase to test. This was followed by semi-structured interviews with teachers and learners. The interviews helped in the qualitative research and to investigate and broaden the answers given by the interviewees.

The Study

The intervention study was held at the institution—Kamrup College of Vocational Training (KCVT) in

Guwahati, Assam. The study included 20 students from the Secretarial Practice course, which was also the content area for the study. This study was for a period of five days. The classes were held for two hours daily, with a total time of ten hours for the intervention. Firstly, a need analysis was conducted before the intervention that helped understand the language needs of the learners. The need analysis questionnaire was designed based on the material of need analysis provided by the British Council, which states, 'Needs analysis is a part of building learner awareness and autonomy. Asking learners what they feel they need to practice is a good initial step. As well as providing data, it can encourage them to start thinking about their learning and taking responsibility for it.' (<https://www.teachingenglish.org.uk/article/needs-analysis>)

Next, a pre-test was conducted before the intervention to check the language level of the students. The test questions designed looked into the overall ability of the learners and included questions, which ranged from easy to challenging following a linear graph. The pre-test aimed at testing the language ability of the students in the word, sentence and paragraph level of language teaching and learning. This test was designed based on ASER 2007: Comprehension tasks. A sample of the question paper is given in Material 1.

Material 1

Choose the best adjective to fill in the blanks.

- a) I am sorry. We had _____ toys earlier, but we sold them.
Few / Any/ Most/ Some
- b) Yes, I would like _____ cake.
Most / Few/ Many/ Some
- c) _____ people think our country needs a new education system.
Many/ Any/ Few/ Each
- d) Due to rain we didn't get _____ support.
Few/ Several/ Many/ Much

A content test was also devised for pre-testing in consultation with the content teacher. A sample of the question paper is in Material 2.

Material 2

1. How would you define an office space?
2. What is the primary role of a secretary?

Next, material devised for the intervention used DARTs or Directed Activities Related to Texts, as suggested by Davies and Greene (1984), in which a text is seen through the prism of both language and structure. According to the 4Cs curriculum by Coyle, a CLIL lesson is not merely a language or a content lesson. A CLIL lesson is a combination of Content (knowledge related to specific elements); Communication (language to learn); Cognition (developing thinking and understanding); and Culture (shared understanding

and alternate perspectives) as also mentioned with much similarity in 'CLIL: A Lesson Framework' by the British Council (<https://www.teachingenglish.org.uk/article/clil-a-lesson-framework>). In a CLIL lesson, all of the four language skills, viz. Listening, Speaking, Reading and Writing should come together to focus on input, understanding, thinking and delivery. The material devised for the lesson 'Record Management', were used in the intervention. The intervention lessons connected Content, Communication, Cognition and Culture, and made the lessons impactful for the learners. The lessons included the language section, which concentrated on 'Describing', and the cognition section looked into 'Application'. Vocabulary and grammar also played essential roles in the lesson. Adjectives used in describing were discussed in the grammar section that helped in the understanding of both the content and language.

A few of the activities conducted during the intervention include: **Cloze activity**—to reinforce vocabulary development and usage in various contexts

Matching terms and definitions activity—to give the learners a sense of the contextual terms and their use

Multiple choice questions— used to help learners build on their thinking skills

Reading— as an activity used to help learners with their confidence

Speaking in pairs—used to encourage teamwork and discussion

Information gap— to help students build communication tactics and to understand the use of language

The intervention was closely monitored by the language and content teacher. The teacher-observer was provided with a checklist to assess the class. The checklist designed under the blueprint prepared by Mehisto et al. (2008) helped with the observation. The teacher-observer observed all the aims that the CLIL teacher had mentioned, thoroughly and objectively. The data collected from the checklist was utilised in consonance with the semi-structured interview of the teacher to draw a final analysis.

The views of the students were collected using questionnaires and semi-structured interviews. The questionnaire had two sections—open-ended questions and close-ended questions. Thirteen close-ended questions tried to know the students' reaction towards the classes and the CLIL approach. The seven open-ended questions tried to gauge the extent of receptivity of the CLIL approach among the students.

The final, post-test was conducted to check the Content and Language Learning of the students using the CLIL

approach. The final post-test focused on listening and speaking skills, as the needs of the job-market placed a premium on these two given skills. Two questions based on content and language given to the learners tested their skills. To mark the students for their listening and speaking skills in the formative assessment during the post-intervention stage, 'Rubrics, Band scales and Boxing weights' (Ball et al., 2019) were collectively referred to. These bases of assessment analysis helped understand the growth of learners in both content and language. A Holistic Rubric (at Table 1) was formed, to fairly judge the students based on their competence.

The assessment for the intervention was formative, made test an approach—a new method of teaching and learning. The criteria for choosing the formative assessment was to help the learners with their self-assessment and also encourage peer assessment. This formative assessment is more associated with on-going continuous assessment. It is linked to the notion of 'assessment for learning', in that it is more diagnostic than the others, and usually takes place during a course. It also includes within its broader remit practices, such as self-assessment, peer assessment and performance assessment.' (Ball et al., 2019).

Findings

The findings of the need analysis showed the apparent need of the learners to improve their writing and speaking skills, while being least

Table 1
Holistic Rubrics

Criteria	Excellent— 5	Good— 4	Satisfactory— 3	Almost satisfactory— 2
Students could use language confidently	Expresses ideas, opinions and feelings clearly and in an engaging manner. + fluency	Expresses ideas, opinions and feelings clearly but needs work in fluency	Expresses ideas, opinions, feelings with partial clarity	Expresses ideas, opinions, feelings with limited clarity
Students could use and understand content terms	Listens attentively to ideas and opinions, understands it and uses it confidently while speaking	Listens attentively to ideas and opinions but hesitates a little while using the content words	Listens to some of the ideas and opinions but falls short in using them while speaking	Demonstrates limited ability to listen to ideas and opinions related to content. And finds it difficult to use content words while speaking
Active listening and interaction were seen	Listens attentively and interacts wilfully	Listens attentively but not very comfortable in interacting	Tries to listen but puts least efforts to interact	Demonstrates limited ability to listen or interact
Students could identify the information shared or question asked, and could form their own questions	Identifies, understands and asks insightful questions	Identifies and understands but lacks questioning skills	Basic identification and understanding without any questioning skills	Pays attention but finds it difficult to identify, understand and ask questions without help

concerned for their listening and reading skills. However, listening and reading skills are as important as writing and speaking skills for the secretarial practice course. This analysis further the understanding that without the development

of adequate skills of input; the development of the skills of output was difficult.

The pre-test findings disclosed that majority of the students had difficulty at the word level, which indicated their lack of vocabulary. At

the sentence and paragraph level they had a better result, which suggested on the emphasis of the writing skill with grammar in our education system. The content questions also showed the lack of understanding about the content area among the students.

The teacher-observer had observed the aims of the class and the methods using the checklist. The teacher even commented that such an approach would benefit the students in their Content and Language Development. In the semi-structured interview, the teacher-observer mentioned how she favoured such an approach as she felt there was a gap between the content of the subject and language education in the classes. Comments were made on how vocational education looked at employability and how such an approach used in the classroom would benefit the students in their careers.

The responses received from the students were positive. The students were excited about the approach and felt it could be useful in the future. The limited time allotted for the classes was mentioned as a hindrance to understand the approach better, and they expressed their wish for longer CLIL classes, to further imbibe the benefits and positive effects of the approach. In a random sampling method, five students were selected and interviewed informally. The students showed great interest in the approach and wished to carry forward their classes using the

approach that integrated the content of secretarial practice with English language learning.

The assessment rubric showed a high degree of confidence and awareness in both content and language among the learners. From the level of 'Below Average' to the level of 'Satisfactory' and 'Good', marked quite a leap of development for the learners under the CLIL approach.

The tools used—need analysis, pre-test, classroom observation, post-intervention questionnaire, post-test and the semi-structured interviews with learners and the teacher, were found to be very useful and helpful to carry forward this research. The tools of need analysis and pre-test helped understand the learners' previous knowledge and learning. This helped the teachers to either correct or widen the knowledge and learning base of the students, and also helped them with their lesson plan. Through classroom observation, a strict watch was kept on the functioning of the class and access the effectiveness of the intervention in real time. The tools of post-intervention questionnaire, post-test and semi-structured interviews helped analyse the intervention stage and get views of the students and teachers. These tools tested and questioned the learners' current level of development in language and content based on the interventional study, which used the CLIL approach.

Analysis

The study conducted put the research questions to test by providing answers that could prove beneficial in future. The CLIL approach tried to present the view that the goal of language teaching is to make learners confident and able users of the language, to help in both their content and language needs. This approach also suggested that the aim of a language course should be overall development of the learner in both—content and language, as each of them is important. ‘...the content of core subjects, though designed to be transacted preferably in English (as most of the content textbooks are pared in English) following a Content Based ‘immersion’ model, is often taught in the mother tongue, with the teacher playing the role of a translator. The unfortunate result is the dual inadequacy and incompetency in the two targeted aims, content learning and proficiency in the second language.’ (Lal and George, 2017, p. 39).

In the higher academic levels, wherein content and language development work simultaneously, an approach, such as CLIL can be beneficial with its emphasis on integration. ‘The CLIL students are aware of the advantages and disadvantages of CLIL. When being asked about advantages they mostly enumerate better opportunities in the future. They seem to treat CLIL as a way towards achieving their goals.’ (Papaja, 2012, p. 53). Culture too plays a significant role in the

CLIL process; the native language of the learners is seen as an aid in the given multilingual language learning setting. ‘...CLIL materials can be time consuming and challenging to produce, collaborative work can reduce the load and become a way of sharing materials, practices and experiences. In doing so, (one)...can explore new avenues for professional development and reflect on CLIL principles and CLIL enactment according to curricular demands and local needs and opportunities.’ (Banegas, 2015, p. 32).

The study showed a major difference in the pre- and post-test when compared. The 20 students were hesitant while writing the pre-test and showed low self-esteem in terms of language and content skills before the intervention, but after the intervention, the students showed major changes. They displayed confidence in the areas taught and were ready to speak and share their thoughts. The score for majority of students in the pre-test was ‘Below Average’ but in the post-test, the majority of students were in the ‘Good and Satisfactory’ rating.

The study also indicated the need for Formative Assessment as, ‘The task-based nature of formative assessment provides a wider variety of classroom interaction that it requires, to assess the child; inevitably making it more comfortable candidate for the assessment in CLIL. Didactic units tend to be longer, for conceptual sequencing, more group work, and with a greater choice of

formats available for the presentation of work. These elements increase the possibilities for teachers to work out the schemes of on-going assessment that take procedural and process-oriented objectives into account.' (Ball et al., 2019)

The study also highlights the areas of development in terms of parameters of the CLIL approach, the guidelines and criteria for designing material, the validity and authenticity of the material, the objectives and outcomes of the assessments, and the role of teachers and learners in the system of teaching and learning.

CONCLUSION

This study was a minimal attempt to bring the approach of CLIL into higher

academic levels of education through the vocational and skill sector. The approach needs more research in various areas, to help in its growth and to establish it as an approach, which will work best in the Indian educational scenario. The National Education Policy 2020 provides for the integration of various subjects, removing the divide between the content areas and focusing towards more practical and applied knowledge. In the light of this new policy, CLIL as an approach can be extremely helpful in bridging the Content and Language gap for the learners and to make the teachers more equipped with the amalgamated use of language and content.

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A Cross-sectional Study of Linguistic Creativity of Hindi Language Learners in Relation to their Academic Achievement

ANJALI SHARMA*, NEHA RAWAT** AND PINKU***

Abstract

The present study is a cross-sectional study of language creativity in Hindi language learners to explore its relationship with academic achievement, conducted through a descriptive survey research method. The sample for the study was taken from the population of secondary level students of Class IX. A sample size of 800 respondents has been chosen based on stratified random sampling technique by random selection of participants from three strata, namely: (i) Background (Urban and Rural), (ii) Type of school (Government and Private), and (iii) Gender (Male and Female). A standardised verbal language creativity test designed by S. Malhotra and Sucheta Kumari has been used to test language creativity and the scores of Class VIII final examination have been taken as the measure of academic achievement of learners of different levels. One-way ANOVA and t-test in the statistical tools were employed to test null hypotheses. The conclusions of the study establish that the language creativity in Hindi language learners in writing skills is affected by their academic achievements levels. Therefore, by augmenting the academic achievement of language learners, their language creativity can be improved along with the Hindi writing skills and expressions.

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INTRODUCTION

Language has been and will continue to be the timeless achievement of humans in the succession of our evolutionary history. Descartes proposed, 'The ability to produce a new sentence, appropriate to the situation, is unique to man'. The most outstanding feature of language is that it evolves within the context of its environment. To best describe the malleability of language in its social and cultural context, Saussure has stated that language is one of the elemental structures of human life and we 'do not discover' it but we 'create' it according to the innate structures of human mind (Zawada, 2006). Here to create implies generating new possibilities for better understanding and adjustment with our world, which, when juxtaposed with language, leads to language creativity.

Language creativity holds the keen interest of researchers and educators due to its theoretical and practical importance. While its theoretical foundation lays down directive principles of effective language teaching and learning, its practical implementation offers a potent tool for language educators to sharpen their learners' language skills incessantly. Ronald Carter splendidly held, 'linguistic creativity is not simply a property of exceptional people but an exceptional property of all people' (Carter, 2004, p.13). It applies equally well to language creativity which is studied under linguistics. Apparently,

every language user is 'exceptionally creative' (Budlova, 2014).

The study embraces this as its focal point that every language learner has the latent potential to create novel ideas or products of language. It is significant to relate this quality of language learners with the prominent factors of teaching-learning situations. One of the primary approaches to language learning is academic achievement; therefore, it is essential to study its effect on language creativity. Further, the study specifically examines the effect of academic achievement on the language creativity in Hindi language learners as Hindi is an essential subject of the curriculum of Indian schools, by establishing a relationship between language creativity of Hindi language learners with their academic achievement. For this, the study focuses on writing skills of Hindi language learners by the components of the tool implemented for the study. A conceptual overview of the study is as follows:

Review of Related Literature

Language creativity has been studied in relation to various teaching-learning variables. Sharma (2017), in her research work, evaluated the impact of creative self-instructed teaching-learning material on the academic achievement of Hindi language learners. She developed computer-based teaching-learning material of Hindi grammar and administered them through experimental research method.

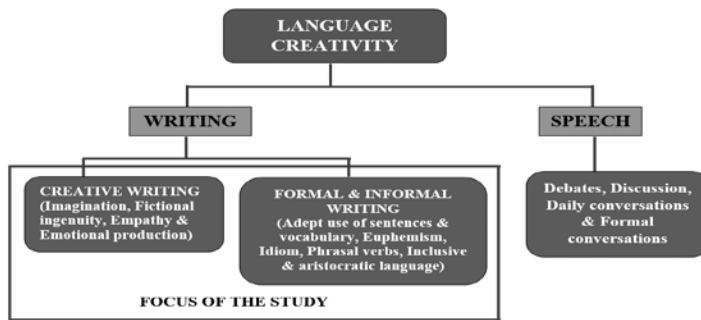


Fig. 1: An overview of Hindi Language Creativity in writing

She successfully concluded that computer-based creative teaching-learning material of Hindi grammar has increased the achievement of the learners.

Sharma (2016), through her research work on language creativity, also reinforced about learners' academic achievement by classifying learners based on their academic achievement under different intelligence levels. She successfully concludes that high intelligence levels of learners positively affect their Hindi language creativity.

Bagaria (2016) reinforced through descriptive survey research that there is a positive correlation between English language creativity and academic achievement, which means a high level of language creativity in English will definitely increase the academic achievement.

Mishra (2016) has established through her research study that a new version of English language known as Indian English has evolved due to the influence of Indian English speakers. She has emphasised explicitly on the spellings, vocabulary and pronunciation of Indian English

language, which has become essential in various Indian situations. Further, her work ascertains that Indian English has comparatively more correct grammar than its other varieties across the globe and stands a definite chance to gain a distinguished position.

Another fascinating study about language creativity by Malik (2016) discusses the status quo of creative use of Hindi-English language in daily communication. Her study focuses on the aspect of language creativity where less work has been done with few or low number of available researches in the field. She points out that in a multilingual country like India, Hindi-English code-switching is an integral part of spoken and written English, like in interviews, advertisements, discussion on television, newspapers and magazines, etc. Tools used for the study were questionnaires, interviews and observations with a sample consisting of 15 lecturers both from colleges and universities with different backgrounds. She concluded the study with the acceptance of code-switching in written as

well as in spoken forms. To survive in a multilingual setting, code-switching is essential. In order to excel at code switching, one has to be proficient in both the languages. The teachers, who have favoured its use in the classroom, maintain that code-switching facilitates the learning and teaching process. For example, switching to the Hindi explanation of an unfamiliar English word gives learners a better understanding of the topic.

Holmes et al. (2015), in their study, explored the relationship of children's creativity, social play and language abilities. They selected 225 pre-schoolers for the study, out of which 109 were girls, and 116 were boys. The tools employed for the study were — goodenough — Harris Draw-a-Person task' to measure creativity and observations of children's social play; Howes and Matheson's Peer Play Scale and the Peabody Picture Vocabulary Test (PPVT-IV) to measure receptive vocabulary of the preschoolers. By using correlation analysis, an evident association was recognised between some of the social plays and creativity. The conclusions of the study affirm that children's creativity and social play enhance their language abilities.

The study by Massarrat (2014) consisted of the students of Class VIII of urban and rural background. She concluded that the students from urban background were superior in language creativity than the students from rural background. Further, she ascertained in relevance to the

present study that the students of rural background have low language creativity, especially they lack the vocabulary and expression. In contrast, urban students are better in expression due to the array of co-curricular activities performed in the school. She also discovered through a self-developed questionnaire that some English language teachers were unaware or disinterested in fostering language creativity.

The study of Asore (2012) closely corresponds to the study. This is a descriptive survey research in which the sample comprised 100 students of Class IX randomly selected from five Marathi medium schools of Aurangabad city. The data was collected through the Hindi Language creativity scale of Malhotra and Sucheta Kumari. The findings revealed a positive and significant correlation between Hindi Language Creativity and achievement of students of Class IX.

Guill'en and Bermejo's (2011) paper reported about music as a pedagogical tool to help in encouraging learners' too creativity by enriching their literacy in English, content and use of language. They proposed a natural bond between music, language and the thinking process; therefore, embracing music in day-to-day teaching results in the development of creative thinking. This happens through the evocation of imagination and visualisation among learners of all ages through storytelling. So, participants under

the study began by listening to music. They then eventually started creating their own stories using the words and phrases gained through the musical experience to empower their creative skills facilitating their language learning. It does, demonstrate on how music functions as an instrument in language learning.

NEED OF THE STUDY

The positive relationship of language creativity with academic achievement has been reinforced by various studies conducted for Hindi language learners, but these studies are sparse. Following are the reasons that motivated the researcher to take up this study and decide its direction and design:

1. A need was felt to study the language creativity of Hindi language learners though their academic achievements as abundant findings were available to support the relationship between the language creativity of English language learners and their academic achievement but very few and insufficient studies have been found exploring the language creativity of Hindi language learners and their academic achievement. Also, language creativity has been linked with music, art and everyday novel speaking practices but not with academic achievement (Guillen and Bermejo's, 2011 and Holmes et al., 2015).
2. Another significant reason to study the language creativity of Hindi language learners is the immense value that Hindi has gained in multilingual societies, like India, for effective teaching and learning. Studies of Mishra (2016) and Malik (2016) about Indian English and Hindi-English code-switching establish that Indian English can only be applied to Indian contexts and situations. This is evident from the increased online courses and tutorials being developed by the private and government stakeholders in English and Hindi languages for the multilingual learners of Indian education system.
3. Various studies attempted to assess the factors of general creativity identified by Torrance Test of Creative Thinking (TTCT) as fluency, flexibility, originality and elaboration. So, a need was felt to study the learner's language creativity regarding their expression of Hindi language. Therefore, conversely, the dimensions for specific creativity of Hindi languages by Guilford's theory of creativity were studied.
4. Another reason for the study was that all secondary level students of different backgrounds face difficulties in relation to expression writing and speaking in Hindi language. As indicated by Massarrat (2014) regarding English language learning, teachers are insufficiently willing or equipped to foster creativity, so it became imperative to conduct a study of low, average and high achievers concerning their Hindi

language creativity in the area of writing skills.

METHODOLOGY OF THE STUDY

Method and research design

The nature of the study is quantitative research using descriptive survey method, wherein comparative static group research design was employed. The chosen research design is apt for the study. It facilitates the uncovering of learners' academic achievement in Hindi language as an independent variable while measuring the linguistic creativity in Hindi language expressions.

Population and sample

The sample for the study was taken from the population of secondary level students of Class IX of Alwar district of Rajasthan. A sample size of 800 students has been chosen based on stratified random sampling technique by randomly selecting participants from the three strata, namely, (i) Background (urban and rural), (ii) Type of school (Government and Private), and (iii) Gender (male and female).

Tools

A standardised verbal language creativity test designed by S.P., Malhotra and Sucheta Kumari has been used to test language creativity of school and college students. The central thought of the test is that creative writing brings out each learner's distinct way of expression in the form of word and sentence formation by employing the forms

of creative writing, like poetry, lyric, story, drama, essay or letter writing as their medium of expression. The language creativity test encourages the choice of responses, both qualitative and quantitative, within the specified time, thus ascertaining the aptness of the tool in determining the areas of divergent thinking.

About the Test

Language creativity has five subtests. Due to the focus on expression in Hindi language learning, its sub-areas are being elaborated as under:

1. Plot Building is based upon Guilford's multiple story plots where an imaginary situation is given to the learners to promote free flight of imagination. In all, there are seven items in it, which measure ideational fluency, originality and elaboration.
2. Dialogue Writing is based upon Guilford's multiple emotional expressions and multiple social problems. Learners pen down various feelings that they may want to say when they are subjected to an emotional situation to test their ideational fluency, originality and elaboration.
3. Poetic Diction is based on Guilford's expressional fluency and word-pair revision. The factors tested here are fluency and originality.
4. The Descriptive Style is developed on the pattern of Guilford's controlled associations. The purpose of this sub-test is to

evaluate the illustrative style of the students in terms of fluency, flexibility, originality and elaboration and as test item.

5. Vocabulary Test is based on Guilford's expressional fluency, controlled association, multiple grouping, word-pair revision and word fluency tests. The items to be tested are fluency, flexibility and originality.

The quantitative achievement scores are gained by the learners in their Class VIII final examination. Various research studies have taken final examination marks (Sharma, 2016) to measure academic.

Objective of the Study

To compare language creativity of high, average and low academic achievers.

Hypotheses of the Study

1. There is no significant difference in the language creativity of high, average and low achievers.

1.1 There is no significant difference in the language creativity of high and average achievers.

1.2 There is no significant difference in the language creativity of high and low achievers.

1.3 There is no significant difference in the language creativity of learners—average and low achievers.

Statistical Methods

To analyse the data statistically, the measures of central tendency, namely mean and SD were calculated. One way, ANOVA was used to find out

the significant difference between three groups— high, average and low achievers on language creativity. It was found that there was a significant difference in the means of the three groups. Further, a data analysis was performed employing a t-test to determine the difference between the three groups— high and average achievers, high and low achievers, and average and low achievers.

Results and Interpretation

Table 1 shows group formation, namely: (i) High achievers (A graders), (ii) Average achievers (B graders) and (iii) Low achievers (C graders), based on the marks and corresponding grades they have obtained in their previous classes.

Table 2 clearly shows that the obtained value of F is 421.8, which is more than the critical value of $F=4.63$ at the 0.01 significance level; thus, hypothesis 1 is rejected. This implies a significant difference in the language creativity of learners of high, average and low academic achievement. To analyse it further, it is essential to find out whether there is a significant difference between the groups, namely: (i) High and Average achievers, (ii) High and Low achievers and (iii) Average and Low achievers, through hypotheses 1.1, 1.2 and 1.3.

Table 3 informs that the mean and SD of language creativity of high achievers for $N=168$ are 522.12 and 128.56 and average achievers for $N= 439$ are 370.84 and 103.14, respectively. Since the calculated

Table 1
Academic achievement wise and grade wise classification of learners

	Total	High academic achievement		Average academic achievement		Low academic achievement	
		Marks	Grade	Marks	Grade	Marks	Grade
Boys	800	106	A	196	B	97	C/D
Girls		62	A	243	B	96	C/D

Table 2
Values of *F* between groups and within group

	Sum of groups	df	Mean	f value	Significance level
Between groups	921760.48	2	4608803.74	421.18	At 0.01 Significance level I_j (fis4.63), which is significant
Within group	8294448.84	758	10942.54		

t-value of 13.61 is more than the p-value of 2.59 at the significance level of 0.01, null hypothesis 1.1 is rejected. This shows a significant difference in the means of language creativity of high and average achievers. It implies that language creativity gets affected by the learners' high and average level of academic achievement.

Table 4 clearly informs that the values of mean and SD of language creativity of high achievers for N=168 are 522.12 and 128.56, and that of

low achievers for N=193 are 199.84 and 80.80 respectively. Since the calculated t-value of 31.90 is more than p-value, which is 2.59 at the significance level of 0.01, so null hypothesis 1.2 is rejected. This shows that there is a significant difference in the means of language creativity of high and low academic achievers. It implies that language creativity gets affected by high and low level of academic achievement of the learners.

Table 3
Results of test of significance of high and average academic achievement groups

Group	N	df	Mean	SD	t-value	Significance level
High academic achievement group	168	573	522.12	128.56	13.61	At 0.01, the Significance level p-value is 2.59, null hypothesis is rejected
Average academic achievement group	439		370.84	103.14		

Table 4
Results of test of significance of high and low academic achievement groups

Group	N	df	Mean	SD	t-value	Significance level
High academic achievement group	168	353	522.12	128.56	31.90	At 0.01, the Significance level p-value is 2.59, the null hypothesis is rejected
Low academic achievement group	193		199.84	80.80		

Table 5
Results of test of significance average and low academic achievement groups

Group	N	df	Mean	SD	t-value	Significance level
Average academic achievement group	439	588	370.84	103.14	21.81	At 0.01, the Significance level p-value is 2.58, the null hypothesis is rejected
Low academic achievement group	193		199.84	80.80		

Table 5 informs that the mean and SD of language creativity of average achievers for N=439 are 370.84 and 103.14, and low achievers for N=193 are 199.84 and 80.80, respectively. Since the calculated t-value of 21.81 is more than the p-value, which is 2.58 at the significance level of 0.01, null hypothesis 1.3 is rejected. This shows a significant difference in the means of language creativity of learners of average and low academic achievement groups. It implies that language creativity gets affected by the learners' average and low level of academic achievement.

Findings of the Study

As per the testing of hypothesis 1, it has been found that the three groups of students of high, average and low level of academic achievements significantly differ in their Hindi language creativity. To examine further the exact cause of this difference in Hindi language creativity, the three groups, namely; (i) High and average achievers, (ii) High and low achievers, and (iii) Average and low achievers, have been composed and tested through hypotheses 1.1, 1.2 and 1.3 respectively, findings of which are as follows:

- As per the testing of null hypothesis 1.1, high achievers are good at language creativity than the average achievers.
- Further, as per the testing of null hypothesis 1.2, it came out that high achievers are also good at language creativity than the low achievers.
- Finally, it was discovered as per the testing of null hypothesis 1.3 that average achievers are better in language creativity than the low achievers.

CONCLUSION AND DISCUSSION OF THE RESULTS

The findings of the study direct us to the conclusion that language creativity in Hindi writing expression is affected by high, average and low academic achievement of the students. It is in tandem with the research studies by Sharma (2017), Sharma A. (2016) and Asore (2012), who have established that achievement in Hindi language positively affects the language creativity of the learners. The study also reaffirms that a higher level of academic achievement ensures a higher level of language creativity in Hindi language expression. Therefore, by augmenting the academic achievement of language learners in Hindi, their language creativity can be improved in Hindi writing expression. The study contributes by establishing that creative writing assignments in the Hindi language

namely, dialogue writing, plot building and poetic diction make Hindi language learning effective. Therefore, these should be made a necessary part of Hindi language teaching.

Educational Implications

The results of the study unfold various educational implications for teachers, learners and schools, which are as follows:

1. The study establishes that improving the academic achievement of Hindi language learners increases their language creativity. So, teachers can arrange and build compelling teaching-learning experiences with necessary provisions for diagnostic and remedial teaching. Practical evaluation is the key to improved academic achievement of the learners.
2. Academic achievement in Hindi subject should be taken care of in respect of low, average and high achievers. Expression based creative assignments should be made for the three types of achievers according to their levels and requirements.
3. Some suggested methods for transmission are storytelling and writing, dialogue writing, poetry writing and vocabulary building.
4. The school environments also need to be conducive to encourage creative activities for language development through emotional expression.

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Activity-based Learning in Primary Classrooms Through the Lens of Philosophical Assumptions

ABHILASHA BAJAJ*

Abstract

It is often seen that children's voices and experiences do not find expression in the existing subject-centred classrooms. Whenever they speak, they generally answer the questions being asked by the teacher. Most of the time the students simply repeat and rote memorise the prescribed course content. They have no active role to play in the teaching-learning process and they act as mute spectators. But considering the fact that children are active learners, we must encourage them to talk about what they are learning. At the same time, they should be able to relate it with their previous experiences. Critical thinking and reflections should be an integral part of their process of knowing. In classrooms, if we allow the students to choose a topic of their choice and learn how a thorough understanding of this topic can be applied to solve a practical problem, then their engagement level in the task will increase. Learners may have a deeper understanding of the topic and can assess their skills as well. This paper talks about the nature of active learning from the philosophical perspective of Dewey's theory of progressive education, Vygotsky's theory of social context, and the theory of constructivism. The theoretical framework has been substantiated by the examples explained in the boxes. These examples are based on the observations of teaching-learning practices in the classrooms of MCD Schools.

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INTRODUCTION

Learning is the process of making meaning. Active learning in the classroom can be understood as an approach that acknowledges the fact that learners are active in the learning process, that by understanding and building knowledge in response to the learning opportunities provided by their teachers. Students learn more when they participate in the process of learning, whether it is a discussion, practice, review or application. This kind of exercise helps students develop analytical skills and they also learn how to apply theoretical knowledge in real-life situations. Learning takes place inside, as well as outside the boundary walls of the school, it is enriched if the two areas interact with each other.

National Education Policy, 2020 proposes the revamp of many aspects of the educational structure. The policy states "...with the quickly changing employment landscape and global ecosystem, it is becoming increasingly critical that children not only learn, but more importantly learn how to learn. Education thus, must move towards less content, and more towards learning about how to think critically and solve problems, how to be creative and multidisciplinary and how to innovate, adapt and absorb new material in the novel and changing fields. Pedagogy must evolve to make education more experiential, holistic, integrated, inquiry-driven, discovery-oriented, learner-centred,

discussion-based, flexible and of course enjoyable' (NEP, 2020).

OBJECTIVES

1. To analyse the philosophies and assumptions of different theories of learning in the context of activity-based learning in classroom situations.
2. To highlight and understand the examples from actual classroom situations in the context of above mentioned theoretical and philosophical assumptions.

SAMPLING: Purposive sampling technique is used for data collection in this research. In this technique, participants are selected based on the need of the study. For the present study, students of Classes IV and V from four MCD schools in Rohini and neighbouring areas (in North Delhi) were observed as a part of data collection using purposive sampling technique. Each Class/Section contains 45-50 students. Sampling includes both boys and girls students in the class.

METHODOLOGY

Both participatory and non-participatory observations were done for data collection. Observation parameters include students' participation in any of the given activities, their responses towards it and how they use their daily life experiences in solving a particular problem. Some checklists were also prepared to know their feedback regarding a particular theme. These checklists were

further analysed in the context of the theoretical framework. Interaction of teachers with students in teaching-learning process was observed and taken into consideration to substantiate the findings.

DISCUSSIONS

Constructivism as a paradigm for teaching and learning

Constructivism is an epistemology or a theory, which talks about how people know what they know. Problem solving is at the centre of learning, thinking and development in this approach. According to the constructivist perspective, learners actively construct their knowledge by connecting new ideas to the already existing ideas based on activities being conducted. This further indicates that each learner constructs meaning at the individual and social levels as and when they learn. This approach provides strategies for promoting learning. Students are encouraged to use constructivist techniques such as analysing questionnaire, debating to create more knowledge and then to reflect on and talk about what they are doing and how their understanding is changing. 'The teacher's own role in children's cognition could be enhanced if they assume a more active role in relation to the process of knowledge construction in which children are engaged'. (NCF, 2005).

Constructivism allow students to think, rethink, analyse, cross question and debate before coming to the conclusion.

John Dewey (1933) is known as the philosophical founder of this approach. Bruner (1990) and Piaget (1972) are considered the major theorists, while Vygotsky (1987) is the leading theorist among the social constructivists. Constructivism and Social Constructivism are two learning theories, sharing many underlying assumptions and an interpretive epistemological position. Piaget's work got blended with the research of Dewey and Vygotsky during the 1980s in developmental psychology under one broad spectrum of constructivism. All the approaches help students use their previous knowledge in a new learning situation, in which they can check and re-examine their understanding. This whole process of interpretation and re-evaluation goes on until they can demonstrate their understanding of the subject in a new light.

Role of teacher: In a constructivist classroom, the role of a teacher is not just to give lecture to the students but also has to act as an expert who can guide students into adopting cognitive strategies, such as articulating, understanding, asking questions and reflecting.

The teacher must understand the pre-conditions for learning, and guide and help the learner to unfold one's inner-self as well as utilise one's potential to the maximum. By questioning themselves and their strategies, students in the classroom become expert learners. Becoming a constructivist teacher seems a difficult job as it 'requires a

paradigm shift,' as well as 'the willing abandonment of familiar perspectives and practices and the adoption of new ones' (Brooks and Brooks, 1999)

Dewey's theory of progressive education

Dewey's theory of progressive education emphasised active learning. He criticised traditional education as 'passive and receptive learning'. He talked about active learning principles in his discussions and motivated students to be more active in the learning process. The teacher would model democratic ideals and the students would learn by experiences (Dewey, 1933). His scientific method of problem solving or the project method is an effective alternative to the subject-centred method.

According to Dewey, learning is the acquisition of knowledge

and skills through individual experiences, teaching is facilitating the learning environment to allow students to acquire knowledge. He believed that students should feel connected to the classroom material, in order to retain information and adapt it for personal use. Further, in order to process their learning experience into knowledge. Something learned in one situation will help in understanding and taking action in future situations, it is always reconstruction and reorganisation of experiences (Dewey, 1897).

Dewey also believed in a democratic classroom and teachers shall act as mentors, guides and facilitators. Rather than remaining behind the desk, teachers must try to interact directly and actively with students (Dewey, 1933).

Observations from Classrooms Examples

In a mathematics class, the objective was to make students aware about the line of symmetry and symmetrical shapes. During Diwali, students made a lot of designs to decorate their class. Now the teacher tried to connect their daily life activities to make them understand the concept of symmetry. She folded the design in half and asked if it looked the same. The students instantly identified and recognised this design as the design they made during Diwali decorations in school. All of them made various designs and in this process, they found the line of symmetry by themselves. The teacher prompted the students to investigate further asked them whether a design can be made by folding from more than one place to divide it in half. Students further folded their designs to check. They were working in as per the discovery method. Dewey suggested that students learn by doing and when they work, they use trial and error method. They explore and try to utilise their potential to the maximum. It is his way that they construct their own knowledge. The work of those students who successfully completed the task of symmetrical lines were shown to other students so that they could also observe and learn.

In the language classroom, students were to make a story with the words selected by themselves only and then had to present it in the class itself. Many diversities could be seen during the presentation, where some of them presented the story through acting, while some others were seen listening and narrating only. The whole class was involved in this process, especially those who never came forward on their own, they also performed well. The activity was really helpful as it brought a kind of transformation in the behaviour pattern of some students.

Vygotsky's Theory of Social Learning

Vygotsky views learners as active organisers of their experiences and suggested that the direction of the right development of thinking is not from the individual to the social but from the social to the individual. The major theme of Vygotsky's theoretical framework is that social interaction plays a fundamental role in the development of cognition. 'Scaffolding' in Vygotsky's theory, is 'the guidance and interactional support given by a tutor in the zone of proximal development' (Vygotsky, 1978). The zone of proximal development refers to the difference between what a learner can do without help and what he or she can achieve with guidance and encouragement from a skilled partner. Thus the term 'proximal' refers to those skills that the learner

is 'close' to mastering (Vygotsky, 1978). Bruner explains scaffolding as permitting children to do as much as they can by themselves, while what they cannot do, is filled in by their mother, peer or tutor's activities (Bruner, 1985).

Vygotsky believed that when a student is in the zone of proximal development for a particular task, providing the appropriate assistance at that time will give them the motivation to complete the task. Teachers must act as a facilitator and they need to know their learners well so that they can provide guidance. They shall withdraw it as the child comes to understand and perform the task alone. Teachers have to be aware of students' process of guidance behaviour. They should be attentive while evaluating their work to head the process of guidance a relevant and meaningful conclusion (Vygotsky, 1978).

Examples

In EVS class, the topic to be discussed was on packed food and its expiry date. The teacher divided the students in small groups of four to five. Then she gave empty packets of food and drink items to each group. In the beginning of the activity, the teacher made them aware about 'FSSAI' sign as well. Students were trying to find out the dates on their packets. In one group, a particular student was not able to identify the expiry date. Another student from the same group immediately helped

him by briefing him about expiry date on the packet. The same student shared that now a days, dates are imbedded in packets as told by his elder brother. Then all the students touched the packet to discover the imbedded tenure. In this way, students got an impression that they can learn by sharing their information. There were wrappers of some snacks which did not have any manufacturing dates. It was not FSSAI marked and no expiry date was mentioned on it. Students themselves said that we should buy things after seeing these dates. This activity was important in terms of social awareness as well. Students have to be aware of such issues so that they make their families aware as well. Peer instruction and collaborative learning is a very important technique in enhancing active learning in schools.

In the next class, discussion on farming was going on. It was found that the students who came from rural background were quite vocal about sharing their experiences. They were also discussing the impact of using machines in farming. Some students shared the common practices followed in their villages. At the same time, they were sharing and telling all this to their classmates also. Students who had never visited a farm or even heard about it were getting first-hand information from their own peers. Had it been told by the teacher or through textbooks, things would have never been so easy and interesting for learners. Peer learning is one of the very important and enriching ways of learning.

BRUNER'S CONSTRUCTIVIST THEORY

Discovery Learning

For Bruner, learning is an active process in which learners construct new ideas or concepts based on their previous knowledge. Bruner saw discovery learning taking place in the hypothetical mode rather than expository mode. In the expository mode, 'decisions concerning the mode pace style of exposition are principally important players in the hypothetical mode, on the other hand, 'the teacher and students are in a more cooperative position' (Bruner, 1961), in which the student, at times, plays the principle role. Guided discovery, problem-based learning and learning by chance factors are some of the methods based on the discovery learning method.

Bruner (1961), like Vygotsky, emphasised the social nature of learning, citing that other people should help the child develop skills through the process of scaffolding. Through the concept of the spiral curriculum, he explained that complex ideas can be taught at a simplified level first, and then revisited at more complex levels later on. Therefore, subjects should be taught in the order of gradually increasing difficulty levels. By teaching this way children would be able to solve problems by themselves. Bruner views symbolic representation as crucial to cognitive development, and since language is our primary means of symbolising the world, he attaches great importance to language in determining cognitive development (Bruner, 1961).

CONSTRUCTIVISM: PIAGET'S COGNITIVE DEVELOPMENT THEORY

Piaget's ideas state that people produce knowledge and form meaning based upon their experiences. A key element in Piaget's work is that children are born with reflexes that control behaviour, which are called 'schemas'. He was deeply influenced by the notion of constructivism. It derives from the idea that knowledge is not something fixed and stable, but rather it is constructed step-by-step, and it is changed frequently, as individuals and groups continually try to make sense of the complex world around them (Piaget, 1964).

Piaget's model assumes that learning takes place from the 'inside out' based on these innate

developmental stages (Rose, 2005, p.140). Two of the key components which help in the construction of an individual's new knowledge are accommodation and assimilation. Assimilating causes an individual to incorporate new experiences into the old experiences. This causes the individual to develop new outlooks, rethink and evaluate what is important, ultimately altering their perceptions. Accommodation is reframing the world and new experiences into the mental capacity already present. Individuals conceive a particular fashion or pattern in which the world operates. When things do not operate within that context, they must accommodate and reframe the expectations with the outcomes (Piaget, 1964).

Examples

Classroom is an important resource for learning. The teacher made a learning corner in the class where she attached a newspaper for reading on a chart paper. After every week, she put them in a container placed in the corner itself. It contains riddles, maths puzzles, stories, poems, question answers and various other reading articles. The teacher kept 'Podhon Ki Parvarish' article with reference to the E.V.S. chapter done in the class. One afternoon, at the time of leaving the class, students were keeping their plants in shadow, which they had sown yesterday. The researchers asked them the reason behind this. Students responded that they have read in the article that plants should not be given sunlight for longer time during early days. They used the information given in the article and for practical application. It could be seen that students paid attention to the article and noted down the specific points related to planting seeds. Further relating it with the classroom activity, they performed the action of putting their container in shade. So, we can say that students not only learn from textbooks but also generate knowledge through observation and understanding of their daily life experiences.

During mathematics class activity, students had to make their own weighing machine. While making it, they used the material which they already had. In this process, they helped each other and whenever any problem arose, they consulted their teacher. By using and applying their own creativity, students made different things from papers and added hanging material using rubberband. Students were

happy while showing their creation to the teacher. They all showed and shared it with others as well. Students should be given the freedom to express their ideas and use their potential. Teachers must believe in their power of creativity. In one of his article subject, "Teaching and Learning of Mathematics", Rohit Dhankar said that maths is an abstract subject and to teach maths, we need to make a connection between the child's surrounding environment (real-life objects) maths then it will not remember abstract for them any longer. So through this example, we can interpret that by connecting any subject to children's surroundings, the process of learning becomes easy.

During one of the EVS classes interesting inputs about digestive system came from student's side. Students had to draw a picture of the digestive system with their own imagination. They were asked to draw a steps of food digestion process after we eat the food when we eat it. Answer like 'it disappears somewhere inside the stomach, rats are present inside the stomach so they finish the food there', were shared. After listening to all this, the teacher provided them with basic information about digestive system. After this, the students got a direction for further thinking which was more knowledge based. Listening to the students with great patience is one of the most important qualities a teacher must have.

In Hindi class, the teacher integrated the skills of writing with the concepts covered in E.V.S. as both the lessons were on 'migration'. Students were indulged in the writing process approach in which their idea was shared in the class. They shared many reasons of migration as they had witnessed them but they were not sure how to proceed with writing them. At this stage, the teacher provided them a structure to write in sequence. This is very important. These are scaffolds on which students build their knowledge. After getting the clues from teacher, some students wrote lengthy paragraphs, some just highlighted the main points. Students were able to bring the emotion of migrants. They shortlisted some of the difficulties faced by migrants at new places, like facing difficulties in getting admission in a new school, etc.

Piaget proposed that whenever a new concept is to be developed, it is developed through accommodation and assimilation. In the EVS period, teacher started the class on the concept that heavy objects sink in water which she had already discussed in earlier days. So now she asked them, 'Why do ships float in sea? Are they light?' This question created a situation and gave students a direction to think. To give them more clarity, the teacher demonstrated an activity where lemons were seen floating on salty water. Further, to make them aware about the world around them, the teacher showed them a video on the dead sea where everything floats. They all were very excited. The video helped students to look at places where they cannot go in their real life.

Analysis of the Activities done by Students in the Classroom

Working the lines of the 'discovery method' students discovered many

ways to make different designs in their mathematics class. During Diwali decoration, students unfold their hidden potential. Students used

the trial and error method to complete their tasks. Dewey (1938) rightly said that students learn maximum when they participate actively.

Similarly, in the story-telling session, students themselves chose the words, made the story and presented it in their own innovative way.

The effectiveness of collaborative learning can be seen clearly during EVS activity on packed food and its expiry date. Sharing information about FSSAI among each other was important and it further enhanced active learning in the classroom. While discussing farming, students got first-hand information from their peers.

In the activity 'Podhon ki Parvarish' in EVS Class, students generated knowledge about plants through observations and their daily life experiences. Similarly, in teaching and learning mathematics, they applied their creativity in making different things from paper. Their overall response was good too.

The role of teachers is very important as they provide the right platform to the pupils. While teaching about the digestive system when the teacher gave clues to the students, due to they immediately got a direction for further thinking which was more knowledge based.

Similarly in the conceptual learning of the fact 'why do ships float on the sea; when the teacher demonstrated it with the help of an activity, students understood the concept easily.

CONCLUSION

Learning is essentially a process based on self-experience, in which the learners construct knowledge in their own ways through absorption, interaction, observation and reflection. While observing the students in actual classroom practices, it is evident from examples cited in the boxes that they learn in a variety of ways—through experience, learning by doing, reading, discussion, asking, listening, thinking, reflecting and expressing oneself through speech or movement or writing.

Dewey's theory helps in improving student's experiences in the classroom. Students learn to participate actively and develop personal interests in the classroom. Examples provided in the boxes are self-explanatory, if given an opportunity students have so much to speak on various issues. So, as teachers we should always respect their right to ask questions and allow them to share their concerns.

According to Vygotsky, much important learning by the child occurs through social interaction with a skilful tutor. The more knowledgeable other in Vygotsky's theory can be a teacher or a child's peer who has a better understanding or a higher ability level than the learner with reference to a particular task (Vygotsky, 1978). As evident from the examples attached, assistance is most effective when support is matched to the needs of the learner.

Bruner and Vygotsky emphasise on the child's environment and

classrooms. Constructivism, is the study of learning, is about how we all make sense of our world, and that really has not changed' (Brooks, 1999). Examples from the actual classroom practices reflect that constructivism transforms the students from passive recipient of information to active participant in the learning process.

Further Suggestions to Improve Active Learning in Classrooms

- Children have a voice at home, the school should also secure their active participation in classroom processes. Discussion on any given topic may help them develop their communication skills and increase the awareness of the classmates as learning resources.
- Asking students to reflect on a theme, paired with peer-to-peer discussion is also a very effective teaching technique. The teacher can discuss or tell the answer once the time allotted to finish the task is over. Then the teacher can further explain to the students why a particular answer is correct and others are misleading.
- Brainstorming is an important part of active learning process. By inviting students in the process of development of classroom activities, we can make them more responsible.
- In the overall process of experiential learning, the teacher must facilitate independent, critical and creative thinking in classroom. Successful implementation of these techniques in the classroom depends on the pedagogical skills of the teachers.

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Characterisation of Cognitive Style involving Cultural Study from Ethnic Groups

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Abstract

Research in education does not only represent a study of scholastic achievements of students but it is also a study of emotional and cultural endowments of students highlighting on their sense of responsibilities with their abilities to adjust and co-operate in a culturally diverse group or as supported by society. In India, various cultural ideologies live together peacefully. The present study reveals that cultural groups still retain their cultural ideologies. The study also encompassed on the difference where the girls scored high in systematic cognitive style while boys were seen observing the step-by-step approach for solving problems to arrive at conclusions. The present study is carried out by implementing the 'Cognitive Style Inventory' by Praveen Kumar Jha.

INTRODUCTION

Indian culture is often represented as an amalgamation of cultures. The Indian culture has been developing from more than thousands of years. On a global level, this may be the only country where such cultural groups have evolved by obeying their own cultural characterisation as well as assimilation of new customs in due course of time.

India is a large country of various cultural groups. People from this land live with a sense of unity in diversity. Being Indians they follow Indian culture as their core parent's culture. However, these seems to be cultural diversification in terms of provinces, language attitudes and thinking style depicting the various cultures being practiced in their respective communities.

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Culture refers to ideas, conceptual codes, behavioural pattern, and furthermore regularity in interaction with people as members of society (Rai, 1995). Culture is deciphered as a set of thoughts with reference to which people carry out all interactions including the standards of behaviours as well as emotions. Thus, culture could be defined as the sum total of emotional, moral, social, spiritual and intellectual refinements leading to overall development of the individual and society (Murkute, 2017).

Various ethnic groups are surviving collectively in Nagpur. They track their own culture, namely South Indians, Gujarati, Punjabi, Sindhi and Marathi, etc. These groups migrated from their respective places of origin to Nagpur and follow their ethnic culture. All these ethnic groups cited earlier follow their own way of refinement, through out their lives.

Cognitive style has been defined as a self-evident mode of function, which the individual illustrates in one's perceptual and intellectual activities (Witkin et al, 1962). It is then conceptualised as a person's typical mode of perceiving, remembering and problem solving.

The cognitive development theory by Piaget (1972) witnesses human behaviour as adaptation and assimilation; (Hall and Lindzey, 1991). In assimilation, the learner incorporates new experiences without modifying the cognitive structure. In accommodation, the learner

transforms the existing cognitive structure to adopt new demands of environment. Therefore, cognitive style is information processing habit, which represents a person's typical mode of perceiving, remembering, thinking and problem solving (Messick, 1976).

Kothari commission (1964) has quoted that the destiny of a nation is decided in the classroom. The classroom learning requires constant motivation from the teacher so that maximum use of their talent may be made for the welfare of students and also for the progress of society. However, in actual it seems that the process of motivation is a highly individualised activity because of the complexity and multiplicity of the underlying behaviour. Thus, a number of variables operate in the process of motivation, that is, along with classroom environment, the socio, economic environment, the socio-economic, conditions, previous experiences, cultural background, the processes involved in bringing up a child affect the process of thinking.

GENDER

The environment that surrounds the male child and female child is immensely important in cultural studies; (Eisler, et al, 2003), because many of the attributes and roles selectively projected by male and female are different.

OBJECTIVES OF STUDY

The present study is intended to work out the characterisation of cognitive styles involving cultural study of ethnic groups from Nagpur city area, Nagpur District. To deal with such characterisation, the basic objectives are found to be inevitable. The two objectives, which are found to be inevitable for the present study are: (i) to investigate cultural differences in systematic cognitive style and intuitive cognitive style, and (ii) to investigate gender differences in both systematic cognitive style and intuitive cognitive style from Nagpur city area, Nagpur District.

Hypotheses

The present study is carried out to understand the characterisation of cognitive styles of students of various cultural ethnic groups. To carry out the characterisation, the two hypotheses have been proposed for the present research work. These hypotheses include (i) the students from five cultural groups— South Indians, Punjabi, Gujarati, Sindhi and Marathi differ significantly on systematic cognitive style, and (ii) the students from five cultural groups—South Indians, Punjabi, Gujarati, Sindhi and Marathi differ significantly on intuitive cognitive style.

Research Methodology

The sole aim of the present investigation is to trace the style of thinking of students of various cultures. Thus, the range of parameter

mooted for this study is: (i) culture, (ii) cognitive style and (iii) gender. The period of formal operations according to Piaget is the stage when a child becomes quite systematic and integrated. Taking into consideration the above discussion, students of Class IX from various cultural groups, such as: (i) South Indian, (ii) Punjabi, (iii) Marathi, (iv) Sindhi and (v) Gujarati were selected for the present study. Primarily, all students were taken into confidence by alleviating their psychological mindset to a comfortable state. The cognitive style inventory was given to students to put tick marks where they found suitable alternatives for the given statements.

Scoring was accomplished wherein total 'S' category and 'I' category were noted down and subsequently computed as per instructions given in the manual.

Sample

The samples catalogued for the present research work are presented in the table below. The students of Class IX from each of the five cultures are selected on the basis of their past year achievements in academics and extracurricular activities. The gender-wise selection, comprising the girls and boys, who scored marks ranging from 75% to 80% were preferred for the present investigation. The total sample is of 400 students, 80 students from each culture.

Table 1
Sample details of cultural groups from study area

S. No.	Cultural Groups	South Indians	Gujarati	Punjabi	Sindhi	Marathi
1.	Girls	40	40	40	40	40
2.	Boys	40	40	40	40	40

TOOLS

The Cognitive Style Inventory (CSI), pioneered by Praveen Kumar Jha (2001) is utilised for the present study to understand the characterisation of cognitive style. Such CSI is especially used to recognise the differences in cognitive style of girls along with boys of five cultural groups. The test consists of 40 statements, out of which twenty statements represent 'S' i.e., systematic cognitive style and twenty statements represent 'I' i.e., intuitive cognitive style. In the inventory, the students have been suggested to select either right or left column where the responses on the left side scored for systematic cognitive style and while that on the right side scored for intuitive cognitive style. The final scoring has been

precisely carried out in accordance to guidelines and instructions. In the present research work, the Systematic Cognitive Style is attributed to a step-by-step approach for solving problem and to arrive at conclusion, where as Intuitive Cognitive Style describes itself as way of unpredictable ordering and organising of analytical steps while solving problem.

ANALYSIS AND INTERPRETATION

The data, thus acquired by utilising the CSI were afterward analysed by the statistical expression 2×5 analysis of variance. Furthermore, the verification of hypotheses was also carried out.

Hypothesis No.1

The relevant data for this hypothesis are given as below.

Table 2
The 2×5 analysis of variance of systematic cognitive style as a function of gender and culture

Source of Variance	Sum of Squares	Degree of freedom	Means square variances	F Coefficient
Gender (A)	3282.10	1	3582.1	27.51*
Culture (B)	4784.28	4	1196.07	9.186*

A × B	627.56	4	156.89	1.2050
Within	50776.05	390	130.195	
Total	59770	399		

* Values are significant at 0.05 and 0.01 level.

The observations in the table indicated that the main effect of A and B i.e., gender and culture produced significant variation. The girls and boys differ significantly as far as systematic cognitive style is concerned.

The females score significantly higher (M=65.86) in comparison to male (M=49.09). The F value 27.51 is significant at 0.01 level. The main effect of culture also produced significant variation, which means students of five cultures differ significant by from each other on systematic cognitive style. The mean scores of culture are given below.

Table 3
The mean scores of culture for SCS from the present study

Cultural Groups	Boys	Girls
South Indians	59.75	66.87
Gujarati	59.90	67.65
Punjabi	55.12	61.60
Sindhi	59.82	60.8
Marathi	64.77	72.30

But the A × B did not produce significant variation.

Hypothesis No. 2

The relevant data for this hypothesis are given as below.

The main effect of A (gender) produced significant variation, wherein the male scored significantly higher (M=59.21) than girls (M=56.17). The F value 6.27 is significant at 0.01 level. The main effect of culture also shows that there are cultural differences in thinking style of students of these cultural groups. Cultures differ from each other on intuitive cognitive style. The mean scores of culture are as follows.

DISCUSSION AND CONCLUSIONS

The study of cognitive processes is fundamental to researchers interrelated to acquiring, retention, retrieval and utilisation of knowledge. Educationists have been concerned with the application of psychological knowledge of the beginner's comprehension and integrated

Table 4
Analysis of variance of intuitive cognitive style as a function of gender and culture

Sources of Variation	Sum of Squares	Degree of Freedom	Mean square Variance	F Coefficient
Gender (A)	699.54	1	699.54	6.27*
Culture (B)	2540.87	4	635.21	5.69*
A × B	564.47	4	141.11	1.26
Within	43470.72	390	111.46	
Total	47275.6	399		

* Values Significant at 0.05 and 0.01 level.

Table 5
The mean scores of culture for ICS
from the present study

Cultural Groups	Boys	Girls
South Indians	64.32	58.80
Gujarati	58.27	53.62
Punjabi	55.72	53.00
Sindhi	59.50	59.05
Marathi	58.22	56.37

The interaction of A × B did not produce significant variation.

development. Padmini (1980) had pioneered on the work of cognitive development. According to him, gender development is not truly significant; moreover, variation in the institutions does not affect the cognitive development status of pupils. Thus, at this stage, children are free from any culturally prescribed limits of thinking. In the present research work, however, the results show that all five cultural groups still retain their cultural ideologies. They think in a manner which differs from culture to culture. The girls scored higher in systematic cognitive style than boys. The mean score shows that girls are systematic, they follow step-by-step

approach for solving problems and to arrive at conclusions. The systematic cognitive style described by Jha (2001) seems to be apt for female behaviour. The intuitive style described by Jha (2001) seems apt for boys. This style describes by as a way of unpredictable ordering organising of analytical step while solving problems. It relies on experienced pattern characteristics existing in boys as they preferably scored high in scores of intuitive cognitive style. The South Indian boys are found to be more intuitive with the highest mean score. Graf. et al, (2007) have rightly said that high working memory capacity subjects are intuitive. The Marathi girls are found to be systematic with highest mean score 72.30. Thus, the way to approach any problematic situation pertains to variations among the cultures. The style of thinking among the sex showed variations. But the overall effect did not show any variation. It may be inferred that despite their ideological and biological endowments, students of five cultures tried to acclimatise to the social environment around them. This is the real essence of national integration in India.

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Relationship of Psychological Variables with Depression

A Study on School and College Students

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Abstract

Depression is a mood disorder characterised by a range of symptoms that may include loss of pleasure, feelings of worthlessness and suicidal thoughts, as well as physical states that may affect eating, sleeping, other activities. The current study focuses on perceived stress, coping strategies, hardiness and self-efficacy as the important variables as they relate with depression in adolescents. A sample of 500 adolescents belonging to the age group of 14–17 years is taken for the purpose. Various tests employed in this study are: Beck Depression Inventory (Beck et al., 1996), General Self-efficacy Scale (Schwarzer and Jerusalem, 1995), Personal Views Survey (Kobasa, Maddi and Kahn, 1982), Perceived Stress Scale (Cohen et al., 1983) and The Ways of Coping Scale (Folkman and Lazarus, 1988). Factor analysis is applied and the results are interpreted on the basis of their factor loadings to understand the significant relationships.

INTRODUCTION

Adolescence has been defined by Atwater (1992) as 'the period of rapid growth between childhood and adulthood including psychological and social development'. This period

is considered to be difficult and critical since at this stage numerous shifts and changes takes place leading to a radical changes in character transposing the previous interests and experiences of the child. Adolescence

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comes from a Latin word '*adolescere*', which means 'to grow up'. It is a transitional stage of physical human development generally occurring during the period from puberty to adulthood. According to Sunmola et al. (2002), 'Adolescence refers to a transition which is characterised by an increase in the personal control, responsibilities and independence.'

According to Pettit and Joiner (2006), 'Depression can be viewed as a persistent and recurring scourge that can involve multiple coexisting conditions, such as anxiety and danger. This condition is clearly an equal opportunity disability that can affect anyone at any economic level, from childhood to old age'.

Depression is a severe illness that affects the individuals according to their personality characteristics. Since adolescence is a stage where different crises and negative events take place, certain cognitive patterns and thought processes need to be developed in the adolescent period itself so that the adulthood surpasses all the stresses of crises. Hardiness helps in dealing and adjusting to the encountered stress effectively of the individual suffering from it. Self-efficacy helps the adolescent to develop confidence in their abilities and beliefs. Also, the adolescents are taught to handle the unstable phase of stress by adopting approach oriented coping instead of avoidance oriented coping which helps an adolescent to face the negative life events.

DETERMINANTS OF DEPRESSION

Hardiness

Hardiness helps an adolescent in dealing with the stressful life events (depression in its severe form). According to Kobasa (1979), hardiness refers to a personality trait which is associated with strong resistance to negative feelings caused by adverse circumstances. Adolescents experience times when they are unhappy. Though the feelings of sadness are transitory but when such feelings are present, they hamper the daily activities of adolescent thereby lowering their hardiness. Adolescents with hardy personality perceive themselves as someone capable of changing events. This in turn leads an adolescent to a situation of dominance which further makes him believe that his efforts can change a stressful situation.

Self-efficacy

According to Bandura (1994), 'A strong sense of self-efficacy will produce 'cognitive motivational, affective and selection process' that affects human functioning. Adversely, a low sense of self-efficacy will cause depression, anxiety and even social isolation.' Self-efficacy is the belief in one's competence to attempt difficult or novel tasks and to cope with adversity arising from specific demanding situations (Cross et al., 2006; Scholz et al., 2002). People with high self-efficacy choose to perform more challenging tasks and they set

higher goals for themselves and stick to them. Actions are pre-shaped in thought and once an action has been taken, highly self-efficacious people invest more effort and persist longer than those with low self-efficacy.

Perceived Stress

According to Willemen et al. (2008), 'Perceived stress means experiencing difficulties in meeting demands within important life domains'. Those with high levels of perceived stress may be more prone to depression and individuals who are already feeling somewhat depressed or anxious may feel even more helpless and hopeless when subjected to greater levels of stress in life.

Coping Strategies

According to Lazarus and Folkman (1984), coping is defined "as the cognitive and behavioural efforts to handle or manage specific external and internal and or demands that are appraised as reducing the resources of a person". The better the coping strategies, better will be the adaptation capacities.

OBJECTIVE OF THE STUDY

So keeping in mind the review of literature and the vast variety of studies done on these variables, this study has used perceived stress, coping strategies, hardiness and self-efficacy as its independent variables to study them as associated with depression during adolescent years. This period is considered as

the most vulnerable period in the life span of an individual, and hence, has been utilised for the purpose.

Hypotheses

1. There will be a significant negative relationship of hardiness with depression in terms of. control, commitment and challenge.
2. There will be a significant negative relationship of self-efficacy with depression.
3. There will be a significant positive relationship of perceived stress with depression.
4. There will be a significant negative relationship of coping strategies i.e. seeking social support, problem solving, accepting responsibility, positive reappraisal and confrontive coping with depression.
5. There will be a significant positive relationship of coping strategies i.e. self-control, distancing and escape avoidance with depression.

METHODOLOGY

In the present study, students of public schools of Amritsar city served as subjects. The tests were administered on a sample of 500 adolescents belonging to the age group of 14–17 years. Care was taken that the schools chosen were more or less homogenous with regards to socio-economic, cultural background and academic milieu. There are 250 females and 250 males in the sample. Mean age of males is 15.63 and standard deviation is 1.44. The mean

age for females is 15.53 and standard deviation is 1.39.

Psychological Tests

The various tests employed in this study are:

1. Beck Depression Inventory (BDI-II)—Beck et al. (1996)
2. General Self-efficacy Scale (GSE)—Schwarzer and Jerusalem (1995)
3. Personal Views Survey (PVS)—Kobasa, Maddi and Kahn (1982)
4. Perceived Stress Scale (PSS)—Cohen et al. (1983)
5. The Ways of Coping Scale—Folkman and Lazarus (1988)

Beck Depression Inventory (BDI) (Beck et al., 1996)

It is one of the most popular and widely used depression inventory which can be used in individuals aged 13 and above. BDI-II is a 21 multiple choice question based inventory that measures various aspects of depression in an individual, like guilt, hopelessness, helplessness, weight loss, etc. The reliability of the test stands at $r=0.93$ while the internal consistency is on higher side i.e. $\alpha = .91$ as suggested by the test maker.

General Self-efficacy Scale (GSE) (Schwarzer and Jerusalem, 1995)

This psychometric scale is a 10-item scale which measures the beliefs individuals hold about themselves. It is one of the most popular scales that assess the capability of an individual when negative events occur in their lives. It clearly throws light on those

aspects of an individual which help in bringing successful thought pattern and positive belief system in the times of stress. This test has a higher internal consistency which measures from 0.75 to 0.94.

Personal Views Survey (PVS) (Kobasa, Maddi and Kahn, 1982)

This is one of the most important scales used to measure psychological hardiness in individuals. The scale measures an individual on the three major dimensions of hardiness i.e. control, commitment and challenge. It is a multiple choice inventory where the individuals are scored on four options i.e. strongly disagree, mildly disagree, mildly agree and strongly agree. The total score on hardiness is obtained by adding up the control, commitment and challenge scores.

Scores ranging from 10 to 18 points indicate a hardy personality. Scores from 0 to 9 indicate moderate hardiness while score below 0 indicates low hardy personality. The reliability of this scale is 0.628 and the validity is 0.543, as calculated by the test maker.

Perceived Stress Scale (PSS) (Cohen et al., 1983)

PSS is the most widely used scale which measures an individual's stressed mind set up, that later gives rise to depression among them. It consists of 10 items and helps to identify the levels of stress an individual is experiencing at the present state. It is a paramount

psychological instrument that helps in measuring how much stress an individual perceives. The reliability of the scale, as given by the test maker, ranges from 0.82–0.85.

The Ways of Coping Scale (Folkman and Lazarus, 1988)

It is a 66 item scale that measures an individual on various coping mechanisms. It designs on various coping processes that can be utilised during the times of stress and strain. This scale consists of eight subscales i.e. Confrontive coping, Distancing, Self-control, Seeking Social Support, Accepting Responsibility, Escape Avoidance, Planful Problem solving, and Positive Reappraisal. Typical reliability across subscale scores ranged from .60 to .75.

RESULTS AND DISCUSSION

Factor analysis

With a view to treat all the variables within the same theoretical system, inter correlations among the tested variables were obtained. However, these correlations are suggestive and do not provide a clear cut information because of a number of uncontrolled factors. For a clear understanding of the inter correlations, factor analysis was used. Factor analysis is a formal model about hypothetical component variables which account for the linear relationship which exists between observed variables. For the purpose of analysing the relationships in a clear way, unrotated factor analysis was used. The factors which had a loading above .35 were taken as significant and have been used to explain the various relationships.

Table 1
Factor matrix for male adolescents of age group 14–17 years
(n=250) factors

Variables	1	2	3	4	5	h2
Depression	0.02	-0.56	-0.43	-0.46	0.01	0.72
Self-efficacy	0.41	0.49	-0.16	0.12	0.07	0.47
Control	0.04	0.45	0.59	0.15	0.16	0.61
Commitment	0.22	0.55	0.17	-0.12	0.48	0.63
Challenge	0.04	-0.09	0.50	0.60	-0.43	0.82
Perceived Stress	0.34	0.16	-0.44	-0.48	-0.02	0.58
Confrontive coping	0.64	-0.34	-0.10	0.06	0.22	0.59
Distancing	0.48	-0.26	0.03	0.36	0.55	0.73
Self-control	0.63	-0.26	-0.03	0.02	-0.03	0.47
Seeking Social Support	0.65	0.15	-0.17	-0.19	-0.30	0.61

Accepting Responsibility	0.56	0.06	0.15	0.01	-0.26	0.42
Escape Avoidance	0.28	-0.61	0.08	0.05	0.12	0.55
Planful Problem solving	0.74	0.12	0.00	0.07	-0.08	0.57
Positive reappraisal	0.69	0.19	-0.16	-0.08	-0.20	0.59
% Contribution	23.78	13.15	8.28	7.55	7.43	60.22
Eigen values	3.33	1.84	1.16	1.05	1.04	

In case of male adolescents, 5 factors are obtained. The total variance explained is 60.22%. All the significant factors, i.e. factors having loadings above .35 are explained. The factor analysis for male adolescents is presented in Table 1.

Factor I

Factor I shows 23.78 % of variance. This factor has significant factor loadings on self-efficacy and on certain dimensions of coping. This suggests that there is a positive relationship among the variables of coping and self-efficacy. This enables us to form an idea that this is an integrated factor of coping as all the dimensions of coping are showing significant positive loadings. However, escape avoidance dimension of coping is not significant. Self-efficacy does not share a significant positive relationship with escape avoidance but has a significant relationship with all the other dimensions.

This factor states that self-efficacious individuals will utilise effectively all the coping strategies. Farid and Salibi (2014) concluded that there is a significant relationship

between different levels of self-efficacy and stress coping strategies.

Factor II

The second factor explains 13.15 % of variance. This factor has significant negative factor loadings on depression and escape avoidance. It has positive factor loadings on self-efficacy, control and commitment dimensions of hardiness. This factor shows a very clear inverse relationship between depression and self-efficacy as well as the two components of hardiness. Hardiness is defined as a commitment to life, viewing change as challenge and having control over one's life. Hardiness reduces depressive feelings and prepares the individual to face threatening situations boldly. People who are hardy are believed to have a greater capacity for dealing with the challenges of life. It is believed that individuals who are high on hardiness are less affected by depression and poor health as a result of stressful life situations. A study by Weibe (1991) states that students with hardy personality are capable of having high tolerance for frustration; they have a lower threat appraisal

and less negative affectively. Also, self-efficacy and hardiness relate positively with each other and further can be helpful in reducing depressive feelings. This factor clearly supports our hypotheses that self-efficacy and dimensions of hardiness will relate negatively with depression.

Studies have shown that depressed individuals use maladaptive or less effective coping strategies. Studies by Florian et al. (1995) have suggested that high hardy individuals use more of problem focused coping. But depressed individuals who lack self-efficacy or hardiness will intentionally avoid any sort of stressor. Studies also state that using escape avoidance coping will not bring any permanent relief and hence, can lead to depression as the problems remain unresolved (Dumont and Provost, 1999).

Factor III

This factor explains 8.28 % of variance. This factor shows positive loadings on control and challenge. These two dimensions have a negative relationship with depression and perceived stress. Thus, this factor supports our hypothesis that depression will share a negative relationship with dimensions of hardiness. It also supports our hypothesis that perceived stress will share a positive relationship with depression. We can easily say that male adolescents strengthen themselves by developing control and challenge as their personality characteristic in order to combat

the feelings of depression. Male adolescents who appear well adjusted have hardiness as their personality characteristic. It is believed that individuals with high hardiness are less affected by depression and exhibit no psychological disturbances. Also further on, this factor shows that perceived stress increases depression in male adolescents. There exists a positive relationship among both the variables. This means more an adolescent perceives stress, more will be his feelings of sadness or depression. Willemen, et al. (2008) reviewed that perceives stress had stronger impact on depression under most conditions.

Factor IV

The fourth factor explains 7.55 % of variance. This factor shows significant factor loadings on depression, challenge and perceived stress. These factor loadings suggest that challenge has a negative relationship with depression and perceived stress, clearly showing that hardiness characteristic enables male adolescents to have reduced depressive feelings and also perceive less stress and negative feelings in situations. Hardy individuals have an internal mastery to challenge situations with confidence. Study by Azar et al. (2013) also supports our finding and states that hardiness is a health promoting factor. Bartone et al. (1984) also indicates that psychological hardiness has an inverse relationship with depression.

Thus challenge is clearly seen as an important dimension of hardiness that is lowering the depressive feelings and alters the perceptions of stress.

A further perusal of this factor shows that distancing has a negative relationship with depression and perceived stress. It has a positive relationship with challenge. This relationship is not very strong but still suggests that male adolescents who utilise more of distancing as a coping strategy, would like to handle a stressful situation by moving away from it. They distance themselves from problematic situations which will enable them to experience less depression and stress. Sometimes, an individual becomes better by just moving away from a situation which he believes he cannot change. Moving away makes him stronger and he is able to handle his stress and depressive feelings.

Factor V

The fifth factor shows 7.43% of variance. It has shown significant factor loadings on two variables of hardiness and one variable of coping. Commitment has a positive

relationship with distancing. Challenge has a negative relationship with distancing. Hence, both the variables are showing different relationship with distancing. Individuals who are high in commitment are very sure about what they are doing. They have a strong meaning and purpose in life. They are not alienated out of fear. Individuals who are high on challenge see each situation as an opportunity for growth rather than a threat. These two are very closely related components of hardiness but in this factor, they have an opposite relationship with distancing. Adolescents who are high on commitment will withdraw from certain situations which they believe they cannot change. They are sure that the situation needs to be put behind and thus, they distance themselves from it. On the other hand, adolescents who are high on challenge will not withdraw from problematic situations. As challenge increase in male adolescents, they will stop withdrawing from situations. This factor shows the importance of challenge as a personality characteristic in male adolescents.

Table 2
Factor Matrix for Female Adolescents of
Age Group 14–17 Years (N=250)

Variables	1	2	3	4	h ²
Depression	0.10	-0.70	0.26	0.00	0.57
Self-efficacy	0.43	0.36	-0.14	-0.08	0.35
Control	-0.10	0.30	0.68	-0.06	0.58
Commitment	0.03	0.65	-0.07	0.07	0.44

Challenge	0.11	0.03	0.22	0.94	0.93
Perceived Stress	0.13	-0.12	0.67	-0.24	0.52
Confrontive coping	0.72	-0.18	-0.21	0.01	0.60
Distancing	0.56	-0.18	-0.07	0.08	0.36
Self-control	0.73	-0.13	0.04	-0.01	0.55
Seeking Social Support	0.65	0.20	0.03	-0.16	0.49
Accepting Responsibility	0.65	-0.00	0.00	0.08	0.42
Escape Avoidance	0.56	-0.47	-0.04	0.00	0.55
Planful Problem solving	0.70	0.26	0.05	-0.12	0.57
Positive reappraisal	0.64	0.33	0.19	0.06	0.56
% Contribution	26.42	12.10	8.24	7.20	53.97
Eigen Values	3.70	1.69	1.15	1.00	

In case of female adolescents, four factors are obtained. The total variance explained is 53.97%. All the significant factors, i.e. factors having loadings above 0.35 are explained. The factor analysis for female adolescents is presented in Table 2.

Factor I

This factor explains 26.42% of variance. The factor has significant positive loadings on all the dimensions of coping i.e. confrontive coping, distancing, self-control, social support, accepting responsibility, escape avoidance, problem solving and positive reappraisal. This makes it an integrated factor of coping.

This factor shows that self-efficacy has a significant positive relationship with the various coping strategies, thus suggesting that female adolescents will effectively use the various coping strategies if they are high on self-efficacy. In a study conducted by Masoudnia (2007), it

has been stated that people with high self-efficacy use problem focused coping strategies, individuals with low self-efficacy use emotion focused coping strategies and avoidance coping strategies.

Factor II

This factor explains 12.10% of variance in the females. It also shows that it has a significant negative factor loading on depression. It has positive loadings on self-efficacy and commitment, which is a dimension of hardiness. It suggests a negative relationship of commitment and self-efficacy with depression. Hardiness and self-efficacy will reduce the feeling of depression in female adolescents. This inverse relationship gets empirical support from previous the finding of Rhodewalt and Zone (1989). Hardiness will improve social and mental health factors. Females who are more self efficacious and high on commitment will be able to

take problems as opportunities in life. Therefore, depressive feelings will reduce.

Depression also shares a positive relationship with escape avoidance. In female adolescents, utilisation of escape avoidance as a coping strategy to deal with situations will increase the feelings of depression. Depressed females use more of avoidance coping strategies. This is supported by a number of studies (Stone and Neale, 1987; Dountran, 2011).

This factor also shows the negative relationship of self-efficacy and commitment with escape avoidance coping. This suggests that hardy and self efficacious adolescents have the capacity to resist negative life events they will use less of avoidance coping strategy. Females who are high on hardiness and self-efficacy they will have positive health and will engage in problem focused coping rather than escape avoidance coping (Soderstrom, et al., 2000).

Factor III

The third factor explains 8.24 % of variance. This factor has shown significant positive loadings on perceived stress as well as control, which is a dimension of hardiness. This factor shows a positive relationship between control and perceived stress in female adolescents. Hardy female adolescents do have a personal sense of mastery and confidence but yet during their adolescent period, they experience a lot of stress. In order to combat the perceived

stress, they increase their control in various situations. They try to make themselves even more strong and resilient in their stressful situations.

Factor IV

The last factor explains 7.20 % of the total variance. This factor highlights the challenge component of hardiness as an individual factor, enabling us to understand the importance of challenge as a personality characteristic in female adolescents. Challenge plays an important role in contributing to hardiness.

In conclusion, for male adolescents, this factor analysis results have given us five factors and these factors have suggested important findings that self-efficacy shares a negative relationship with depression. Depression also has a negative relationship with components of hardiness. Perceived stress shares a positive relationship with depression. Escape avoidance coping strategy shares a positive relationship with depression. Distancing shares a negative relationship with depression. Male adolescents distance themselves from situations that they believe are not changeable. This coping strategy also helps them to lower the feelings of depression. Their characteristics are that high hardy individuals utilise problem focused coping strategies. Challenge has appeared to be an important dimension which contributes to resiliency enabling male adolescents to handle their

problems in a better way rather than withdrawing from them. Self-efficacy shares a positive relationship with coping strategies but does not have a significant relationship with escape avoidance. Self-efficacy and dimensions of hardiness share a negative relationship with escape avoidance coping.

In female adolescents, factor analysis revealed four important factors in female adolescents. It suggests a few important relationships. It suggests a negative relationship of commitment and self-efficacy with depression. Hardiness and self-efficacy will reduce the feelings of depression in female adolescents. Depression also shares a positive relationship with escape avoidance. In female adolescents, utilisation of escape avoidance as a coping strategy to deal with situations will increase the feelings of depression.

Other relationships show that there is a negative relationship of self-efficacy and commitment with escape avoidance coping. Self-efficacy also has a positive relationship with all the dimensions of coping. A positive relationship between control and perceived stress can also be seen in female adolescents. Also challenge can be seen as an important characteristic for females.

The implications of this research are that it can be utilised to ensure that hardiness is a personality study that can combat depression. Parents can support children by helping them build a hardy personality. A counselor can also direct his attention on increased self-efficacy. Strategies to build efficacy in school years can be initiated. Coping skills can also be strengthened right from school years. Parental and school counseling programmes can be beneficial.

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An Analytical Study of Exercises in Secondary English Textbooks published by NCERT with reference to Revised Bloom's Taxonomy

SIAN LALCHHANDAMI* AND H. MALSAWMI**

Abstract

The present study analyses the exercises found in the NCERT English textbooks for secondary school students based on the Revised Bloom's Taxonomy (RBT). The sample of the study consisted of 1119 end-of-chapter exercises in Class IX and Class X English textbooks. A study analysis sheet was prepared and used for classification of the questions in both the cognitive process and knowledge dimensions. The results revealed the following: most of the questions (74.14%) were within the first two levels—remembering (26.27%) and understanding (47.90%), which reflected the preponderance of lower level questions in the investigated textbooks. The study also found the dominance of exercises testing factual knowledge (61.40%) in the knowledge dimension of the RBT. Based on the findings it is recommended that textbook writers and educators include higher order questions within curriculum and pedagogy to help improve critical thinking among learners.

INTRODUCTION

The demonstration of curriculum occurs in many forms, one of which is the textbook. It dictates in many instances what the curriculum and

instruction will be and teachers rely greatly on it as the basis of instruction and assessment. It is therefore, important to examine the content and exercises in the textbooks and see

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how they bring out the development of learners' critical thinking ability. Among the different existing taxonomies and models for textbook evaluation, Bloom's Taxonomy of learning objectives can be considered one of the most effective tools. The Taxonomy was proposed by Benjamin Bloom in 1956 following the conversations held at the American Psychological Association (1948). It is a classification of different objectives and skills that educators set for students, which propose that any instructional task stimulates one of the three psychological domains: cognitive, affective or psychomotor. One criticism about Bloom's taxonomy was that both the 'knowing what' and 'knowing how' aspects of the knowledge category were treated as a single entity. To address the limitations, during the

1990s', a former student of Bloom's, Lorin Anderson, led a new assembly that updated the taxonomy introduced made with several significant changes and was published as the Revised Bloom's Taxonomy (RBT) in 2001.

The RBT now identifies both—the kind of knowledge to be learned (knowledge dimension) and the kind of learning expected from students (cognitive processes). The 'knowing what' was classified into four levels, namely Factual, Conceptual, Procedural and Meta-cognitive. The 'knowing how' or cognitive processes were categorised as Remembering, Understanding, Applying, Analysing, Evaluating and Creating. The revised taxonomy table along with descriptions of the knowledge and cognitive domain are shown in Table 1 and Figures 1 and 2.

Table 1

The Revised Bloom's Taxonomy table as proposed by Anderson et al. (2001)

Knowledge Dimension	Cognitive Process Dimension					
	Remember	Understand	Apply	Analyse	Evaluate	Create
Factual Knowledge						
Factual Knowledge						
Factual Knowledge						
Factual Knowledge						

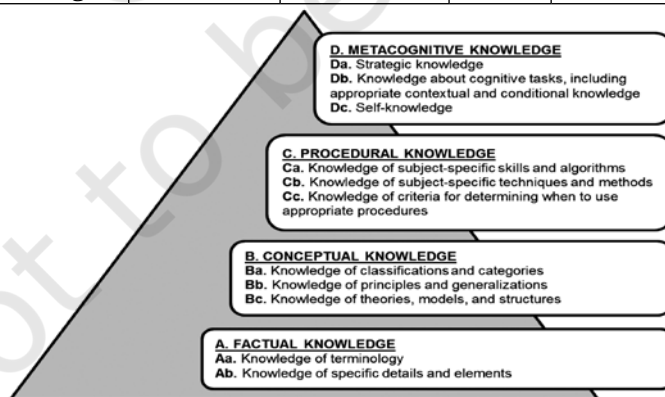


Fig. 1 RBT Knowledge Dimension as presented in Anderson et al. (2001)

Source: <http://www.kamts1.kpi.ua/en/node/2422>

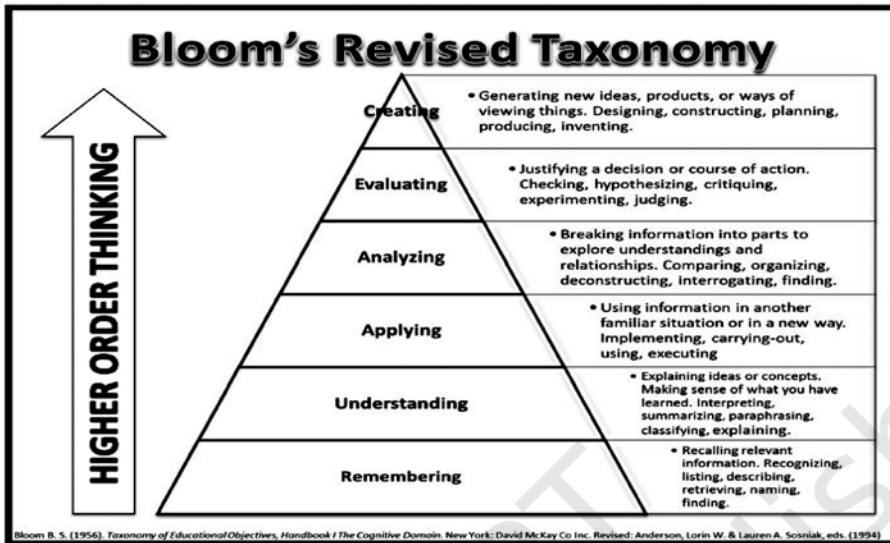


Fig. 2: RBT Cognitive Domain as proposed by Anderson et al. (2001)
Source: <http://discuss.cle.ust.hk/mediawiki/images/4/43/Revised.jpg>

RATIONALE FOR THE STUDY

The National Focus Group on Teaching of English (NCF 2005) mentions that the objectives of language teaching is not limited to the development of the four fundamental skills (listening, speaking, reading and writing) but also extends to the development of thinking skills of students. It states that 'Language in education would ideally and ordinarily build on such naturally acquired language ability, enriching it through the development of literacy into an instrument for abstract thought and the acquisition of academic knowledge. We can then speak of a 'cognitive academic linguistic proficiency' (cf. Cummins, 1979) as language and thinking skills that build on the basis of a child's spontaneous knowledge of language. This is a goal of language education, and acquiring education through language.'

In order to achieve the objectives thus mentioned, the exercises and activities that follow each lesson in a textbook then become of great importance and should be written in a way that helps in attaining the educational objectives and develop critical thinking, creativity and reasoning skills of the learners. Chadwick (2013) views questions as an integral part in teaching children to think critically and creatively. Furthermore, for effective instructions to take place in class, Jones et al. (2009) and Swart (2010) consider questions as an important part of the instructional process.

English textbooks come with a lot of questions. However, unfortunately, studies have found that most textbook questions emphasise only the lower-order cognitive levels and do not include questions that

require critical thinking and meta-cognitive processes (Razmjoo and Kazempourfard, 2012; Abdelrahman, 2014; Alfaki, 2014; Askaripour, 2014). The present study is, therefore, taken up to analyse the exercises in the English textbooks published by NCERT (2006) and find out if it fulfills the objectives of teaching English as stated in the NCF 2005, or whether the exercises merely encourage lower levels of thinking. Since no such study has been taken up in the State and most probably in the country so far, the attempt to conduct a study in this area will, undoubtedly, fill up this research gap and also serve as a tool for future curriculum designers and textbook writers in preparation of textbooks and ensure 'cognitive academic linguistic proficiency' through the textbooks.

REVIEW OF RELATED LITERATURE

In a study conducted by Razmjoo and Kazempourfard (2012) on the four course books of Interchange Third Edition series (Richards 2005), questions testing the ability to remember factual knowledge (A1) were found to be most frequent, followed by the application of conceptual knowledge (C2). Interestingly, no exercises for testing of remembering, understanding and evaluating metacognitive knowledge were present in the textbooks. Exercises testing Lower Order Thinking Skills (LOTS) was most prevalent in these books. Similarly, Rahmawati and Prayogo (2017) also found that out of 279 reading questions in English Textbook titled

Interlanguage: English for Senior High School Students XI, questions testing lower-order thinking had higher occurrence than higher-order thinking exercises.

Dabbagh and Safaei (2019) analysed Iranian nationwide ELT textbooks, i.e. Prospect and Vision series, and compared them to the internationally-published textbook *Four Corners* and found higher representation of LOTS (92.94%) compared to HOTS (7.06%) in the exercises of *Prospect and Vision series* while *Four Corners* textbooks provided a balanced representation regarding LOTS (59.22%) and HOTS (40.78%).

Mizbani, Salehi and Tabatabaei (2020) evaluated all 127 activities of the textbook of *Vision 1*, the textbook of *Senior High School, Grade 1*, where activities for the development of the four skills (listening, speaking, reading and writing) showed the dominance of exercises, that belonged to lower levels of the thinking process.

Moreover, studies conducted by Abdelrahman (2014), Alfaki (2014), Askaripour (2014), Roohaniet et al. (2014), Sinabutar (2017), Putri and Komariah (2018) and Murid (2019) on various English language textbooks also found similar results, where the lower-order cognitive skill exercises constituted a larger proportion compared to higher-order cognitive skill exercises.

OBJECTIVES

- (i) To find out and compare the distribution of exercises in Classes IX and X English

Textbooks based on the Cognitive Process Domain of RBT.

- (ii) To examine the distribution of exercises into Lower Order Thinking Skills (LOTS) and Higher Order Thinking Skills (HOTS).
- (iii) To classify and compare the distribution of exercises in Classes IX and X English Textbooks based on the Knowledge Dimension of RBT.
- (iv) To analyse the distribution of exercises in Classes IX and X English textbooks based on the Knowledge Dimension and Cognitive Process Domain.

(c) *First Flight* — Textbook in English for Class X

(d) *Footprints without Feet* — Supplementary reader in English for Class X

Data collection and analysis procedure

The study employed a mixed method using both qualitative and quantitative approaches. The data for this study, i.e. exercises and activities were identified and categorised using a coding scheme based on the RBT. They were tallied and analysed according to the appropriate cognitive and knowledge dimension to find out the frequency and percentage of occurrence at each level of cognitive domain as well as knowledge domain.

Examples of analysis procedure from selected exercises in Class X English textbook may be shown as follows:

- (a) What does being free mean to Mandela as a boy and as a student? How does he contrast these 'transitory freedoms' with 'the basic and honourable freedoms'? (Pg. 24)
- (b) Here are a few more idiomatic expressions that occur in the text. Try to use them in sentences of your own. (Pg. 57)
- (c) Read the last stanza. Do you think Amanda is sulking and is moody? (Pg. 62)
- (d) Can you imagine what these characters will quarrel about next? (Pg. 157)

METHODOLOGY

Research design

This study primarily involves document analysis. In this type of research method, written or visual material are analysed for the purpose of identifying specified characteristics of the material (Ary, Jacobs, Razavieh and Serensen, 2006). Further, Revised Bloom's Taxonomy was used as a benchmark to analyse the data.

Material

This study covers all the exercises in Classes IX and X English textbooks published by the National Council of Educational Research and Training (NCERT), India. Below is the list of textbooks under study:

- (a) *Beehive* — Textbook in English for Class IX
- (b) *Moments* — Supplementary reader in English for Class IX

Example A would be categorised in the Understanding Level as it requires the students to understand and explain the idea of ‘being free’ in the life of Mandel a and contrast ‘transitory freedoms’ with ‘the basic and honourable freedoms’ in the context of the lesson. Furthermore, since the exercise tests the students’ knowledge of the text at both literal and interpretive level in order to make meaning within the context, the type of knowledge dimension it would involve is Conceptual Knowledge.

Example B can be labeled under Applying Level and also involves Procedural Knowledge. It requires the knowledge of the steps and rules in the use of idiomatic expressions, which the learner is expected to apply in making new sentences.

Example C can be labeled under Evaluating Level and also involves Metacognitive Knowledge. The learner is asked to evaluate and

decide whether ‘Amanda is sulking and is moody?’. Also, since the students are required to reflect on what they understand with regard to the thoughts and moods of Amanda, it may be aptly categorised under the Metacognitive Knowledge Dimension.

Example D can be labeled under Creating Level as the students are required to design a new content out of their own imagination. Also, since students have to perform the cognitive task of thinking about how the quarrel between the characters in the play may proceed, thus helping them become more aware of their own thinking process, the exercise can be categorised under the Metacognitive Knowledge Dimension in the RBT.

The same procedure was carried out in the analysis and categorisation of all the 1119 exercises in Classes IX and X English Textbooks.

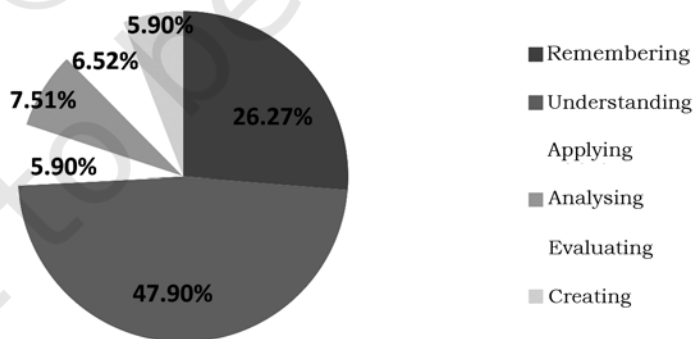


Fig. 3 Distribution of exercises in Classes IX and X English textbooks based on the Cognitive Process Domain

RESULTS AND INTERPRETATION

Figure 3 reveals that out of a total of 1119 exercises in Classes IX and X textbooks, the highest percentage in the Cognitive Process Dimension is found in Understanding Level followed by Remembering, Analysing, Evaluating, Creating and Applying Levels.

The secondary school English textbook is highly concentrated on remembering and understanding levels in the cognitive domain covering 74.17% out of the total number of exercises. This reveals the inadequacy of the exercises in textbooks for the enhancement of cognitive ability of the students to perform more complex cognitive tasks and the lack of provision for the development of complex thinking skills through the activities given in their textbooks.

Figure 4 shows that in both Classes IX and X English textbooks, the highest percentage of exercises was found in Understanding Level followed

by Remembering Level. However, variation is seen in the frequency of the exercises in the remaining levels where least frequently occurring exercise in Class IX textbooks goes for Creating Level while Class X textbooks have Applying level questions as its least occurring exercises.

The results revealed that all the levels in the cognitive domain of RBT are present in the exercises of Class IX and X English textbooks. Although activities related to remembering and understanding were more apparent in the textbooks of both classes with a measurable increase in the number of exercises in the higher cognitive levels in Class X textbook. This suggests that with the progression from Class IX to X, and assumed increase in the cognitive proficiency of learners, the level of difficulty of the exercises in the textbooks has also progressed, which is supposedly expected to aid in the development

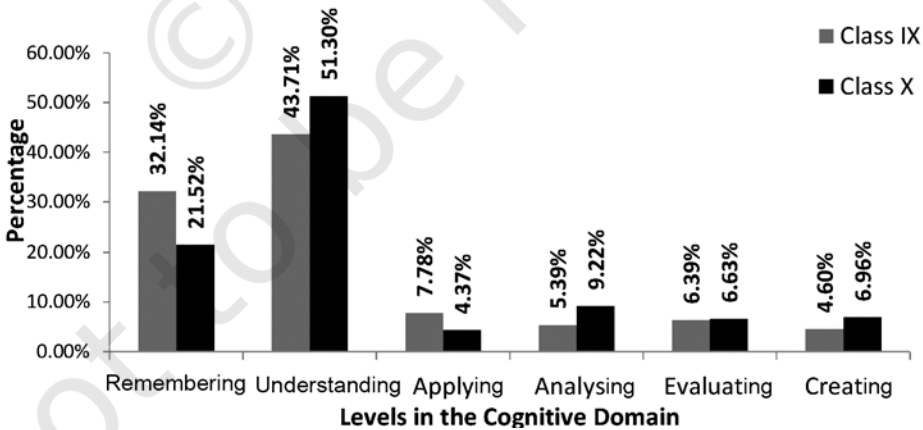


Fig. 4 Comparative analysis of the exercises in Classes IX and X English Textbooks based on the Cognitive Process Domain

of the cognitive ability and thinking skills of the learners.

Distribution of exercises into Lower Order Thinking Skills (LOTS) and Higher Order Thinking Skills (HOTS)

Classifying the six levels of Bloom’s Revised Taxonomy into ‘lower’ and ‘higher’ order cognitive skills wherein Remembering, Understanding and Applying level were categorised as LOTS and Analysing, Evaluating and Creating Levels as HOTS, the distribution of exercises in LOTS and HOTS and their progression in Class IX and X textbooks is shown in Figure 5.

Figure 5 shows that in LOTS category, a slight decrease in the distribution of exercises is seen from 83.63% in Class IX to 77.18% in Class X textbooks. Contrary to this, under HOTS category, a slight increase is seen in the percentage of exercises from 16.37% in Class IX textbooks to 22.82% in Class X. Analysis of exercises of both Class IX and X combined found most of the exercises under LOTS category (80.07%),

whereas a minimal number is found in the HOTS category (19.93%).

Discussion: Data analysis yields a high percentage of textbook activities devoted to LOTS while HOTS have not received any substantial contribution. This finding is similar to studies taken up by Askaripour (2014), Putri and Komariah (2018) and Murid (2019). This shortage of HOTS and lack of practice, there of, might result in learners’ inability to become autonomous in the process of language learning, thus preventing them from reaching the upper levels of RBT.

Figure 6 reveals the results of analysis of the overall distribution of exercises of Classes IX and X textbooks in the different levels of Knowledge Dimension. The results showed that a majority of the exercises in Secondary level English textbooks call for Factual knowledge (61.39%), followed by Conceptual Knowledge (17.60%), Metacognitive Knowledge (12.78%) and Procedural Knowledge (8.22%).

Discussion: Higher concentration on factual knowledge questions may

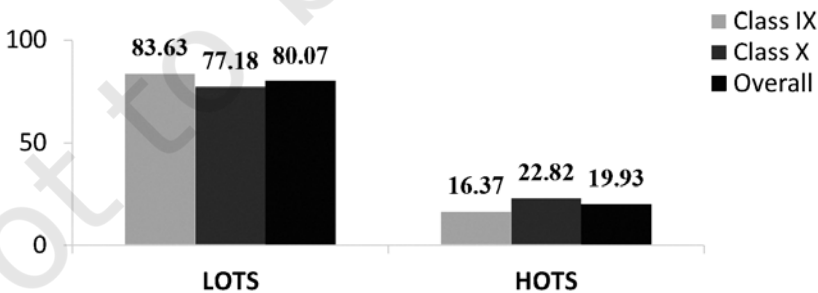


Fig. 5 Distribution of exercises from lower to higher levels in Classes IX and X English textbooks

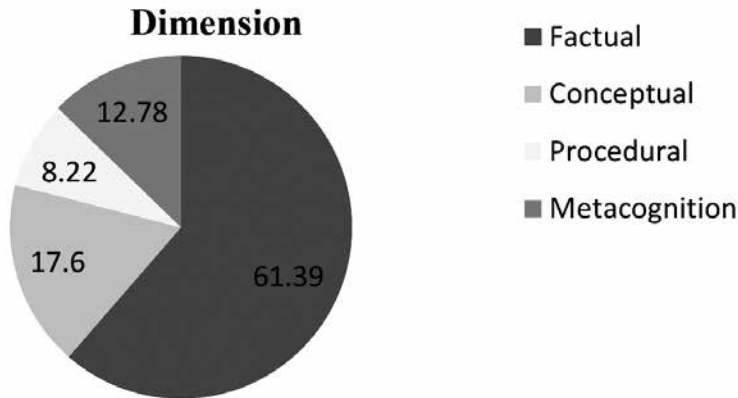


Fig. 6 Distribution of exercises in Class IX and X English textbooks based on the Knowledge Dimension of RBT

not be necessary for students at the secondary level as they are capable of thinking beyond things that are factual. They may be trained to apply learnt knowledge in new situations and even have an understanding of their thought process to make decisions and judgments that are reasonable and objective. However, the exercises in the present textbooks are still found to be highly concentrated in Factual knowledge, which implies that opportunities for students to explore beyond and employ their metacognitive knowledge is through the exercises in the textbooks. The exercises in these textbooks need to be required to help students make progress in their ability to think from the concrete and the factual stage to the abstract and to more intellectual stage.

Figure 7 shows that in Classes IX and X textbooks, a majority of the exercises are on factual information, whereas questions on procedural knowledge are found the least. While

in Class IX textbooks, we find more conceptual knowledge questions compared to questions demanding metacognitive knowledge, which is a reverse case in Class X textbooks, where there are more metacognitive questions compared to questions requiring conceptual knowledge.

Discussion: Analysis of the exercises found that both textbooks have given much focus on factual knowledge questions, which is the lowest level in the Knowledge Dimension of the RBT. Also, Class X textbooks are found to have lower concentration of questions in terms of Conceptual and Procedural Knowledge compared to Class IX textbooks, where a higher percentage of questions is found in the Metacognitive Knowledge level. A balanced representation of all the levels is not witnessed and the progression from the lowest to the highest level does not follow any specific pattern, which is an important issue that needs to be

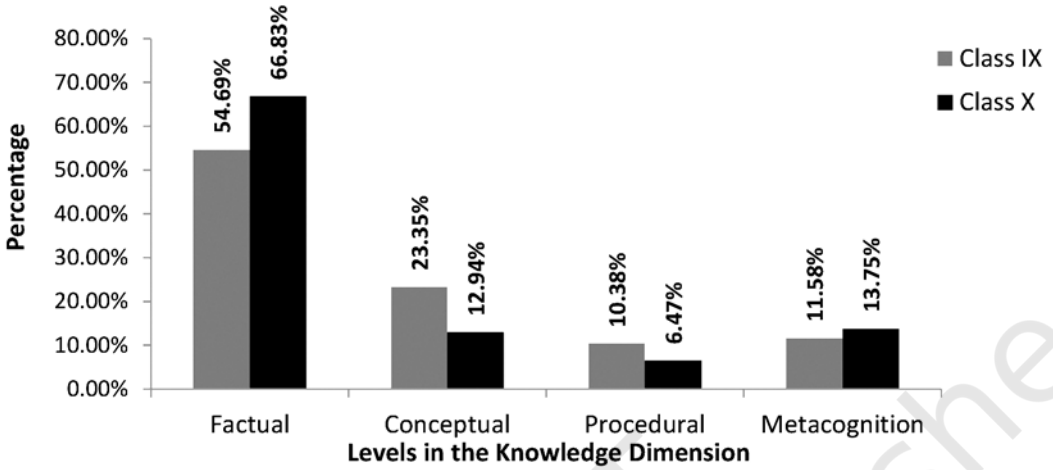


Fig. 7 Distribution of exercises in Classes IX and X English textbooks based on the Knowledge Dimension

addressed so as to enable students to think beyond facts and move towards understanding their own cognitive-style as well as their ability.

Analysis of distribution of exercises in Class IX and X English Textbooks based on the Knowledge Dimension and the Cognitive Process Domain of Revised Bloom’s Taxonomy

For the purpose of this study, a coding scheme presenting a two

dimensional framework identifying both the kind of knowledge to be learned (knowledge dimension) and the kind of learning expected from the students (cognitive processes) was framed to codify, classify and analyse the content of the textbooks based on the Knowledge Dimension and the Cognitive Process Domain of Revised Bloom’s Taxonomy as shown in Table 2 and 3.

Table 2
Coding scheme based on Revised Bloom’s Taxonomy

Knowledge Dimension	Cognitive Process Domain					
	Remember (A)	Understand (B)	Apply (C)	Analyse (D)	Evaluate (E)	Create (F)
Factual (1)	A1	B1	C1	D1	E1	F1
Conceptual (2)	A2	B2	C2	D2	E2	F2
Procedural (3)	A3	B3	C3	D3	E3	F3
Metacognition (4)	A4	B4	C4	D4	E4	F4

Table 3
Description of codes

Code Name	Code Meaning	Code Name	Code Meaning
A1	Remember Factual Knowledge	D1	Analyse Factual Knowledge
A2	Remember Conceptual Knowledge	D2	Analyse Conceptual Knowledge
A3	Remember Procedural Knowledge	D3	Analyse Procedural Knowledge
A4	Remember Metacognition Knowledge	D4	Analyse Metacognition Knowledge
B1	Understand Factual Knowledge	E1	Evaluate Factual Knowledge
B2	Understand Conceptual Knowledge	E2	Evaluate Conceptual Knowledge
B3	Understand Procedural Knowledge	E3	Evaluate Procedural Knowledge
B4	Understand Metacognition Knowledge	E4	Evaluate Metacognition Knowledge
C1	Apply Factual Knowledge	F1	Create Factual Knowledge
C2	Apply Conceptual Knowledge	F2	Create Conceptual Knowledge
C3	Apply Procedural Knowledge	F3	Create Procedural Knowledge
C4	Apply Metacognition Knowledge	F4	Create Metacognition Knowledge

Using the coding scheme highlighted in Table 2, exercises in Classes IX and X English textbooks were carefully coded and analysed by the investigator. The investigator also made an attempt to find out the difference in distribution of the exercises between Classes IX and X English textbooks.

The findings with regard to this analysis are presented as follows.

Figure 8 shows that in Class IX English textbooks, the highest percentage was found in A1 with 30.94% while D3 is found with the least frequency with 0.20%. Levels A3, B3, C1, C2, E1, E3, F1 and F2 were absent from the exercises.

Figure 9 show that in Class X English textbooks, the highest percentage was found in B1 with 38.19%, while E2 is found

Analysis of the distribution of exercises in Class IX and X English textbooks based on the Knowledge Dimension and Cognitive Process Domain

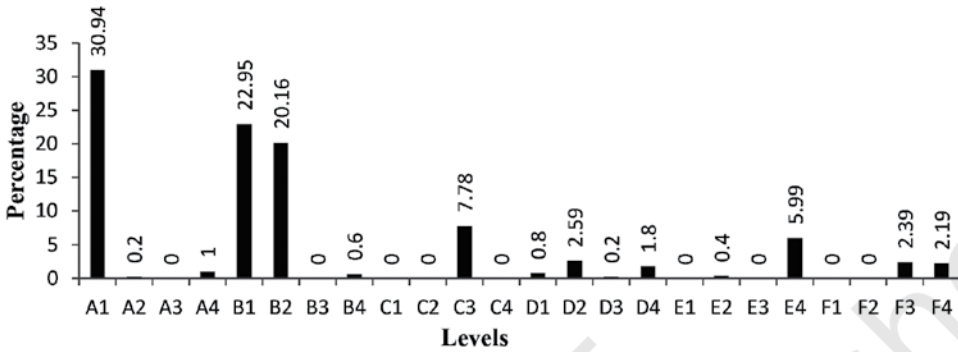


Fig. 8 Distribution of exercises in Class IX English textbooks based on the knowledge Dimension and Cognitive Process Domain

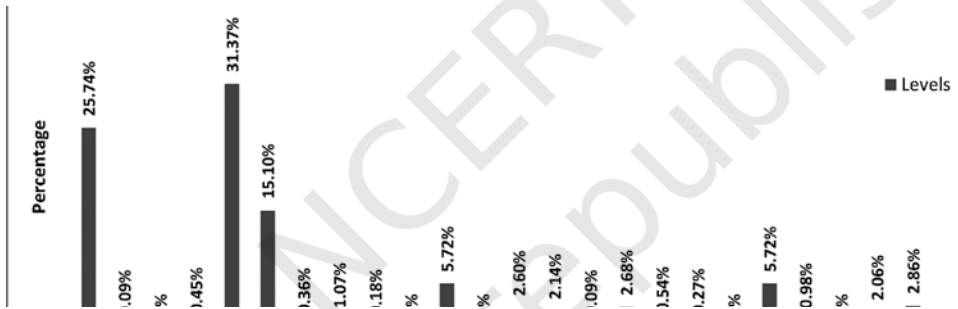


Fig. 9 Distribution of exercises in Class X English textbooks based on the knowledge Dimension and Cognitive Process Domain

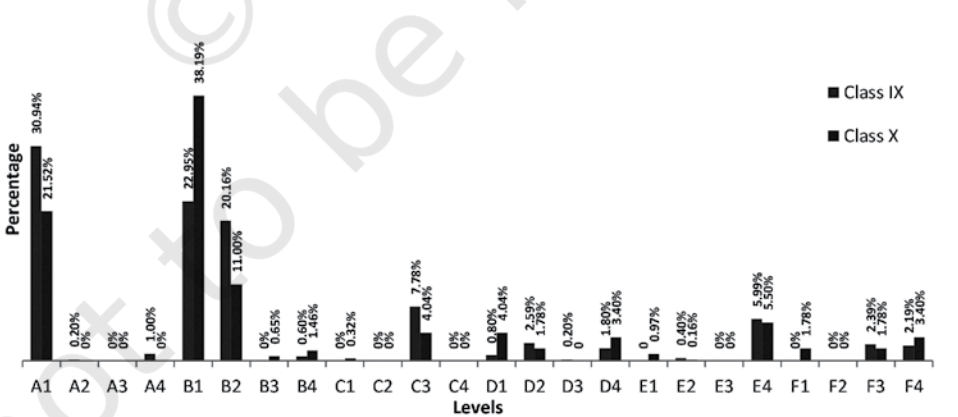


Fig. 10 Distribution of exercises in Class IX and Class X English textbooks based on the knowledge Dimension and Cognitive Process Domain

with the least frequency with 0.16%. Levels D3, E3, F2, C2 and C4 were absent in the exercises.

Figure 10 showed that the three most frequent occurring exercises in Class IX are A1, B1 and B2 whereas in Class X, the three most frequent occurring exercises are B1, A1 and B2. The level with the least number of exercises is D3 in Class IX and E2 in Class X. Levels A3, B3, C1, C2, E1, E3, F1 and F2 were absent in Class IX textbooks, whereas levels D3, E3, F2, C2 and C4 were absent in Class X textbooks.

Discussion: Findings reveal an irregular distribution of exercises in both Classes IX and X textbooks where a huge concentration is found in questions asking for remembering and understanding of factual and conceptual knowledge. There seems to be no definite pattern in the progression across different levels. It is suggested that Classes IX

and X textbooks have a reasonable distribution of various levels of questions in their exercises and also form a pattern in the increase or decrease of the number of exercises at each level based on their difficulty as learners move from Classes IX to X.

Figure 1 presents the result of the analysis of the overall distribution of exercises in Class IX and X English textbooks based on the Knowledge Dimension and Cognitive Process Domain. The order of frequency of occurrence of exercises based on the Knowledge Dimension and Cognitive Process Domain according to the codes given for each level are: B1, A1, B2, C3, E4, F4, D4, D1, D2, F3, B4, F1, E1, A4, B3, E2, C1, A2 and D3, respectively. The selected textbooks did not have exercises that fall under levels A3, C2, C4, E3 and F2.

Discussion: The findings indicate that exercises in both Classes IX and X textbooks are more focused

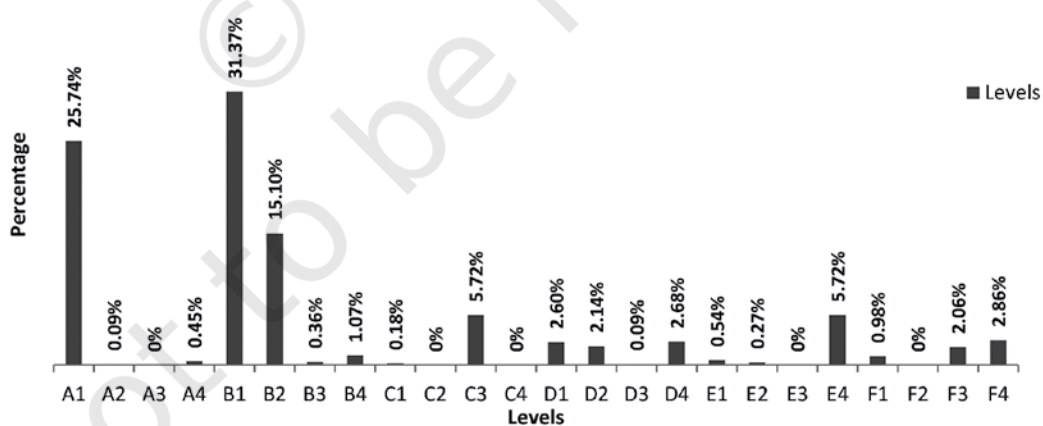


Fig. 11 Consolidated report of the distribution of exercises in Class IX and X English textbooks based on the Knowledge Dimension and Cognitive Process Domain

on questions that demand learners to remember factual knowledge (A1), understand factual knowledge (B1) or understand conceptual knowledge (B2). Other types of questions were minimal and there were no questions in reference to remembering procedural knowledge, applying conceptual or metacognitive knowledge, evaluating procedural knowledge or creating by using conceptual knowledge. This implies that all the levels in the RBT were not covered in the selected textbooks and the first three most frequently occurring questions only asked for lower level of thinking skills.

CONCLUSION AND RECOMMENDATION

The overall findings demonstrated that though the analysed textbooks of this study incorporated both the lower level and higher level thinking skills, they were not successful in representing all the codes in the RBT learning objectives, since some codes were totally absent or nearly neglected. Results indicated higher frequency of occurrence of exercises in the lower levels of

both the Cognitive domain and the Knowledge dimension of the RBT thereby, implying that the exercises are not adequate for developing the higher level of cognitive ability. Based on the findings, it is recommended that textbook designers regard credited taxonomies like RBT to incorporate higher learning objectives while preparing the textbooks. Furthermore, teachers can consider the HOTS level of evaluation as well as higher knowledge dimensions questions in their formative and summative evaluations. In sum, the results of the current study imply that questions available in the textbooks should be revised to engage students more in higher-order cognitive skills with higher level in the knowledge dimension covering all the objectives of both the Cognitive domain and Knowledge dimension combined as this will contribute to focus on the higher-order cognitive processes and would help students work more effectively and intellectually in the tasks they encounter within or outside the classrooms.

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Gender Differences in Academic Stress among Higher Secondary School Students in Gujarat

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Abstract

The present study was undertaken to investigate gender differences in academic stress with respect to gender differences among higher secondary school students in Anand district of Gujarat state. The study is based on primary data collected from the randomly selected 1000 sample students from 13 higher secondary schools (XI and XII). The study results indicate that there is a significant difference between the mean scores of academic stress in relation to boys and girls students of higher secondary school. The boys have high academic stress than the girls of higher secondary school. The comparison of boys and girls students across streams indicate that boys of the commerce stream have high academic stress than the girls students of higher secondary school, while the boys and girls students of science and arts stream does not indicate any significant difference in stress levels between them. Therefore, methods of overcoming stress cannot be the same for boys and girls, and methods should be based on the factors causing stress among the boys and girls rather than any other basis.

INTRODUCTION

Education is an essential element for the growth of any society or nation. In today's highly competitive world, students face various kinds of academic stress due to various internal as well as external factors

such as high academic expectations by the parents, teacher schools causing an examination stress which later becomes a major reason for lack of interest in attending the classes, or not achieving the desired and expected results. Besides, across

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the students, gender discrimination in education system is another kind of stress experienced by the girl students. Educating the girls continues to be a problem in India where gender inequality is a very serious issue as more importance is given to the education of boys or sons. Thus, girls always have the stress of being pulled out of school may be due to society stigma on girls education, or due to the requirement of labour at home or in the field.

During the schooling years, students have to face many academic burdens or loads, for example, appearing for the school examination on regular interval basis, answering questions in the classrooms as well as in examination, always showing progress in school subjects, trying to understand what the teacher is teaching, also competing with friends in the class, and most importantly trying to fulfill the teachers and parent's academic expectations (Lal, 2014). Sometimes, these demands may surpass the available resources of the students, which put some students under stress, since the demand is related to the achievement of academic goals. Student's perception and reaction to academic stressors are influenced by gender difference (Misra et al., 2000). Although both boys and girls have the same level of pressure regarding academics, girls are much more vulnerable to increased stress mainly due to the issues related to personal health, classmates and future events.

It has been reported that adolescent girls are found to perceive negative interpersonal events as more stressful than boys. Studies revealed that adolescent girls experience more stress than boys. For example, female students are more often reported letting out their emotions or feelings, whereas men are more often reported controlling their emotions, accepting or adjusting to the problem as well as situation and trying to find out solution to the problem (Hyde and Plant, 1995; Milkie and Thoits, 1993). When compared to the similar levels of stress, women exhibit stress more overtly than men (Hyde and Plant, 1995; Thomas and Williams, 1991). Also, the coping styles to stressors also differ by gender.

However, not many studies focus on academic stress across the gender in Gujarat state. The present study intends to investigate gender differences in academic stress among higher secondary school students in Gujarat.

REVIEW OF LITERATURE

There are direct and indirect ways to study the difference in stress levels based on gender differences. Investigation of the experience and perception of stress along gender lines is a fascinating undertaking as findings of the studies conducted regarding stress with references to gender are somewhat conflicting. For example, in a study conducted by Misra and Castillo in 2004, it was revealed that men and women differ

in their perceptions and reactions to stress' (pp.146) while Jagaratnam and Buchanan (2004) found differences between male and female students to be significant when it came to the time pressure dimension of stress. In relation, Sulaiman et al. (2009) found in their study that 'female students have different stress compared to the male students. This may be because female students tend to be more emotional and sensitive toward what is happening in their surroundings' (p. 183). On the other hand, Walton (2002) found no significant difference in the perceived stress between male and female students when the researcher made a comparison of perceived stress levels and coping styles of junior and senior students in nursing and social work programmes.

Gadzella and Baloglu (2001) found that female students experienced more stress during changes in their life, while Muhammad Shah Burhan (1993) found that there is a significant difference between the stress experienced by male and female students. While research by Mohd Jafri (1991) shows that female students experienced more stress when faced with problems compared to the male students. Misra and Castillo (2004) conducted a study, in which they concluded that perception and reaction to stress is different in both genders i.e. male and female while Jagaratnam and Buchanan (2004) found a significant difference between male and female students on the time pressure factor of stress. Sulaiman, Hassan, Sapian and Abdullah (2009) found that male and

female students experience different levels of stress, and an explanation may be that females are more likely to be emotional than males in reaction to their environment. This research is also conducted to detect the difference of stress level with respect to urban and rural students as well as male and female students.

The relationship between stress and adjustment adolescent females was studied by Tung and Chahal (2005) and found that there was no significant causal relationship between stress and adjustment. However, results implied that the level of adjustment influences the number of stressful events and the amount of stress experienced by them. Yumba (2010) found that female undergraduates have higher degree of stress due to studies related *sources of stress*, such as increased class workload, pressure to earning good grades, excessive homework, and unclear assignments, compared to their counterparts. There is no difference in the perception of stress for both male and female undergraduate students. The first year under-graduate students, especially female students reported higher degree of stress than male students. Another study by Khan, et al., (2013) found that there was a significant effect of academic stress on student's performance and non-significant difference between males and females on perceived stress scale. Govaerts and Gregoire (2004) noted that girls granted greater importance to the stressful situation, while boys

perceived themselves as having more resources for coping with it.

Pourrajabet al., (2014) reviewed the literature to describe the components of academic stress and observed the difference between the stress level of male and female students. Study by Pастey and Aminbhavi (2006) revealed that female students perceive more academic stress in comparison of their male counterpart. While Kumar et al., (2011) concluded that stress level differs among the genders, and therefore the methods of overcoming stress cannot be the same for boys and girls. On the other side, Kumari and Gartia (2012) noted that stress and academic achievement are not mediated by gender. Bartwal et al. (2013) showed that there is a significant gender difference with regards to the academic stress among rural as well as urban adolescents, thus academic stress experienced by both male and female adolescents seem to be of similar levels. Further, both genders have similar levels of average emotional intelligence. The author concluded that a person with high score on emotional intelligence can deal in a better way with the academic stress. Kumar and Bhukar (2013) showed that stress was significantly higher among girls in comparison to boys of their profession. A study by Bartwal et al. (2014) revealed that there were no significant gender differences with regard to the academic stress among rural and urban adolescents. Authors suggested that in order to make adolescents stress free, there

is a need to adopt better methods of teaching-learning.

Menaga and Chandrasekaran (2014) found that there is a significant difference in the academic stress of higher secondary students in relation to their gender, type of family, type of school management, and no significant difference has been found in relation to their family income and stream of study. Dhull and Kumari (2015) indicated that there was a significant difference between academic stress of male and female adolescents. Female subjects were found to be under more academic stress as compared to their male counterparts. Authors suggested that academic frustration, academic conflict, academic pressure and academic anxiety should be minimised, which can reduce the academic stress. Kaur (2015) found that frustration level of boys was significantly higher than the girls. Further, study found that there is no significant difference in the level of parental encouragement of the boys and girls. While frustration among boys is significantly related to their parental encouragement, but the results doesn't show any such significant relation in case of girls. Kaur and Simmi (2015) indicated no significant difference in boys and girls on all the measured variables, i.e. anxiety and socio-economic status, and there was no relationship between these two variables.

The review of literature indicates that past studies have experienced separately all three situations about the level of stress across genders. Numerous studies have shown

that men and women differ in their awareness and response to stress, and female students have different stress compared to the male students. Also, female students are more poignant and receptive which make them more stressful than male. Besides, male students have more resources to handle stress than the female students. Therefore, it was suggested that the methods of overcoming stress cannot be the same. Some researchers found that there is no significant difference in level of stress between male and female students. Further, they opined that academic achievements are not judged by gender. While few researchers have reported that the frustration level of boys was significantly higher than the girls, which is mostly related to the expectations of parents from boys more than girls. Overall, reviews indicate contradictory findings as few researchers observed that female students were found to be under more academic stress as compared to their male counterparts, while opposite picture was reported by other studies where boys are facing more stress than their counterparts. Thus, literature review indicates that stress is not as such gender specific and can be location specific and therefore, it is important to have a study on the status of same in Gujarat.

DATA AND METHODOLOGY

The present study was undertaken in the Anand district of Gujarat, which is one of the educationally progressed districts having Vallabh Vidyanagar as an educational hub

located close to it. Stratified random sampling technique was used for the selection of sample students. To fulfill the objectives of the study, survey method was used. The primary data were collected from the 1000 selected sample students (boys and girls) of three streams (Science, Arts and Commerce) of higher secondary schools (XI and XII). Total schools were selected for data collection, of which seven schools were located in urban area and the remaining were in rural area. The hypotheses of the study were as follows:

- (a) There will be no significant difference between the mean scores of academic stress of girls and boys students of higher secondary schools.
- (b) There will be no significant difference between the mean scores of academic stress in relation to girls and boys students of science stream in higher secondary schools.
- (c) There will be no significant difference between the mean scores of academic stress in relation to girls and boys students of commerce stream in higher secondary schools.
- (d) There will be no significant difference between the mean scores of academic stress in relation to girls and boys students of arts stream in higher secondary schools.

Simple tabular analysis was used for data analysis. SPSS 20 data analysis package was used for data

analysis. The statistical tools like mean, standard deviation, standard error and 't' test were used for data analysis.

Results and Discussion

The researcher has tried to find out the level of stress across gender among students of various streams of education. The data were collected from 1000 students (boys and girls) from rural and urban areas studying across three streams, viz. arts, science and commerce. Using Likert Scale technique (close ended questions), data were collected from sampled students on 75 questions pertaining the academic stress. The Likert Scale 5-point rating scale ranges from "1" to "5"; 1 = Never; 2 = Rarely; 3= Sometimes; 4= Mostly; 5= Always. The comparison of the students across the stream and areas in relation of their academic stress scores are presented and discussed here.

Comparison of Students across gender and Academic stress scores

The results of analysis of comparison of the students of different gender and academic stress scores are presented in Table 1. It can be seen from this

table that the t-value obtained from the mean score of boys and girls student is 3.126. The significance value obtained in this case is 0.002 which is less than 0.05, so there is no significant difference between the mean scores of academic stress in relation to boys and girls students of higher secondary school and their the hypothes. The mean score of academic stress of boys is 170.71, which is higher than the mean score of academic stress of girls (162.40). The standard deviation score of boys is estimated to be 45.278, which is greater than the standard deviation score of girls (38.574). Thus, it can be said that the boys have slightly higher academic stress than the girls of higher secondary schools which may be due to high expectations of parents from boys more than girls. Besides, field survey indicated that attitudes and behaviour of boys in terms of educational level is much more unfavourable than that of girls. Girl students are found to be very serious about their studies and complete the given work in time and remember attentive in classroom, while boys are reported to be less attentive and working for activities.

Table 1
Comparison of Students in relation to their Academic Stress Scores Descriptive Statistics

Gender	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Max.
					LB	UB		
Boys	500	170.71	45.278	2.025	166.73	174.69	75	326
Girls	500	162.40	38.574	1.725	159.01	165.79	83	311
Total	1000	166.55	42.244	1.336	163.93	169.18	75	326

ANOVA

Boys and Girls	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	17288.964	1	17288.964	9.773	0.002
Within Groups	1765470.120	998	1769.008		
Total	1782759.084	999			

Independent Sample Test

Boys and Girls F	Levene's Test for Equality of Variances		t-test for Equality of Means						
	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference		
						Lower	Upper		
Academic Stress	12.354	0.000	3.126	998.000	0.002	8.316	2.660	3.096	13.536
			3.126	973.428	0.002	8.316	2.660	3.096	13.536
Equal variances assumed									
Equal variances not assumed									

Notes: N-Number of sample; LB- Lower Bound; UP-Upper Bound; df- degrees of freedom.
Source: Estimated using field survey data.

Comparison of the students of particular stream across gender and academic stress scores

Table 2 presents the comparison of boys and girls students of science stream and the score of academic stress. The table indicates that the t-value obtained from the mean score of boys and girls of science stream school students is 1.199. The significance value obtained in this case is 0.231 which is greater than 0.05, so the hypothesis stating that there is no significant difference between the mean scores of academic stress in relation to boys and girls of science

stream students of higher secondary school is not rejected. The standard deviation score of boys is 47.138, which is relatively greater than the standard deviation score of girls (38.201). Thus, the level of stress among the boys and girls students of science stream is found to be non-significant and boys have reported large variation in the level of academic stress.

The comparison of boys and girls students of commerce stream and academic scores is illustrated in Table 3. It can be seen from this table that that the t-value obtained from the mean

Table 2
Comparison of science stream students of higher secondary school in relation to their Academic Stress Scores Descriptive Statistics

Science Stream	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Maxi.
					LB	UB		
Boys	200	169.51	47.138	3.333	162.93	176.08	88	326
Girls	200	164.36	38.201	2.701	159.03	169.69	83	262
Total	400	166.93	42.926	2.146	162.71	171.15	83	326

ANOVA

Boys and Girls (Science Stream)	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2647.102	1	2647.102	1.438	0.231
Within Groups	732578.075	398	1840.648		
Total	735225.178	399			

Boys and Girls/ (Science Stream)		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.	95% Confidence Interval of the Difference	
									Lower	Upper
Academic Stress	Equal variances assumed	8.014	0.005	1.199	398	0.231	5.145	4.290	-3.289	13.579
	Equal variances not assumed			1.199	381.620	0.231	5.145	4.290	-3.291	13.581

Notes and Source: Same as in Table 1.

score of boys and girls of commerce stream school students is 4.553. The significance value obtained in this case is 0.000 which is less than 0.05, so the hypotheses stating that there is no significant difference between the mean scores of academic stress in relation to boys and girls of commerce stream students of higher secondary school is rejected. The significant difference in the mean values of academic stress of boys (175.85) and girls (157.56) can be seen from the table, so the case of values of standard deviation. The figures indicate that the boys of the commerce stream have relatively higher stress than their counterpart. It may be due to the fact that girls are generally more disciplined in their studies, while boys are found to be more worried about their examination and future. Besides, poor administration also creates academic stress among boys students more than the girls students of commerce stream.

While the results pertaining to boys and girls students of arts stream and academic scores comparison presented in Table 4 indicates that the t-value obtained from the mean score of boys and girls students of arts stream school is -0.863. The significance value obtained in this case is 0.389 which is greater than 0.05, so the hypotheses stating that there is no significant difference between the mean scores of academic stress in relation to boys and girls students of arts stream of higher secondary school is not rejected. Thus, it can be said that the boys and girls student of arts stream does not indicate any significant difference between them.

Table 3
Comparison of the commerce stream students of higher secondary school
in relation to their Academic Stress Scores Descriptive Statistics

Commerce Stream	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min.	Max.
					LB	UB		
Boys	200	175.85	43.376	3.067	169.80	181.89	79	308
Girls	200	157.56	36.671	2.593	152.45	162.67	97	270
Total	400	166.70	41.145	2.057	162.66	170.75	79	308

ANOVA

Boys and Girls (Commerce Stream)	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	33434.123	1	33434.123	20.726	0.000
Within Groups	642021.475	398	1613.119		
Total	675455.598	399			

Independent Sample Test

Boys and Girls (Commerce Stream)		Levene's Test for Equality of Variances		t-test for Equality of Means						
				F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
									Lower	Upper
Academic Stress	Equal variances assumed	4.881	0.028	4.553	398	.000	18.285	4.016	10.389	26.181
	Equal variances not assumed			4.553	387.279	.000	18.285	4.016	10.388	26.182

Notes and Source: Same as in Table 1.

Table 4
Comparison of the Arts Stream students of higher secondary school in
relation to their Academic Stress Scores Descriptive Statistics

Arts Stream	N	Mean	Standard Deviation	Standard Error	95% Confidence Interval for Mean		Min.	Max.
					LB	UB		
Boys	100	162.86	44.343	4.434	154.06	171.66	75	276
Girls	100	168.14	42.132	4.213	159.78	176.50	84	311
Total	200	165.50	43.224	3.056	159.47	171.53	75	311

ANOVA

Boys and Girls/ (Arts Stream)	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1393.920	1	1393.920	0.745	0.389
Within Groups	370396.080	198	1870.687		
Total	371790.000	199			

Independent Sample Test

Boys and Girls (Arts Stream)		Levene's Test for Equality of Variances		t-test for Equality of Means						
				F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Error Diff.
									Lower	Upper
Academic Stress	Equal variances assumed	0.805	0.371	-0.863	198.000	0.389	-5.280	6.117	17.342	6.782
	Equal variances not assumed			-0.863	197.485	0.389	-5.280	6.117	-17.342	6.782

Notes and Source: Same as in Table 1.

CONCLUSIONS

Students face various kinds of academic stress during the schooling years, while their awareness and response to academic stressors are influenced by gender difference. The study has attempted to investigate academic stress in different genders among higher secondary school students in Gujarat. Most of the past studies have noted that men and women differ in their awareness and response to stress and female students have different stress levels compared to the male students. Also, female students are more poignant and receptive which make them more stressful than male students. Besides, male students have more

resources to handle stress than female students. Therefore, it was suggested that the methods of overcoming stress cannot be the same. Some researchers have found that there is no significant difference in the level of stress between male and female students and opined that academic achievements are not judged by gender. While few researchers have reported that frustration level of boys was significantly higher than the girls which is mostly related to the expectations of parents from boys. Overall, the reviews of past studies indicate a conflicting picture where a few opined that female students were found to be under more academic stress as compared to their male counterparts, while the opposite

picture was reported by other studies where boys are seen facing more stress than their counterparts. Thus, literature review indicates that stress is not gender specific but can be location specific.

The results of analysis of comparison of the students of different genders and academic stress scores in Gujarat indicate that there is a significant difference between the mean scores of academic stress in relation to boys and girls students of higher secondary school. Thus, it can be said that the boys have slightly higher academic stress than that of the girls of higher secondary school which may be due to higher expectations of parents from boys in comparison to more girls. Besides, field survey indicated that the attitude and behaviour of boys in terms of education is much more

unfavourable than that of girls. Girls students are found to be very serious about their studies and complete the given work in time and remain attentive in classroom, while boys are reported to be less attentive showing more interest in with leisure activities. The comparison of boys and girls students of higher secondary school across streams indicates that the boys of commerce stream have high academic stress than the girls, while the boys and girls students of science and arts stream do not indicate any significant difference between them. As suggested by Kumar et al., (2011) methods of overcoming stress cannot be the same for boys and girls and methods should be based on the factors causing stress. Besides, parents should put less pressure and teachers should identify the stressful students and counsel them.

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Tracing the Idea of Fit and Healthy Students in the thoughts of Some Eminent Educationalists of India

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Abstract

Studying the history of education develops a better understanding of the educational problems we are facing today. Most importantly, it offers an entry point to deal with contemporary educational questions, thus, paving the way to frame the right educational policies. The matter of student's health and fitness has always been central to educational philosophies and policies in India. With the goal of healthy and fit students, the honourable Prime Minister Shri Narendra Modi has initiated Fit India Movement in schools all over the country. Considering the importance of Fit India Movement, this paper proposed to trace the idea of healthy students in the educational thoughts of our educationalists, viz. Swami Vivekananda, Sri Aurobindo, Madan Mohan Malaviya, Lala Lajpat Rai and Syama Prasad Mukherjee. The paper would reveal about the health and fitness of Indians, with reference to the philosophies and arguments of these educationalists who appealed for the inclusion of physical education and sports in schools, colleges, and universities of India.

INTRODUCTION

On 29 August 2019, on the auspicious occasion of National Sports Day, the honourable Prime Minister, Shri Narendra Modi launched the

nationwide campaign named 'Fit India Movement' to encourage the people to include physical activities and sports in their everyday life for living a healthy life. He called the

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Fit India Movement initiative, need of the hour that would take the country towards a healthier future. Highlighting the relationship between fitness and success, PM Modi said, “The relationship of success and fitness is also interlinked. Take any field today, look at your icons, see their success stories, whether they are in sports, films, business, most of them are fit” (*The Hindu*, 2019).

The launch of Fit India Movement was followed by forming a committee comprising government officials, National Sports Federation, Indian Olympic Association, private bodies, and celebrity fitness promoters. The committee’s task is to advise the government on how to make the campaign effective and successful. Significantly enough, as per recommendations of the committee, the Ministry of Human Resource Development directed States and Union Territories to raise funds to procure listed fitness items for children studying in government schools. The schools were also encouraged to include traditional and regional games in their curriculum (*The Times of India*, 2019). In compliance with Fit India Movement, PM Modi in November 2019, also announced the Fit India School grading system. On his appeal, Fit India Week was celebrated in CBSE and State board schools across India in the first week of December 2019 to motivate students, teachers and parents to make fitness a way of life. He added, ‘I appeal that all schools should enroll

in the Fit India ranking system and Fit India should become innate to our temperament. That it becomes a mass movement and brings awareness is what we must strive for’ (*The Shillong Times*, 2019).

PM Modi’s Fit India Movement, indeed, is an attempt to make India a healthy nation. The notion that good health is central to human happiness and national prosperity is very much intrinsic to India’s culture and civilisation. PM Modi acknowledged this fact as he speaks at the Fit India Movement’s launching ceremony. His initiative towards making our nation healthy gives us an opportunity to look back at the thoughts of our nationalists on physical education and sports. A century ago, when our country was ruled by a foreign nation, which alleged India as an effete country on the ground of the physical degeneration of its people, our nationalist leaders launched the self-consciousness movement of physical culture and sports. Swami Vivekananda, Sri Aurobindo, Pandit Madan Mohan Malaviya, Lala Lajpat Rai and Syama Prasad Mukherjee were nationalist leaders who envisioned a great role for physical education and sports in the ideal national education system.

NATIONALIST THOUGHTS ON PHYSICAL EDUCATION

Colonial ideologies of imperialism stereotyped Indians as the most effete race in the world. Macaulay described Bengali as: “The physical organisation

of the Bengali is feeble even to effeminacy that lives in a constant vapor bath. Courage, independence and veracity are qualities to which the Bengali constitution and his situation are unfavourable for (Macaulay, 1898, p. 636). Whereas, Lieutenant General of Royal Field Artillery, George Macmunn, as late as 1936, wrote that Indians neither have martial aptitude nor courage (MacMunn, 1936, p. 22). The physical degeneration of the Indians was used as an explanation and justification for colonial rule. Thus, as a response to the colonial allegation, there emerged a class of Indians who were ardent advocates of inculcating vigour and courage through physical education and sports. In the background of the national movement, where a hegemonic battle was fought against colonialism, the idea of a fit and healthy body became an intrinsic part of the nation's building. Many questions related to educational reforms in India occupied the Indian educationalists. After examining the problems of the education system, most educationalists repeatedly argued for compulsory physical education and sports in India's schools and colleges.

Swami Vivekananda and Sri Aurobindo

The evocation of strength and vigour was fundamental to Vivekananda's vision of the physical renaissance of India. Being a yoga practitioner, he very well knew that a sound mind

exists in a healthy body. Once in a conversation with one of his disciples, he said, "The body and mind must run parallel. When the necessity of strengthening the physique is brought home to people, they will exert themselves of their own accord. It is to make them feel this need that education is necessary at the present moment" (*The Complete Works of Swami Vivekananda*. Volume 7, 1947, pp. 169–70). Vivekananda's exhortation on the importance of physical culture was best articulated in his famous aphorism on football. In a lecture, 'Vedanta in its Application to Indian Life', describing the *Upanishads'* greatness, he bluntly spelled out the physical weakness of the Indian body. He insisted on physical culture as a means of eradicating physical weakness and building a healthy mind and body. Thus he spoke, "...in spite of the greatness of the *Upanishads*, in spite of our boasted ancestry of sages, compared to many other races, I must tell you that we are weak, very weak. First of all is our physical weakness. That physical weakness is the cause of at least one-third of our miseries. We are lazy, we cannot work...And are we not ashamed of ourselves? Ay, sometimes we are; but though we think these things frivolous, we cannot give them up. We speak of many things parrot-like, but never do them; speaking and not doing has become a habit with us. What is the cause of that? Physical weakness. This sort of weak brain is not able to do anything;

we must strengthen it. First of all, our young men must be strong. Religion will come afterwards. Be strong, my young friends; that is my advice to you. You will be nearer to Heaven through football than through the study of the *Gita*. These are bold words; but I have to say them, for I love you. I know where the shoe pinches. I have gained a little experience. You will understand the *Gita* better with your biceps, your muscles, a little stronger. You will understand the mighty genius and the mighty strength of Krishna better with a little of strong blood in you. You will understand the *Upanishads* better and the glory of the *Atman* when your body stands firm upon your feet, and you feel yourselves as men (*Complete Works of Swami Vivekananda*. Volume 3, 1958, p. 242).

Vivekananda's vision of physical revivalism of India greatly appeals to youths of his time and generations. He became a prophet figure for revolutionaries who lay great stress on physical education. The philosophy of Swami Vivekananda profoundly influenced Sri Aurobindo. As early as 1902, he helped establish *Anushilan Samiti* (bodybuilding society), and in an article written in *Karmayogin* on 16 October, 1909, described it as a physical training institution whose foremost motive was to improve the physique of the race. (Sri Aurobindo, 1997).

Aurobindo embraced physical education as an important element in nation-building and development. He further added that for even individual

growth and development, it has to be engaged with the moral and physical strength needed for individual growth. This engagement's explicit testimony distinctly reflected in Aurobindo's article— 'British Protection or Self-Protection', published in *Bande Mataram* on 18 March 1907. A fragment from his article read as follows, "...we must organise physical education all over the country and train up the rising generation not only in the moral strength and courage for which Swadeshism has given us the materials but in physical strength and courage and the habit of rising immediately and boldly to the height of even the greatest emergency. That strength we must train in every citizen of the newly-created nation... And the strength of the individuals we must carefully organise for purposes of national defense... It is high time we abandoned the fat and comfortable selfish middle-class training we give to our youth and make a nearer approach to the physical and moral Education of our old *Kshatriyas* or the Japanese Samurai." (Sri Aurobindo, 1973).

Later, when Aurobindo retired from active politics and settled in Pondicherry, he evolved an educational philosophy of *purna* (integral) education, in which physical education and sports constituted the essence of Aurobindo's Integral Education. His rationale for physical education revolves around two ends. First, in terms of metaphysics concerns, i.e., perfection of a body or for the divine realisation of universal harmony, and

second for the role which the physical education could play in nation-building. While the former deals with his spiritual quest of yoga philosophy. The latter is concerned with educating the student's body that comprises the educative merits of physical education viz. character building, inculcating healthy habits, and building a healthy body and mind.

Aurobindo's philosophy of Integral Education contains five principal aspects corresponding to the human being's five principal activities: the physical, the vital, the mental, the psychic and the spiritual. He opined that all five principal aspects of education are interdependent and interpenetrated, and even the mental and vital faculty requires sound physicality for expression. That is why, he argued that educating the body should be effective, rigorous, detailed, far-sighted, and methodological. In a bulletin of the Aurobindo Ashram published in April 1951, three principal aspects of physical education were described as: (1) control and discipline of the functioning of the body, (2) an integral methodical and harmonious development of all bodily parts and movements, and (3) correction of any defects and deformities (Sri Aurobindo, 1979, p. 12).

In the very first volume of *Bulletin of Physical Education* (1949), Aurobindo elaborates the virtue of physical education and sports in the following words, "In their more superficial aspect, they appear merely

as games and amusements which people take up for the entertainment or as a field for the outlet of the body's energy and natural instinct of activity or for a means of the development and maintenance of the health and strength of the body; but they are or can be much more than that: they are also fields for the development of habits, capacities and qualities which are greatly needed and of the utmost service to a people in war or in peace, and in its political and social activities, in most indeed of the provinces of a combined human endeavor" (*Bulletin of Physical Education*, 1949, p. 3). Further highlighting the health and disciplinary benefits associated with the sports, he said: "Of a higher import than the foundation, however necessary, of health, strength, and fitness of the body is the development of discipline and morale and sound and strong character towards which these activities can help. There are many sports that are of the utmost value towards this end because they help to form and even necessitate the qualities of courage, hardihood, energetic action, and initiative or call for skill, steadiness of will or rapid decision and action" (Sri Aurobindo, 1953, p.6).

In his school at Pondicherry Ashram, Aurobindo arranged facilities of playground, tennis court, volleyball and basketball court, hockey ground, swimming pool, weight training in gymnasium, boxing and wrestling rings besides the programme of indigenous exercises, yogic asana and

pranayama. Being an educationist, he acknowledged the role physical education can play in nation-building. Describing the relevance of physical education, he clearly stated, "At any rate, in school like ours and in universities sports have now a recognised and indispensable place; for even a highest and completest education of the mind is not enough without the education of the body. Where the qualities I have enumerated are absent or insufficiently present, a strong individual will or a national will may build them up, but the aid given by sports to their development is direct and in no way negligible. This would be a sufficient reason for the attention given to them in our Ashram (*Sri Aurobindo and The Mother on Physical Education*, 2012, pp. 4–5).

Pandit Madan Mohan Malaviya

Pandit Madan Mohan Malaviya, one of the foremost educationists of modern India and founder of Banaras Hindu University, India's first residential-cum-teaching and research university, was very determined to the cause of physical education in India. Raising the question of physical education culture on several occasions, Malaviya lamented at the deteriorated physique of Indians. In an address, 'Discontent in India and The Reform Proposals', delivered at the second United Provinces Conference held at Lucknow in 1908, he regretted looking at the abandonment of the

physical culture tradition, which was once prevalent among our forefathers.

He was worried about very little provision of physical exercises and games in government schools and colleges. Malaviya argued that in the higher and middle classes of India that were educated in colonial schools, the taste for physical exercise had perceptibly diminished. This lack of any culture of physical education in Indian society, he explained, aggravates people's economic weakness when hit by plague and famine. The people are not so healthy, so they are used to succumb to diseases much more easily (*The Hon. Pandit Madan Mohan Malaviya His Life and Speeches*, 1919, pp. 146–148).

Hence, Malaviya appealed for reviving the interest of Indians in physical exercises. He urged parents to encourage their children to participate in school and college tournaments and advised elders who had passed out of colleges to devote some time and attention to the preservation and promotion of a healthy and strong physique. He asks Indians to learn from the Englishmen who, even at the age of sixty, take part in sports like badminton, tennis, cricket, or some other exercise (*Ibid*, p. 148). He firmly believed that for any education scheme to be complete, comprehensive, and all-embracing must include physical education and sports. Thus, he supported the movement to revive an indigenous gymnasium called *akharas* in

northern India and established a huge gymnasium at Banaras Hindu University (BHU). Physical Culture has always been greatly encouraged in BHU, as is evident from the fact that it was practically compulsory for university students' participation in physical fitness building. Besides, on Malaviya's instruction, extensive playgrounds for cricket, hockey, football, tennis, wrestling, and a large hall for physical exercise were built in the University (Sundaram, 1936).

Malaviya was also instrumental in leading the movement to form the University Training Corps in India. The current NCC (National Cadet Corps) had its roots in the University Training Corps. The students enrolled in the University Training Corps undergo fine physical training and drill exercises. Malaviya argued that the course of these healthy physical exercises and training would instill discipline, comradeship, and sportsmanship among the students. BHU had the largest University Training Corps at that time. It is worthy of mentioning that Malaviya also pioneered the Scout Movement in India. He founded Seva Samiti Scout Association (Humanity Uplift Service Society) in 1917. Thus, for Malaviya, "the deterioration of the national physique" was a matter of serious concern, and as a remedy to it, he vehemently called for paying attention to physical education (*The Hon. Pandit Madan Mohan Malaviya His Life and Speeches*, 1919, p. 148).

Lala Lajpat Rai

The great nationalist leader Lala Lajpat Rai was also a proponent of physical education. On numerous occasions, he talked about the necessity of physical education in schools and colleges of India and tried to build up public opinion in its favour. He went on to say that, "I want my countrymen to realise that the problem of physical education in India is a national problem of the first magnitude, and they should apply themselves to its solution with all the energy and the force of soul they possess" (Andrews, 1933, p. 10).

Rai considered the diseased health of Indians a matter of civilisational crisis. Therefore, his rationale for physical education was embedded mainly around the progress of race, citizenry and nation. As an educationalist, he extensively studied the educational system of America, European countries and Japan. Dwelling upon his study, he informs that the notion of 'today's children are the citizens of tomorrow' had been recognised in the developed nations of the world. Thus, to have good citizens, physically, morally and intellectually, the educational system should consider children's physical condition. Lajpat Rai discussed the idea of healthy citizenry and its relation with race and nation's progress in his book, *The Problem of National Education in India* (1920). He writes, "It is also necessary that the children raised should be healthy and capable of contributing to the general

progress of humanity. Defective persons are only a drag on the race and involve a tragic waste of human powers, energies and potentialities... Descending from the race to the nation, the importance of children-of healthy, vigorous and potentially resourceful and powerful children-to the latter is self-evident. The children of a nation are its greatest asset. They represent its capital, upon the wise and skillful investment of which depends its prosperity-nay, even its existence and continuance. All the civilized nations of the world have accepted this truth, and are vying with each other in building their present and future position among the peoples of the world' (Rai, 1920, p. 149).

According to Lajpat Rai, the present and future interests of a nation require every one of its citizens, male or female possessing the maximum amount of health and maximum developed intelligence. He held responsible one-sided colonial education system for the degraded body of Indian students, which took no notice of the physical requirements of the students' body. On university graduates, he was of the opinion that hardly one in a hundred graduates can be confidently said to be having normal health. Founding India's educational system largely based on literary learning, in which young pupils are engaged in mastering Milton, Shakespeare, Southey, Shelley, Kalidasa and Firdausi; Lajpat Rai asserted that they had never been told, either at home or

at school, how to cultivate an erect posture, take care of their bodies, hands, legs, noses, eyes, teeth, ears, organs, muscles and nerves, teeth, and ears. They know nothing about the hygiene of living, housing, food, dress and mating. The curriculum of studies in India takes no cognizance of these things or those that provide recreation and amusement of a healthy and edifying character, said Lajpat Rai (Ibid, pp. 151-152).

Based upon the extensive study of physical education in America and Britain, Lajpat Rai wrote a chapter titled. 'The Place of Physical Education' in his book *The Problem of National Education in India* (1920). He appealed that the schools in India must accept the new industrial age condition and provide adequate opportunities for bodily exercise related to vocational skills and the fundamental bodily exercises related to health. Importantly enough, he provided a scientific explanation of the health benefits associated with physical activity. He argued that India's programme of studies had not been adjusted to meet the pupils' changing needs.

Thus, Lajpat Rai called for manual training and physical education. In manual training, he described the health of the fine neuromuscular mechanisms, and physical education vigorously involves the large muscles of the arms, legs and trunk. Considering that physical education would lead to fundamental health with organic, neural and muscular

capacity, he argued for instructions in exercises and games in schools and colleges, which could bring into play the large fundamental muscles of students. Rai suggested that physiological types of exercises that call into play vigorously the large fundamental groups of big muscles and are related to the development of vigour, endurance and power, are the best form of physical exercises. This instruction, he further opined, should be supplemented by the exercises of skill, grace and alertness, and special attention should be given to securing good postural habits while standing, sitting and exercising. Significantly enough, he contemplated physical education and sports as an educative pedagogy that could inculcate in students desirable features of character building, social and moral values, honesty, fair play, courtesy, clarity of speech, alertness, promptness and persistence (Ibid, pp. 166–167).

Syama Prasad Mukherjee

Syama Prasad Mukherjee was an educationalist of a grand vision. In his scheme of ideal national education, physical education and sports hold a prominent place. As he said on the occasion of Calcutta University convocation in March 1935, 'What is Education worth if our youths, in general, are physically weak or unfit, unable to stand the stress and strain of modern life? What is education worth if we cannot turn them into men physically strong and well-equipped as they should be intellectually sane

and robust?' (University of Calcutta Convocation Address, 1939, p. 14). Thus, as an educationist, Mukherjee was so concerned about the physical education of Indian youths that he supported the resolution regarding compulsory physical training and military drill in all schools and colleges of Bengal. The resolution demanding compulsory physical training and military drill in all schools and colleges of Bengal was proposed before the Bengal Legislative Council on 7–8 August 1929, in the support of which Mukherjee made strong arguments. Arguing that physical training of students is a matter of national importance and national interest, he vehemently declared that India could not hope to advance unless it could turn out men capable of shouldering self-government burdens and defence properly (*Council Proceedings Official Report*, Bengal Legislative Council, 1929).

Importantly, for national defence, Mukherjee was also in favour of imparting some military training to students. In 1924, on a motion passed by him, Calcutta University appointed a committee to inquire into the question of imparting physical training and, if possible, also military training to the students. Based on the committee's study, he recommended some form of drill or physical exercise to be made a part of the school curriculum, and the college should be asked to introduce compulsory drills or games. He was of the opinion that physical

education should be imparted at schools to prepare the ground for further military training of students, if they desired an army career after their schooling. Mukherjee also proposed light military exercise to be made compulsory for all students in colleges affiliated to the University. Keeping this in mind, he appealed to organise University Training Corps in universities and was involved in the formation of Calcutta University's Training Corps (Ibid).

According to Mukherjee, the colonial education system deprived Indian students of the necessary qualities of courage, resource, initiative and free thinking. Therefore, the health and welfare of students were his utmost concern, and accordingly, he took steps in this direction. He was instrumental in founding the Student's Welfare department in Calcutta that investigates the causes affecting student's health through medical examination. Under his supervision, the student's welfare department deals with the preventative and curative side of the problem that includes the supply of medicines and provision for sports, games and scientific physical education. It is to be noted that, Mukherjee's outspoken insistence on physical education greatly owe to the lessons of character building which lies in the play pedagogy. Addressing the convocation ceremony of the Calcutta University on 8 March 1935, he explained how physical education not only contributes to students' health but also helps in character

development which is essential for the highest interests of the motherland (University of Calcutta Convocation Address, 1939, p. 15).

Mukherjee reiterated the moral lessons that sports can endow at the 1936 convocation address of Calcutta University when he spoke, '...remember that in sport, as in life, victory or defeat is not the supreme factor; what is of paramount importance is that in every sphere we must bring into action our best and cleanest effort, which should be unceasing and un-yielding in character' (Ibid, p. 39). Thus, he firmly believes that physical education can build students' health and physique that would further stimulate their mental growth and inculcate in them discipline and capacity for corporate work.

CONCLUSION

The thoughts of India's greatest educationalists viz. Swami Vivekananda, Sri Aurobindo, Madan Mohan Malaviya, Lajpat Rai and Syama Prasad Mukherjee, on physical education, reveals a remarkable similarity with the thoughts of our Prime Minister Shri Narendra Modi, whose vision is to make India fit and healthy and thus initiated the Fit India Movement. The launch of the Fit India Movement by our honourable Prime Minister to encourage people to remain fit and healthy by including physical activities and sports in their daily lives, indeed is an attempt in line with the grand vision of our

nationalist leaders of the colonial period. The paper has made it evident that our nationalist leaders, who were also eminent educationalists of their time, sought to ameliorate the deteriorated physique of their fellow countrymen through the pursuit of physical education and sports. They considered the weak body and mind of citizens as a national problem and, recognising that children of today are the citizens of tomorrow, appealed for physical education and sports in schools and colleges of India. PM Modi initiated Fit India movement throughout the country's schools and colleges for health and fitness of the students. 'Fit India grading system for schools' is an effort congruent with the nationalists' thought to impact physical education in schools

in order to make students fit and healthy.

Following the ideas and thoughts of India's most significant national educationalists, PM Modi, through the Fit India Movement, is trying to make physical activity and sports a social phenomenon in the country. He rightly said on the first anniversary of the Fit India Movement, that in the time of COVID-19, fitness has become an even more important aspect of life. Thus, the paper illustrates that the Fit India Movement, a brainchild of PM Modi, is an effort to involve citizens of the country in physical activities and sports to make India a fit nation as per the vision of Swami Vivekananda, Sri Aurobindo, Madan Mohan Malaviya, Lala Lajpat Rai and Syama Prasad Mukherjee.

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Widening the Scope of National Testing Agency (NTA)

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Abstract

“The National Testing Agency (NTA) will work to offer a high-quality common aptitude test, as well as specialised common subject exams in the sciences, humanities, languages, arts, and vocational subjects, at least twice every year. It will serve as a premier, expert, autonomous testing organisation to conduct entrance examinations for undergraduate and graduate admissions and fellowships in higher educational institutions” (National Education policy, 2020 (P.54)). The assessment and evaluation is done for different purposes including shortlisting the candidate for admissions. It is essential to shortlist the best students from the bulk of applicants for the purpose of admission of the most deserving students in Higher Educational Institutions (HEIs). NTA, an autonomous body, has been created by the Government of India for the purpose of conducting examinations or tests for admission and for professional certification. At present, the responsibility of the agency is to conduct centralised testing for admission to various courses offered by the HEIs. International experiences demonstrate that centralisation of examinations help nations in improving the overall performance of education. This paper attempts to analyse different international experiences and suggest pathways to enhance the scope of NTA and also make it a statutory body that will provide teeth to it in terms of providing it financial and administrative autonomy.

INTRODUCTION

The roots of NTA can be traced back to the Programme of Action, 1992 for the National Policy on Education

1986. It mentions that ‘A National Testing Service will be established and developed as a quality control mechanism to organise nationwide

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tests on a voluntary basis so that the norms can be evolved for comparability of performance and for conducting independent tests. In 2010, a committee was constituted by the Ministry of Human Resource Development (MHRD) for setting up of NTA under the Chairmanship of Professor D. Acharya of IIT Kharagpur. This committee was responsible for exploring the possible alternatives to the then IIT-JEE, AIEEE and other State Joint Entrance Examinations for admission to the nationwide engineering programmes. The major decision of the committee was that 'A NTA is to be created by an Act of Parliament. Only a statutory agency can ensure independence and transparency in testing of the magnitude that is being envisaged. It will have the necessary credibility and acquire confidence of the people.' (Ramasami, 2010) Following the recommendation of the 61st Central Advisory Board on Education in the year 2013, wherein it was decided that 'the proposal to set up the NTA will be taken forward in consultation with all the stakeholders (MHRD, 2015)', MHRD constituted a seven member task force under the Chairmanship of Professor Sanjay Dhande, for preparing a blueprint to create a Special Purpose Vehicle for taking forward the concept of NTA. Thereafter, an announcement about the establishment of NTA was made by the Finance Minister in the budget speech of 2017. A cabinet decision in November 2017 resulted in the creation of NTA as a

society registered under the Indian Societies Registration Act, 1860, as an autonomous and self-sustained premier testing organisation to conduct entrance examinations for higher educational institutions.

ABOUT NTA

NTA was established as a premier, specialist, autonomous and self-sustaining organisation with the aim to conduct entrance examinations for admission or fellowship in HEIs. The NTA has been entrusted the job of assessment of competence of the candidates to make them eligible for future recruitment in schools as well as HEIs. The agency has the objectives of undertaking research on the educational and professional testing systems and disseminating the information thus generated for the improvement of the education system. For the purpose of conducting the examination, the agency—

- (i) identifies partner institutions having adequate infrastructure amidst the existing schools and HEIs;
- (ii) uses updated techniques and blueprints for the purpose of formulation of question banks for all the subjects;
- (iii) establishes a system of strengthened R&D culture, and creates a pool of experts for taking care of all the aspects of testing; and
- (iv) supports colleges and universities for their own capacity building in testing. Further, the agency is committed to provide quality testing services to the academic institutions of India with the utilisation of domestic and international expertise. It will

also undertake other examinations entrusted to it by the Ministries or Departments of the Government of India, State Governments and UTs. The agency also intends to undertake reforms and training of school boards and other bodies where the testing standards (board examinations) are comparable with the entrance examinations.

Main Examinations conducted by NTA

Initially the entrance examinations conducted by NTA were— (i) JEE (Mains); (ii) NEET-UG; (iii) CMAT; (iv) GPAT; and (v) UGC-NET. In addition to the above entrance examinations, Jawaharlal Nehru University Entrance Examination (JNUEE), IGNOU Entrance Examination and CSIR-NET and UGC-NET for assessment for fellowship and lectureship, and Delhi University Entrance Test (DUET) 2019 were also conducted by NTA besides some other examinations.

National admission and certification examinations conducted by agencies other than NTA

The IIT Council conducts examinations for JEE Advanced; Joint Admission Test (JAM) for M.Sc., Ph.D. and Post B.Sc. programmes, Common Entrance Examination for Design (CEED), admission to Master of Design (MDes) and Ph.D. in Design in IISC, Bangalore and in IITs. Similarly, the Indian Institute of Sciences (IISc) of Bangalore, and Indian Institutes of Technology at

Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee, jointly administer GATE. The Humanities and Social Sciences Entrance Examination (HSEE) is a national level entrance test conducted annually by the Indian Institute of Technology for admission to the Masters and Ph.D. integrated course programme offered by the Department of Humanities and Social Sciences (HSS).

The National Board of Examinations (NBE) conducts NEET-SS (Super Specialist), NEET-PG (Post Graduation), NEET-MDS (Master of Dental Surgery), etc., NEET National Eligibility Test for admission to post graduate courses in Medical Sciences. National Entrance Screening Test (NEST) conducts entrance test for admission to 5-year Integrated M.Sc. Programme in basic sciences, Biology, Chemistry, Mathematics and Physics at National Institute of Science Education and Research (NISER), Bhubaneswar and University of Mumbai – Department of Atomic Energy Centre for Excellence in Basic Sciences (UM-DAE CEBS), Mumbai. Central University Common Entrance Test (CUCET) conducts examinations for admissions in UG and PG. A total of 15 Central Universities took part in that examination in 2019. More than thirty-five remaining Central Universities possess their own provisions of screening the students for admissions. Common Entrance Examination (CEE) of NCERT conducts examination for admission to a variety of courses,

such as integrated B.Sc. B.Ed. and M.Sc. M. Ed. and B.A. B.Ed., B.Ed., M.Ed. and B.Ed. M.Ed. admissions in Regional Institutes of Education (RIEs), Bhubaneswar, Ajmer, Bhopal, Mysore and Shillong and in Prarambh School, Jhajjar. The CEE for the year 2018-19 was conducted by RIE-Ajmer, and for the year 2019-20, it was conducted by RIE Mysore.

Bar Council of India (BCI) is the exam conducting authority for All India Bar Examination (AIBE). BCI conducts AIBE to evaluate law graduates for the required aptitude for practicing law in the country. AIBE came into existence in 2010 through a notification passed by the Legal Education Committee and BCI regarding this examination.

The Council for Scientific and Industrial Research (CSIR) conducts examination for UGC-NET in Chemical Sciences; Physical Sciences; Life Sciences; Mathematical Sciences; Earth, Atmospheric, Ocean and Planetary Sciences. Online applications for JRF/NET are invited twice a year on all India basis through press notification. However, the examination in December 2019 onwards has been conducted by the NTA. The Indian Council for Agricultural Research (ICAR) conducts the All India Entrance Examinations to fill 15 per cent admission for UG programme (AIEEA-UG) seats in State Universities and 100 per cent seats in NDRI, Karnal, Haryana, and two other Central Universities (RLB CAU Jhansi and Dr. RP, CAU, Pusa). The CAR also conduct AIEE-PG for 25 per cent seats for PG admissions with

15 per cent of seats in State Agricultural Universities and 100 per cent ICAR Deemed-to-be and Central Universities. However, the examination was conducted by NTA from 2019 onwards. All India Institute of Medical Sciences (AIIMS) and Jawaharlal Nehru Post Graduate Institute of Medical Education and Research conduct their own examinations for admission in their institution or for various degrees and diploma programmes offered in medical and allied subjects. However, from the year 2020, the AIIMS and JIPMER (Jawaharlal Institute of Postgraduate Medical Education and Research) has started taking students for MBBS Course based on the NEET scores which is conducted by NTA. Apart from the National level examinations, all the State and deemed-to-be-Universities of centre and state conduct their own admission entrance examinations.

Critical observation of NTA

Establishment of NTA is seen as a great achievement of the Government of India which will be a milestone in bringing revolution in improving the quality of education. A long pending dream of NPE 1986- POA 1992 could only be realised by the creation of NTA. However, there is a need to bring some changes in the NTA for transforming it into a more specialised and powerful body for conducting admission tests in HEIs across the country. Further, it can also conduct professional examinations for supplying quality workforce to our system.

If we critically examine the creation of NTA, then it has been observed that the NTA was created by the Union Cabinet's decision. It is not a statutory body. Larger autonomy and powers can be conferred upon this agency if it becomes a statutory organisation by enacting an Act of the Parliament as envisioned by the Task Force chaired by Professor Sanjay Dhande. Also currently, there are no provisions to establish regional offices of the agency. Pan-India control of conducting admission and professional certification examination for millions of students by a centralised agency is a herculean task. Wings and tentacles are required to be inserted in the agency for better control in a decentralised manner and smooth functioning. This can be ensured only by making it a statutory body. Also at present, the NTA does not have any elaborate procedure, strategy, and capacity for undertaking reforms and training of school boards and other bodies where testing standards are expected to be at par with the entrance examinations for HEIs.

The NTA is an autonomous and financially self-sustained body. As per the Cabinet decision, the agency was given a one-time sanction of ₹ 25 crore by the GoI to start its operation in the first year. Thereafter, it had to be made financially self-sustainable. The agency has even better scope of expansion and more potential in playing a bigger role in terms of becoming financially self-sustained by conducting more Central and State level admissions and

professional certification examinations, and also by playing a professional role in capacity building. The NTA has requisite infrastructure as per its present needs, however for a futuristic vision it has to device its expansion plans. It may attempt to facilitate improvement of evaluation system of school boards, universities and other academic evaluation agencies at different educational levels. Thus, it can become an engine of national growth by improving the quality of education. Further, it may act as a rating or ranking agency for the State Boards, Universities and other HEIs for inculcating an inter-institutional competence for improvement.

One of the functions of NTA is to develop a state-of-the-art culture of testing in India by using domestic and international expertise and collaborating with international organisations. In this regard, this agency has to device suitable strategies for national and international collaborations. The agency may also adopt the best international practices of testing for admission in HEIs and for professional certification. At the central level, several admission examinations are outside the purview of NTA. There is no concrete mechanism of centralisation of all the entrance examinations at different levels of education. This increases the finances to help the students and their parents in troubleshooting the mental issues. Therefore, the agency may chalk out some suitable strategy for making a common uniform examination with

subject specific variations for different levels of education.

Further, the country is in a dire need of having a centralised agency for the purpose of counselling for admission at different levels of education. Therefore, another department within NTA may take care of this process. This method will save energy and money of the students across the country, and eradicate the chronic problem of vacant seats in the HEIs.

Analysis of international practices of entrance examinations

The National College Entrance Examination commonly called 'Gaokao' of China is treated as a standard benchmark for college admissions. The modern College Entrance Examination takes place from 7 June to 9 June every year. Usually, it is conducted in the last year of school. The examination content consists of Chinese, Mathematics, English, Physics, Chemistry, Biology, Politics, History and Geography. The evaluation for ranking is done by calculating the overall marks obtained by the student, which is a weighted sum of marks obtained in different subjects. and differ from one province to another on an annual basis. In the year 2006, a total of 9.5 million students applied for entry into the tertiary education, of which 8.8 million (93%) took the national entrance exam. Total 27,600 (0.28%) were exempted due to exceptional or special talent.

In the year 2017, a total of 9.4 million students attended Gaokao, of which 7 million were admitted to

colleges and universities. A total of 9.75 million students attended Gaokao on 7 June and 8 June in 2018.

Similarly, Australia has a centralised system called Australian Tertiary Admission Rank (ATAR) which is primarily required for entry into most of the undergraduate university programmes in Australia. It was introduced gradually during 2009 and 2010 to replace different examinations, like Universities Admission Index, Equivalent National Tertiary Entrance Rank, Tertiary Entrance Rank and Queensland Core Skill Test. International Student Admission Test (ISAT) is conducted in Australia for admission of international students in Australian higher education system. In Hong Kong, the admission processes differ in different institutes. However, the secondary school students seeking degree level programmes offered by UGC can only apply only through the Joint University programme Admission System.

The Australian practice has been adopted by Japan where there is a 'National Centre Test for University Admissions', which conducts national examination for admission in universities and also a separate examination for foreign students for taking admission in Japanese universities. This is the primary examination conducted by the Centre with the objective of assessing the level of fundamental academic achievement attained by the applicant at their high school stage. Similar primary examination can be conducted by universities where qualified students

can be ranked as per their specific needs. Similarly, other countries have their own common admission entrance systems for filtration of students for admission in their tertiary education system.

Internalisation of International practices of entrance examinations as way forward for long terms goals

The Chinese Gaokao and the Australian ATAR examinations are single window tests for generating a national rank for students for admissions in all the undergraduate courses. This system has reduced unnecessary burden on students for taking multiple examinations for admissions. The NTA in India can also conduct a common examination for ranking students for admission in post-graduation and PG-Ph.D. integrated Course in different streams. The framework for the same may be prepared after having wider consultations by NTA involving UGC, CUs (Central university), INIs, IGNOU, NCTE, AICTE, other statutory regulatory councils, State universities, State open universities, technical institutions, industries, etc. The examinations may be computer based or online mode and may be taken twice or thrice in a year with an option given to the students to take part in different attempts as per their convenience. The rank can be generated based on the best attempt of the student.

The above mentioned international practices are for assessing the quality of students and for making the first segregation from the large number of students standing on the doorstep for admission in tertiary education. The NTA in India can take such an initiative to conduct national level examination for ranking students for admission at the undergraduate level also. The framework for the same may be developed by NTA by involving different stakeholders from institutions mentioned above and also by involving representatives from CBSE, NIOS, NCERT, School Boards, State Open Boards, recognised international boards, etc. This will pave the way for evolving a common curriculum with regional adaption beyond secondary stage in subjects like Science and Mathematics, Business and Commerce, Technology and Engineering and others which as has been in demand since long per the recommendations of various committees and commissions.

Proposed role of NTA to consolidate different admission and professional eligibility examinations

National College or University Entrance Examination may be called National Admission Rank Examination at UG level for school board pass-out students in India. National rank examination can be conducted by NTA similar to Chinese Gaokao for ranking the students to make them eligible for college or University admission to UG courses.

The rank can be made valid for three years. This will reduce the burden on students by offering them the choice for taking rank examination for admission in higher education system for the next three years. The pass out students from State boards, State open boards, CBSE, National open board and ICSE shall be considered for taking the national admission rank examination with a provision of providing exemption to some exceptionally talented students.

If we look at statistics, a total of 8.92 million students (3.88 million— Arts, 3.32 million— Science, 1.40 million— Commerce, 0.21 million— Vocational and 0.11 million— other streams) appeared for Class XII in the year 2015–16. The pass percentage was 82.64 per cent i.e., about 7.37 million students passing out of Class XII, which were available for taking the admission test if all opted for admission at the UG level.

The NTA is in a position to conduct online examination of more than one and a half million JEE Main aspirants, about one million for UGC-NET and for more than one and half million for NEET in offline mode. Examination can be conducted for about eight million pass out students as given above in offline or online mode through multiple choice question papers within one or two weeks by NTA by adequately increasing its capacity. The NTA may also examine the pattern of examination of National Council for Educational Research and Training's (NCERT's) National Talent Search Examination (NTSE)

and National Means-cum-Merit Scholarship (NMMS) Examination for the purpose of deciding on covering the interests of diverse students. There can be subject content of Class X or XII (Scholastic Aptitude Test), reasoning and current events (Mental Aptitude Test). Alternatively, there is a possibility of taking stream-wise examination for all the four streams of students appearing or passed out senior/higher secondary examinations. These different possibilities need to be explored.

National Admission Rank Examination at PG level for graduate pass out students in India

This exam shall cater to the needs of almost 4–5 million students across the country. There are around four million students (19.99 lakh in Arts, 10.41 lakh in Science and 9.65 lakh in commerce) who have completed general graduation degree course in the year 2018–19. Nearly one million students passed out from professional and technical courses at graduation level (5.08 lakh B.Ed., 4.27 lakh B. Tech. and 0.51 lakh MBBS) during 2018–19. NTA can take an option of taking common entrance examination by considering these students in two or three categories. Similarly, the admission tests for Integrated UG-PG and integrated UG and professional PG courses may also be conducted. This ranking examination can be made valid for two years so that multiple efforts of students to get admission in various streams can be prevented. The

leading experts of the concerned fields can decide the examination pattern.

National Rank Test for Admissions to M. Phil, Ph.D. and Integrated courses of PG-Ph.D. may also be introduced. About 1.1 million pass out students (5.96 lakh M.A., 2.78 lakh M.Sc., and 2.0 lakh MBA) were recorded in All India Survey of Higher Education in the year 2018–19, who may opt for taking examination for admission in M.Phil. and Ph.D. Programmes. This number can be easily catered to by the NTA in one go. There could be another possibility of widening the scope of UGC-NET for making it mandatory for admission in Ph.D. in State Universities and Private Universities, Which conduct their own entrance examinations other than UGC-JRF Scheme. The scope of UGC-NET may further be broadened for universalisation of admissions in M.Phil. courses across the country. This may be done through bringing in a regulatory framework by UGC as per the Section 12 (d) of UGC Act, 1956, which provides that 'the Commission may recommend to any University the measures necessary for the improvement of university education and advise the university on the action to be taken for the purpose of implementing such recommendation'.

Other professional examinations which may be conducted by NTA

Apart from professional examinations already being conducted by NTA, other examinations can also be conducted by the agency either in a combination

of subjects or as a standalone examination. The examinations like Graduate Aptitude Test in Engineering (GATE), Central Teacher Eligibility Test (C TET), State Teacher Eligibility Tests (S TETs), State Lectureship Eligibility Tests (SLET), etc., may also be taken by the NTA.

The agency can also conduct assessment test for shortlisting of foreign students who are desirous of taking admission in HEIs in India. This ensures the entry of best students and filter out the average and below average foreign students, which is essential in improving quality outcomes. It will be a milestone achievement in image building of Indian Higher Education in the world and consequently boost our international ranking.

The other admission or professional examinations, like CEED, BCI's AIBE, NBE's NEET-SS, NEET-PG, NEET-MDS, etc., can also be taken by the NTA as per need and available resources. The NTSE and NMMS examinations may also be brought under the leadership of NTA. The Central and State Governments may also entrust other assignments related to academic assessment and professional certification.

Short-term Way Forward for widening the scope of NTA

- (i) There is an urgent need for utilisation of results of NTA examinations beyond their existing scope i.e., testing. These results can be utilised for ranking or rating of school education boards, universities and other concerned

institutions. The agency can attempt to devise mechanism for direct rating or ranking by using selective qualitative indicators including the result of its entrance examinations and professional certification tests. NTA may suggest suitable reforms in the examination pattern of school boards, universities and HEIs based on the results of their ranking or rating in order to prepare students for competitive examinations along with their conventional examinations.

- (ii) For the purpose of mentoring the school boards and similar examination conducting bodies, a separate department within NTA consisting of a strong team at the national level, and accordingly, a suitable mechanism at regional level is required to be in place.
- (iii) The NTA needs to strengthen its functioning by reforming examinations through comparing the testing patterns of international testing agencies. This step is required for the continuous evolution of thought process for setting test items and for attaining efficient quality goals through by NTA becoming the state-of-the-art agency in the field of conducting academic entrance examinations.
- (iv) The NTA may explore possibilities of analysis of other patterns of evaluation. It may suggest ways for utilisation of NTA data in accreditation of Universities or HEIs and link its results for estimating their learning outcomes. It may think upon conducting uniform

examination for the purpose of rank generation for the students aspiring to get admission at different levels in HEIs.

- (v) NTA can set up different Consultative/Advisory groups for each examination involving experts from different concerned areas. This will ensure democratisation of decisionmaking in examination conducted by the agency.

Long-term Way Forward for widening the scope of NTA

- (i) The statutory provision for the NTA is required since currently, it is non-statutory. Further, it does not have provisions of regional centres. NTA should not only expand its existing structure but also provide scope for having regional centres for the purpose of decentralised planning, control and execution of examination.
- (ii) It is possible for NTA to become a Mini Ratna like EdCIL, by generating additional resources and expanding its scope of conducting examinations for the fulfilment of the bigger national goals of quality higher education and providing better soft-power to the country. NTA may tread on the path to becoming a PSU considering the large number of examinees in various entrance examinations/ tests for the admissions in central and state universities. It may also take a view for consider conducting professional certification tests, fellowship examination similar to UGC-NET, and many more which

are presently out of the ambit of NTA.

- (iii) NTA can conduct admission tests for quality check of international students for admission in Indian Universities, as done by Australia's ATAR.
- (iv) NTA may conduct all the academic admission examinations or tests at the central level and generate central and state ranks for the students to make them eligible for admissions in all the HEIs across India. It can also conduct examinations of technical and professional bodies for screening of candidates.
- (v) NTA may act as a centralised agency for counselling for admissions in Central Institutions and devise a roadmap for the centralisation of counselling through a single agency in the State Governments.
- (vi) A roadmap is needed to bring all the private institutions and deemed to be universities in the procedural net of admissions, tests or counselling conducted by the NTA or some other single window Central or State agency.

Benefits of taking National Rank Examination for Tertiary Education Admissions

"The high quality, range, and flexibility of the NTA testing services will enable most universities to use these common entrance exams - rather than having hundreds of universities each devising their own entrance exams - thereby

drastically reducing the burden on students, universities and colleges, and the entire education system. It will be left up to individual universities and colleges to use NTA assessments for their admissions" (National Education Policy 2020). If we look at the parental spending at present, about ₹20000–30000/- per annum per child are spent for ensuring appearance of their single child for admission related examinations in different professional courses and different institutions. In case of repetition for a year or two, these expenses grow exponentially. This unnecessary financial burden can be saved if common admission examination at each level, either standalone or in combination of subjects, are taken by NTA. It will also save the parental pain of running from pillar to post for the admission of their wards. The centralisation of counselling would be another milestone achievement for reducing the suffering of the parents and the students. The financial resources so saved by the parents could be invested in other areas which may boost the different areas of our economy.

Many of the examinations can be merged and may be taken in one go. There can be categorisation of examinations like examination for the medical and paramedical courses, technical courses and for other courses, considering the type of courses and also based on numerical strength of students. In order to reduce the chances of students missing the opportunity, admission examinations or tests may be conducted twice or thrice every year, and the rank can

be generated based on their best performance. Vernacular percentile can also be generated for the final results. The rank so generated may be valid for admission for two years in case of PG and three for years for UG courses. The student may be given the liberty to improve their ranking in subsequent years. This will relieve students from taking multiple admission examinations annually.

Huge mobility is observed on roads, and enhanced burden on our transport system on the day of such examinations. This creates an unnecessary strain on our entire system. The traffic jams even are observed at various places and the common public suffers a lot during these events. This can be checked if the number of examinations is restricted to a minimum. This will save monetary and other resources of parents, students and government among others.

Taking National Rank Examination for Tertiary Education Admissions will reduce the unnecessary stress of multiple examinations taken by the students for ensuring their admission in tertiary education system. It will help in building confidence of our youth population by way of ensuring admission with certainty in one or the other institution or course. The centralised counselling for courses with similar academic eligibility condition will augment the efforts of resource saving. National Rank Examination will also help State boards and the HEIs for tracking their alumni and they can judge their own performance in the limited examination conducted by NTA.

The policymakers can formulate focused and appropriate policies for the improvement of academic atmosphere of the entire education ecosystem through the analysis of data that can be gained from various institutions depicting the student participation in the offered courses and their performance in the conducted examinations. Courses securing admissions of students based on the ranks or merits in higher education system, etc., thus, make NTA a specialised body in the field of conducting common examinations for admissions at different levels. It can also be specialised in conducting different common professional certification examinations.

The unnecessary criticisms and biases in the admission process will be checked by having a uniform and transparent system of admissions in our country. This may also contribute in environmental protection as thousands of tons of paper could be saved by collabrating the process of admission tests with professional certification examinations. Which is term will save a lot of petroleum products and fossil fuels by limiting the multiple trips made by parents and students for different admission examinations/tests, professional certification examinations and also for counselling for different courses and institutions.

Relevant Discussion and Conclusion

The demand for having a centralised agency for conducting common entrance examinations or testing for

admissions in HEIs across the country was pending for long before the creation of NTA in November, 2017. The agency was created by a cabinet resolution. It is an autonomous, self-financing body with multiple objectives of conducting centralised admission and professional certification examinations. The agency is also supposed to undertake reforms and training of school boards and other bodies where the testing standards (board examinations) are comparable with the entrance examinations; support colleges and universities in their capacity building in testing, and providing training and advisory services to the institutions in the country; and to provide quality testing services to the academic institutions across the country. In critical observation, it is observed that the agency is not a statutory body and not having branch offices across the country. Therefore, it is a felt need that creation of this body by the Act of the Parliament could provide it more strength and it could have branch offices at arms-length. This could pave the way for conducting the centralised examinations with decentralised control system.

There are various international best practices where conducting centralised screening tests or examinations for admission in higher education system is quite common. India can internalise such best practices with adaption as per its own needs and national priorities.

Also a lot of central admission examinations are still outside the purview of NTA. There is a dire need for bringing all such examinations under the ambit of the agency which may be conducted as standalone or in combination of subjects. Also, there is a need for bringing in a system of centralised counselling and the job may be entrusted to the agency at central level so that there could not be any vacant seat left in our HEIs. This will not only ensure the rational use of our valuable institutional infrastructure but also save a lot of efforts and energy of the students and their parents. The State university admissions, if they intend to do so, also need to be brought under the ambit of NTA. Further, the NTA has to increase its capacity to conduct other professional examinations than what it is currently conducting. It has to play a professional role in capacity building of educational Institutions for overall academic improvement including their curriculum reforms and implementation of their testing standards.

Strengthening NTA as per the aspirations of National Education Policy 2020, is the need of the hour, which envisages that the colleges and universities across the country will use the common entrance examinations conducted by NTA rather than having their own admission examinations. It will drastically reduce the burden of students, parents and also of our institutions to the level of bare minimum.

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Book Review

Rethinking Play as Pedagogy

SHARIQA HUSSAIN* AND REETU CHANDRA**

Abstract

The book titled 'Rethinking Play as Pedagogy' is one of the edited books from the series of two books published by Routledge Taylor and Francis Group, London and New York in 2019. The series editors are Sophie Alcock, Senior Lecturer in Education, at the University of Wellington in New Zealand; and Nicola Stobbs, Senior Lecturer, Department for Children and Families, University of Worcester, UK; and the series editors are Alma Fleet and Michael Reed. The book seems very handy and the cover page is fascinating and captivating since it is the blend of different bright colours, which seems to attract the readers and making them curious and inquisitive about what is there in the book. The following are the details of the book as a reference for the readers.

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Rethinking Play as Pedagogy is about play as a pedagogy. Play is a critical factor of children's development with the fact that it is a significant vehicle for the development of socio-emotional, cognitive, and language competencies

as well as for self-regulation. Despite a lot of research on the importance of play, still there is much focus on rote learning for the children. Therefore, it is important that during the early years of students, teachers,

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parents and various stakeholders should come together to make a consensus on the importance of play and recognise play as a learning tool. Keeping this objective in mind, this volume has been designed, having four interconnected sections.

The theme under Section 1 is 'Being Alongside Children'. This section is subdivided into three chapters theme, that is, Chapter 1, 'Playing with digital drawing'; Chapter 2, 'Preschool teachers being alongside young children: the development of adults' relational competence in play worlds' and Chapter 3, 'Playing in and through the musical worlds of children'. Under this section, researchers have emphasised that play is child-directed. However, there are some views that showed the importance of the presence of adults in play, either explicitly or implicitly. That means adults can also be there as co-partners in play. One of the authors argued that play as a pedagogy can be instrumental with early learning and development, which could be planned purposefully beforehand. Whereas another author provides an enhanced understanding of play pedagogy. The performance of children on known and invented songs in their musical plays constitutes a play way activity that is full of social and symbolic activities, these too, the presence of adults and their engagement with the children in such activities motivates children to practise such generative and focused activities more often. Children can

be encouraged by teachers and adults by giving freedom to explore more through such activities. Engagement motivates children to practise generative activity instead of focusing on the product. Children are encouraged by the adults or teachers by giving them freedom to explore through such activities by boosting their creativity.

Section 2 deals with the theme 'Those Who Educate'. This section is sub-divided into the following three chapters: Chapter 4, 'Observing and interpreting young children playing: reflecting on feelings'; Chapter 5, 'Growing playful pedagogies: a case study of educational change' and Chapter 6, 'The role of context within early childhood education in Ireland'. This section clarifies that what we consider and perceive about childhood varies and changes according to time and culture. Those who educate young children also bring their past experiences and value systems to support learning. Therefore, to enhance the significant growth and development of children, it is important to provide support, facilitation and appropriate space to them. The challenge is to reflect critically on the understanding and practices of play and its types. One point is also highlighted under this section about the aggressiveness in children's play and the role of educators. Tools are also suggested for teachers to observe children and build connections with them during play. The chapter titled 'Growing

Playful Pedagogies: A Case Study of Educational Change', elucidates on the early childhood teacher educators' understanding and resistance to play-based curriculum. The results showed that each teacher defined the term play differently on the basis of their individual experiences.

The theme 'Embedding families and communities' under Section 3 has three chapters: Chapter 7, 'Recognising and Responding to Family Funds of Knowledge'; Chapter 8, 'Opening the School Gates: Facilitating After-school Play in School Grounds' and Chapter 9, 'Pedagogical Documentation as 'Agora': Why it May be Viewed as a Form of Citizenship for Children, Parents and Communities'. The role of teachers or adults is one of the critical points in the process of pedagogical documentation. In the process of co-construction, where space for children and adults be it a (teacher or facilitator) is provided, the teachers should know what skills they should be equipped with to understand children while playing to become experts in their field. In the Early Childhood Care and Education (ECCE) centre for children, the space for self-reflection is provided to the teachers and for parents to share their viewpoints about their children with teachers, and the community. It certainly makes the African proverb true that for raising a child a whole community is needed. Communities are central when it comes to belonging and family, early childhood centres, are also part of this. In Australia,

the government exceeded the United Nations Convention on the Rights of Child by legislating a national play policy. Where it provides a broad view of different ways of considering the families and communities in rethinking play as pedagogy.

Lastly, Section 4 showcases the theme 'Working with Systems'. This section contains the following three chapters: Chapter 10 'Spinning the kaleidoscope: a conversation around play, learning, policies and systems'; Chapter 11 'Influence of macrosystems on children's spaces: regaining the paradigm', and Chapter 12; 'Micro-policies of adult-child joint play in the context of the Finnish ECEC system'. The topics discussed in the above chapters were about how communities, educators and children for whom the systems are designed to respond to the systems and other policy initiatives with challenges, on, how policies to be designed and execute the interplay between play and learning. It also raised questions about how the role of educators and their practices are influenced by the systems. Some questions were provoked on how systems try to influence children's play by the implicit ideology of play space. It also examined how the aims of various policies turned into shaping pedagogical choices by educators in pre-school's activities. Although a case study showed that the educator who supports and recognises the importance of play does not necessarily applies it in practice. So, the selection of purposeful pedagogy in pre-schools

is not dependent solely on teachers or policies related to ECCE, but also there is a need for clear policies on ECCE with a supporting environment and helping teachers achieve desired pedagogical ambitions.

This book has many points, which are of pedagogical importance. The book talks about '*rethinking play as pedagogy*', which is certainly a worthy topic to be discussed and talked about as play is one of the central and emerging tools for learning, especially when it comes to young children. Collaboration with families, communities and self-reflective practices of parents and teachers have been focused on in the book as we all are aware of the fact that we have different backgrounds, different languages and different families' conceptualisations of play. These many differences and variation in the conceptualisation about play, playfulness, practices of it inversely affects the learning aims of children. The best part of the book is to let children explore the environment and learn things by using their own experiences, their educator's experiences and value systems in play. These can be child-initiated, educator guided with or without explicit instructions where both teacher and children become part of it and make it a better experience for themselves. The comparative examples of different settings and places are some of the worth noting points to understand the wider phenomenon of play and learning related to it. The reason is,

play is something that all children want and need in order to develop as healthy adults following their own interests, creative ideas and strategies where teachers' interventions can balance the risk associated with the well-being of children. Significantly, play is not only helpful in physical development of children but also facilitates their growth through outdoor activities and pretend play is an activity where they play various roles with actions that certainly make them physically fit. As far as play or pretend play is concerned, the activities not only add spark to their creativity but also leads to their emotional and intellectual development.

Although many authors have shared their experiences mentioned in the book but there is a lack of sharing of experiences or research studies from developing nations like India, Bhutan, Nepal, Sri Lanka, Bangladesh, etc. Including different viewpoints of these places too can throw light on the topic more comprehensively. Play as pedagogy is something that is given too much emphasis in the book, but the solutions for its effective implementation in practice in the contemporary era still remains a question. Involving teachers or educators who makes the process, like children, have different perspectives about the ideology of the play in learning and achieving future aims a bit difficult. Also, the teachers are at a stage where changing attitudes towards certain things seems challenging, but effectively addressing

the raised issue would overpower the problems which would be in the interest and mutual benefits of both children and teachers.

Overall this book, *Rethinking Play As Pedagogy* is worth reading literature for readers as it gives different viewpoints and results of research studies done by the educators or stakeholders working in the field of Early Childhood Care and Education

or Early Childhood Development. It would help build an understanding about play and also broaden the reader's vision of the mentioned topic. This piece of literature would be fruitful for those who would like to take up the research studies in this area as well as for those who would like to implement the concept into practice, to name just a few, like educators, parents, families, etc.

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