We are happy to announce the publication of an International Journal of research in education entitled: ***Horizons of Holistic Education*** with International Standard Serial Number (ISSN). You are invited to send your original research papers and research articles for the publication in ***Horizons of Holistic Education*.**

The Journal of *Horizons of Holistic Education* (HHE), published by the Children's University, is an International quarterly Interdisciplinary Journal which covers topics related to holistic development of children. HHE covers all the areas which deal with the children, such as Child education, Child psychology and Panchkosh development of children, children's literature and so on. It also includes intellectual efforts encompassing Sociology, Vedic Science, Medicine, Psychology, Drawing, Music, History, Geography, Home Science, Philosophy, Economics, Commerce and Literature concerned with Children. The researches based on such topics shall be given priority.

Aim and Scope — an International journal of ***Horizons of Holistic Education***(quarterly) aims to publish original research papers, related to the theory and practice of various disciplines of Humanities. We invite you to contribute your fulllength research papers, short communications and Review articles and Articles concerned with holistic modern development in the area of liberal sciences pertaining to the children's studies.

FROM THE VICE CHANCELLOR'S DESK

Education is a word that includes all the vowels of the English alphabets. It also encompasses the best of knowledge delivered to willing learners. When the skilful teachers transact the knowledge to the ready students, the goal of education is achieved in real terms. In the 21st century, we need to understand one essential thing that the world is in flux. We are constantly changing and evolving, so whether the teaching community likes it or not, we, being teachers, adopt and adapt to these unprecedented changes.

Children are the most gifted beings in this world. They have innate curiosity and creativity that needed to be harnessed. If they are so interested in the thirst for knowledge that if we quench this thirst, they can be extraordinary individual, responsible citizens, and assets to the nation instead of liabilities to the country.

To ensure that today's children become tomorrow's assets, teaching specific emotional skills are especially important. That is where SEL (Social Emotional Learning) plays a pivotal role. What is social-emotional learning? It is the process of developing self-control, self-awareness, and interpersonal skills that are very crucial for school, work, and life success.

Children with strong social-emotional skills can better handle the day to day situations and benefit academically, professionally, and socially. From practical problem-solving to self-discipline, from impulse control to emotion management and more, Social Emotional Learning (SEL) provides a strong foundation for positive, long-term effects on kids, adults, and communities. Children thrive. Schools win. Workplaces benefit. Society strengthens—all due to social-emotional learning. Social-emotional learning (SEL) supports to improve kids' academic performance, reduce dropout rates, curtail bullying, and build character for holistic development of child. Well-implemented SEL programmes positively affect students' success in school. Studies show that social-emotional skills—such as interpersonal skills, intrapersonal skills, decision making, problem-solving, self-regulation, impulse control, and empathy—help improve academics, reduce negative social behaviours like bullying, and create positive classroom climates. Social-emotional skills also help kids successfully manage day to day life. They help students focus, make good decisions, and become supportive members of their community well beyond school.

With this, I encourage every school in the country to focus on this aspect of learning which is social and emotional. If the young saplings are nourished with SEL, they will undoubtedly be the most fruitful trees in the future.

Regards,

Mr. Harshad P. Shah
Vice Chancellor
Children's University

FROM THE CHIEF EDITOR'S DESK

The prime aim of any living individual is to attain peace and happiness. All the most minor acts to humans' biggest stunts are searching for these two elements only- peace and happiness. If we observe the kids around, they possess these two elements in abundances. They are so full of peace and happiness that sometimes, we (so-called mature) adults also envy them and secretly desires to be like that. Their playfulness, their endearing and wholehearted smiles, their babblings, their inquisitiveness; all these are so happy and peaceful. We, adult, like these elements. But why these playfulness and charm of childhood fade away in the process of growing up.

What makes life so dull and sometimes unbearable is the lack of training at the grass-root level. Teachers of pre-primary and primary schools are of great intelligence than those of higher education. They make the ground so fertile that any complex problems also get probable solutions. These teachers are the movers and shakers of the entire world. Often their orientations of life become the children's orientation of life. They possess so much power over these kids that research has quoted, "Often, teachers used to be in the dreams of the small kids regularly especially, pre-primary." Life is hard, and to make it bearable, we need to train our kids in that orientation. These can be done wonderfully by instilling values like consistency, discipline, empathy, communication, interpersonal intelligence. Here the role of teachers at the grassroots level is the most significant and highly needed. If a child learns how to control his/herself, he/she possesses the power to manipulate the variables and control others and different circumstances. In the culture of 'helicopter Mom and Dad', somehow, the idea of creating a disciplined child has been fading out. Parents initially coax their children up to the extreme and then try to impose discipline, which is highly insensible when it is too late.

Teachers and parents both have to understand that instant gratification is the curse of the 21st century. Everybody wants instant fixes, instant solutions like instant noodles. To maintain peace and happiness for a lifetime (not only up to childhood), but teachers must also instill the famous words of Jim Rohn in the reference of every child in their reach: If you are tougher on yourself, life would be easier on you.

Regards,

Dr. Jignesh B. Patel
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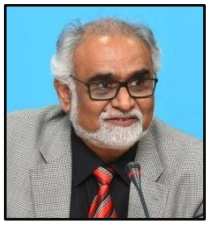

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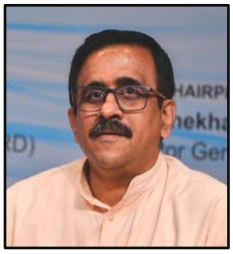

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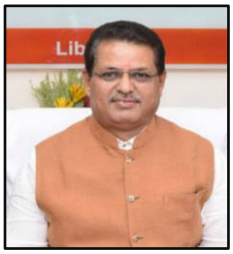

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Digital Exposure and Mental Health of Children

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Abstract

Use of digital medium for education especially during these Covid times has become a part of the 'new normal'. Schools have not opened post lockdown and the uncertainty persists in the future too. Other than that engagement with the media has increased manifold for formal communication and for social connectivity. However, as an enlightened population, we should be able to strike a balance between how much of digital exposure we can give to young to facilitate learning and at the same time not lose the opportunity to master social skills and interpersonal connections. This is the need of the hour looking into the studies which show a deleterious effect of media on mental health of young minds. Therefore parental supervision is crucial to facilitate learning and minimize the negative impact of media.

Key words: *Mental Health, Media, Behaviour*

Introduction:

Individuals who revolutionized the relationship between individual and the computer, Bill Gates and Steve Jobs raised their kids tech-free and seldom let their kids play with the very products like I-phone and I-pads, they helped create. In 2007, Gates, the former CEO of Microsoft limited their kids's tech exposure, banning them from owning a cell phone before they turned 14 years. Steve Jobs in 2010 releasing the IPad, described it as a wonderful device that brought you educational tools, however, never allowed the IPad in the home, citing that it was 'too dangerous and addictive, hard to resist'.

The census report (2011) of the Government of India states that India's child population is 164.5 million and children in the age group of 5 to 9 years are 128,316,790, 12.5 % and children in the age group of 10-14 years also are almost the same number 124846,858. This age group is crucial because the education needs are of prime concern during this age. Investment in this population is most essential to transform the nation and bring out rich dividends. Thus, it calls for immediate and concerted action for providing them with the right educational tools and for maintaining physical and mental health of children. The advent of hyper learning technology has made a turbulent advent into the living and learning spaces more during the Covid times. The technological advancement has been into a spiraling speed and has invaded deep into the lives of

children. It would not be wrong to say that socialization of the children is more influenced by the media than by parents, teachers or even the peer group.

Child Mental health includes the complete well-being and optimal development of a child in the emotional, behavioral, social and cognitive domains. Mental health of children is different from adult mental health and is more multi-faced because of the unique developmental milestones that children experience.

There is little doubt that technological inputs introduced for education has a positive impact on teaching and learning. Studies show that in the regular course of time, children exposed to variety of media can improve children's learning. The electronic media in schools have capitalized on the motivation to learn and have a positive effect on children. The beneficial effects include early readiness for learning, educational enrichment opportunities, exposure to variety of areas like arts, music and entertainment.

The various media that children can be exposedare:-

Television

Television can take one into different realms of earth virtually which cannot be reached physically. Channels such as National Geography, Discoveryfacilitate learning. However, Research has found that television viewing at home is more for entertainment than at school for educational purposes which call for attention. The influence on children and adolescents depends on how much time children spend on watching it and the quality of programmes seen. As a result, with prolonged viewing, the world shown on television becomes the real world. It frequently limits children's time for vital activities such a playing, reading, learning to talk, spending time with family, storytelling, participating in regular exercise and developing other physical, mental and social skills. Current literature also suggests that there is a relationship between watching violent television programmes and increase in violent behavior.Children viewing televised violence contributed to acting violence in the home.

Excessive television watching contributes to increased incidence of childhood obesity. Children are vulnerable to the impact of advertising. A recent study of Stanford University found that one 30- second commercial can influence the brand choices of children as young as two years and repeated exposure to advertisements are even more effective.Excessive television viewing may also have a deleterious effect on learning and academic performance.Watching certain programmes may encourage irresponsible sexual behavior. Studies also show that Teenagers watching some programmes on MTV are more prone to develop favorable attitudes towards pre-marital sex.Television violence teaches aggressive attitudes and behavior, desensitization to violence and increased fear of becoming victimized by violence/overestimate the possibility of being a victim of violence.

Young children have a tendency to imitate, whoever they observe thus leading to a finding which is substantiated that when children are exposed to specific aggressive behavior which increases

the likelihood of behaving in exactly the same way. There are other factors that influence aggressive behavior such as neuro physiological abnormalities, poor child rearing, socioeconomic deprivation, poor peer relations, attitudes and beliefs supporting aggression, drug and alcohol abuse, frustration and provocation etc. One of these factors added with exposure to media violence becomes a predisposing factor for aggressive and violent behavior.

New, Views and Analysis

24X7 news channel updates on the happenings anywhere in the world. But it is also a fact that news principally reports on the most violent events from all over world, often in a sensationalized manner. Needless to say that competition amongst the news channel to keep viewers glued to the screen is the imperative. However, watching updates and news of not so positive news can increase anxiety and depression. Within this present level of heightened awareness about terrorism, many children are exposed to second hand terrorism in which media sometimes unconsciously focuses on the possibility of being a direct victim of future terrorism. This sets the stage for insecurity, false alarms and persistent anxiety. A news report published in Clinical Psychology reveals that the children exposed to terrorist attacks show elevated symptoms of mental health problems, including post-traumatic stress disorders, separation anxiety disorder and general anxiety disorder. An underlying message is, if instability and threat is repeated over and over again in many children's programs giving children the impression of a threatening and unsafe world where danger is never put to rest, it can be immensely harmful.

Internet

The internet uses multimedia and interactivity extensively. Using multimedia means that you can access not only written words, but also pictures, music and sound effects. However, the dangers in this medium are:

- Children access inappropriate information
- Inadvertently form friendships with strangers in the social media platforms
- Be subjected to advertising pressures, making purchases or gamble online
- Risk their personal health through excessive use
- Endanger their privacy by revealing personal details about themselves.
- Being victims of bullying and cyber abuse.

Computer/Video games:

Computer and video games have to be evaluated and analyzed on the basis of the contents and results/ outcome before children have access to it.

Games such a role playing, where the player goes on a quest of some sort overcoming obstacle on the way is Real Time Strategy, where player can strategically direct battles are usually violent causing harm to others, the harm rewarded, harm is depicted as humorous. Games such as first person shooter (#D action, shooter, FPS) where the characters compete physically often through

martial arts with other character are always violent. Prolonged exposure of children to violent video games increases the likelihood of aggression. The more often children practice (fantasy acts of violence), the more likely they are to carry out real-world violent acts.The risk associated with computer and video games includes-

- Becoming addicted/hooked more when there are rewards attached to the results.
- Being expressed to violence, particularly practicing violent act in the first person
- Developing/ reinforcing negative racial or sexual stereo types.

The harmful effects are sensationalization of violent behavior, exposure to subtle or explicit sexual content, promotion of unrealistic body images, presentation of poor health habits, exposure to persuasive advertising targeting children.

The crucial age

The developmental tasks during the childhood phase require vital activities such as playing, reading, learning to talk,spending time with family, storytelling,participation in regular exercise and developing other physical,mental and social skills. When media engages the child's time for more number of hours, it can take a toll on not only their learning abilities but also their overall development. Moreover, young children during their formative years have a tendency to imitate and they are not able to differentiate right behavior and wrong behavior which can also have detrimental consequences.

As an enlightened society, we need to check whether through our acts of omission or commission that we do not give away to those platforms that lead our children to be severely unhappy or maladjusted. Teachers and parents must become media literate and guide children in the use of media. It is necessary to keep up with rapidly changing knowledge level and thus use technology as a supplement to traditional methods of learning and not substitute it.Learning through media should always be under the supervision of parents and guardians. Children should be able to vent out what they feel and express their views after each session.

Age appropriate use of internet video games and television programmes should be advised. Placing the computer or mobile phone /tab in the common space of the house and not in the child's personal space negates the effects of viewing inappropriate material .The challenges we face as a globalised economy is to help the young realize the power of technology and at the same time use it with caution.

The technological revolution has overwhelmed us but it is time to exercise restraint and see that the informational revolution does not compromise the development needs of the next generation. The time to act is now as quoted by Gabriel Mistral, the Nobel laureate said on the need to focus on Children's issues should ring in our minds and called for urgent actions, ," We are guilty of many errors and faults but our worst crime is abandoning the children, neglecting the foundation of life. Many of the things we need can wait. The children cannot- right now is the time his

bones are being formed, his blood is being made and his senses are being developed. To him, we cannot answer 'tomorrow' His name is today.

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Developing Problem Solving Skill in Secondary Students

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Abstract

The need for developing leadership skills amongst students has been felt for a long time. The study's objective was to develop and implement a Student Leadership Program (SLP) and study its effectiveness for developing the leadership skill of problem-solving among secondary school students. The research design was quasi-experimental in nature and convenient sampling technique was used. The sample included two secondary schools of Vadodara city, one being the experimental and the other the control group. The SLP was developed and implemented. The data were collected using the Leadership Knowledge Test and Intended Behavioural Scale. Mean, SD, and Mann-Whitney U-test was used for data analysis. The results showed that the Student Leadership Program (SLP) was effective as the experimental group students had significantly higher conceptual knowledge and intended behavior in problem-solving skill.

Key Words: *Leadership skills, Problem-solving skill, Student leadership program*

Introduction

It is necessary to note that leadership roles and responsibilities go much beyond participating in public and organizational meetings. There are numerous challenges in life that leadership faces. In such a scenario problem-solving is an important skill for leaders to carry on when it comes to the successful management of difficult circumstances. Problem-solving is identifying a problem, developing potential paths of the solution, and taking the required course of action. An individual with this skill has an opportunity to make a significant difference. A leader cannot solve challenges effectively from the mundane to the critical without using problem-solving skill. The students at the secondary level need to have leadership skills, be calm under pressure, develop the ability to analyse any situation, consider what will happen, and how their choice will affect the problem and derive its solution. This skill must be honed and mastered, like any other talent, to be effective. It is a significant part of the students' curriculum for life. The skilled student takes responsibility for their learning, takes personal action to solve problems, settle disagreements, consider

alternatives, and reflect on thought as an integral element of the curriculum. This skill development will provide students with opportunities for practical, real-life experiences that help them work at higher thought levels. Problem-solving is a critical skill to be learnt in schools to help the child learn to solve their problems and work efficiently in crisis conditions. Rossman (1993) indicates that the student's role shifts from a passive receiver of knowledge to a participant in understanding when students use problem-solving skill. Moreover, all these aspects develop a vital concern to focus on developing efficient problem-solving among the students.

Problem-solving skill at Secondary School Level: Importance

Problem-solving ability is a multi-faceted competence that utilizes other abilities, including strategic thought, coordination, and creativity. Leaders with problem-solving skill can build the capacity to evaluate, diagnose and deal with problems in a satisfactory manner. A leader needs to be able to look at the concerns they have experienced in the past and to be able to use those experiences to channelize the things of their present predicament.

Problem-solving skill involves the thought of knowing the problem and being patient, the study and use of analytical methods, making decision, and getting a solution. On the point of leadership, Mulford (2006) claimed that solving problems is crucial for leadership success. For leaders, the secret to success is their calmness under pressure, their ability to analyse any situation, know what will occur, and how their decision will impact the situation. A good leader learns from their failures, and to fix potential challenges; they use specific experiences. The students of today are the leaders of tomorrow must be prepared by schools in acquiring the skill of problem-solving. It is always considered that any learning method must ideally prepare students to face the challenges of life. When faced with challenges or situations that are new to them, students need to build the capacity to apply problem-solving skill. For students, problem-solving abilities are very crucial in their day-to-day school life and other areas of their existence. It was well put by Keen (2011) that if problem-solving skills are a cognitive practice, education could be the most beneficial step to develop problem-solving skill. The development of problem-solving helps student's works and decides how to explore the problem independently. Problem-solving as an ability is a life skill and essential for each student irrespective of their academic achievement. NCERT (2000) presented the necessary core skills needed for the overall development of an individual, and it is found that the essential problem-solving ability falls under that category. For the efficient development of problem-solving skill, "it is important to recognize that students need to be familiar with new approaches and methods that make them efficient in solving problems" (Posamentier and Krulik, 1998).

An essential purpose of education is to help students learn how to think more productively by integrating creative thinking (to produce ideas) and critical thinking when solving problems (to evaluate ideas). It is required to consider that "Students in 21st Century schools are expected to learn in new ways by using an inquiry and problem-solving approach in all subject areas" (Wagner, 2018). Problem-solving abilities are essential for academic and social performance.

The development of problem-solving skill allows students to use newly gained knowledge practically, integrating it with the previous experience for the purpose of imparting this

knowledge in real-life activities. Students with good problem-solving skill will be able to use their initiatives and weigh up actions and consequences throughout the school day to guide their decisions. There are various ways for the development of leadership skills in students with a focus on inculcating problem-solving skill. One way is to develop and implement a student leadership program.

Student Leadership Program

We cannot deny that school learning has a phenomenal effect on students' comprehension and progress in either academic or co-curricular life. By designing and implementing the Student Leadership Program, the leadership skills can be developed and strengthened, as it allows the learner to get well acquainted with the varied circumstances and conscious learning takes place.

People may be born with highly analytical mindsthat helps themanalyse circumstances and decide the best course of action easily, but that ability may fade away without the experience of using it under different conditions. It must be honed and mastered, like any talent, to make it work properly. It is observed that Leadership Development Training/Program has great significance in today's world as leaders are regarded as developed rather than innate/born" (Bhaskar, 2009). It is needed that a deliberate effort be provided for skill development. Such efforts could come in the form of the student leadership program. Student leadership includes participating in the school assembly, helping the higher authorities make vital decisions, upholding order in the school premises, and expressing their expectations of the school's success. Students will work together within a leadership program framework to inform, empower, and encourage them to achieve goals. Hitt's (1992) research shows that it is possible to improve critical competencies such as communication, team building, and problem-solving with the program's help. Developing such a program would help studentsrealize the significance of their better lives by becoming aware of different skills, strengths, and succession planning. In short, in such a program, we would assume that the learner can engage in acquiring the abilities they will use in their every-day lives.

According to Allington and Gabriel (2012), "leadership skills can be encouraged and developed through a wide range of school programs and activities, where implementation of the Student Leadership Program could be one step." The planning and implementation of a student leadership program at the high school level areessential for skill development. Such programs create leadership opportunities that contribute positively to each student and create a positive and ethical culture of moral school where students can take the challenges rather than the pressure as a healthy state of mind.

The current study aims to develop and implement a student leadership program (SLP) to develop leadership skills of problem-solving in secondary school students. Its further studies the effectiveness of the Student Leadership Program in terms of students' conceptual knowledge and intended behavior in the above skill.

Null hypotheses were formulated and tested at a 0.01 level of significance. Therefore, we hypothesizedthat there would be no significant difference between the mean post-test scores of students of the control and experimental group of class IX in the conceptual knowledge and intended behavior of the leadership skill of problem-solving.

Method

A quasi-experimental research design was used, and the Pre-test-Post-test- Non-Equivalent-Control Group Design was followed in the study. A convenient sampling technique was used to draw the sample. Two schools in the city of Vadodara were selected, and one section of standard IX of one school constituted the experimental group, and another section of standard IXof the second school formed the control group. As the design is Non-Equivalent in nature, it becomes essential to match the experimental and control groups. It was done by administering the Raven's Matrices (Raven's Progressive Matrices) pre-test. The participants who finally participated were (n=30) in both groups.

Material

Intelligence

Raven's Progressive Matrices (1998 edition, updated 2003) Intelligence Test with a reliability score of 0.96 was administered to the experimental and control group as a pre-test only with the purpose to match the groups. The Intelligence test was chosen to ensure that the group was matched. In several studies on the relationship between intelligence and learning ability (Vaci et. al., 2019; Diamond et. al., 2007), the intelligence test (such as an IQ test) and learning ability/skill growth show very little difference. Furthermore, it suggests a strong connection between the ability to learn skills and intelligence ability.

Conceptual Knowledge

Leadership Knowledge Test was designed for students to study their conceptual knowledge in problem-solving skill. The Leadership Knowledge Test for problem-solving skill comprised of 16 items that were of a total of 20 marks. There were open-ended and close-ended items related to the meaning, definition, and characteristics of problem-solving. The different items consisted of multiple-choice questions, one-sentence answers, fill in the blanks, and true/false questions. The Leadership Knowledge Test had a reliability coefficient of 0.79 when tested for test-retest reliability.

Intended Behaviour

The Intended Leadership Behaviour Scale was designed to study students' intended behavior towards problem-solving skill. The marks allocated were 40. The scale consisted of eight situations for the taken skill. There were five close-ended alternatives to each situation wherein the students had to choose one appropriate alternative. The five alternatives had strongly positive polarity, positive polarity, neutral polarity, negative polarity, strongly negative polarity, and the alternative scores ranged from 1 to 5, 1 for strongly negative polarity and 5 for strongly positive polarity. When tested for test-retest reliability, the intended leadershipbehavior scale showed a reliability coefficient of 0.76.

Procedure

Development of Student Leadership Program (SLP)

The Student Leadership Program was developed for the secondary students of standard IX to develop leadership skill of problem-solving. A total of thirteen interactive session plans with aims, knowledge, and activity inputs were developed. Each session consisted of conceptual knowledge about the topic and sub-topics of the skills taken, keeping the student's level in

mind. The program had features of a stress-free, fun-filled environment for student participation. Every session consisted of 40 minutes in which the theoretical inputs were of 15 minutes duration and the activities were conducted for 25 minutes focusing on the theoretical inputs imparted. The theoretical inputs for each session were introduced with general objectives, instructional objectives, and content on different subtopics. It was followed by indoor and outdoor activities, self-reporting exercises, role plays, assignments, video clips, documentary movies, daily to-do tasks and case- studies that could help students relate to real-world scenarios were a part of the program. At the end there was an engaging de-briefing/discussion session with the students. The Discussion Method was used.

The research was carried out in four phases. In the first phase, the Student Leadership Program (SLP) was developed. Raven's Progressive Matrices Intelligence Test was administered to the control and experimental groupwith the sole purpose of matching the groups in the second phase. In the third phase, the Student Leadership Program (SLP) was implemented for the experimental group. The experiment included 13 sessions, where the students of the experimental group were taught the skill of problem solving during one school academic year. One session consisted of 40 minutes which was taken during three days of the school week. The sessions were conducted for nine hours. Indoor and outdoor games, tasks, written exercises, short documentary films, video clips, role plays, and a debriefing exercise at the end of each task were among the activities included in the sessions. The definition, features, elements, and importance of problem-solving skill in students' daily lives were discussed during the discussion of conceptual inputs. In the control group, however, normal curricular and co-curricular activities were carried out without the implementation of the Student Leadership program (SLP). Normal assembly activities such as reading the news, prayer, and school updates were among the different inputs in the control group. In the fourth phase, the Leadership Knowledge Test and the Intended Leadership Behaviour Scale were administered as a post-test to both the control and experimental groups.

The data collected was analysed quantitatively using non-parametric statistics as a non-probability sampling technique was used. Mean, SD, and Mann-Whitney- U-test was used to analyse the data. The Mann-Whitney U -Test was considered appropriate as it is one of the most potentand robust non-parametric tests taking care of a small sample size. The mean post-test scores of the experimental and control group were taken for analysis in accordance with the experimental design.

Result and Discussion

TABLE-1

Summary of Mann-Whitney U-Test for the Conceptual Knowledge of Problem-solving Skill

Students	N	Mean of Ranks	Sum of Ranks	U-Value	Z- Value	Probability (p)
Control Group	30	15.50	465.00	0.000	-6.697	0.000
Experimental Group	30	45.50	1365.00			

The analysis shows that the experimental group (M = 12.100, SD = 1.18) differed from the control group (M = 1.83, SD = 1.17). The higher mean score of the experimental group in the

conceptual knowledgeof problem-solving skill in comparison to the control group may be attributed to Student Leadership Program implemented for developing problem-solving skill. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, the Mann-Whitney U test was used as the sample was taken by convenience sampling technique.

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

TABLE-2

Summary of Mann-Whitney U-Test for the Intended Behaviour of Problem-solving Skill

Students	N	Mean of Ranks	Sum of Ranks	U-Value	Z- Value	Probability (p)
Control Group	30	16.10	483.00	18.000	-6.413	0.000
Experimental Group	30	44.90	1347.00			

The analysis shows that the experimental group (M = 34.1, SD = 0.53) differed from the control group (M = 24.0, SD = 0.67). The higher mean score of the experimental group in the intended behaviour of problem-solving skill in comparison to the control group may be attributed to Student Leadership Program implemented for developing problem-solving skill. To find whether the difference in the mean was significant or by chance and to test the null hypothesis, the Mann-Whitney U test was used as the sample was taken by convenience sampling technique.

Table 2 presents the results of the Mann-Whitney U test. Referring to the Table for normal probability (Table A of Siegel, 1956) under the null hypothesis (Ho) of z, for z <= -5.490, the two-tailed probability was found to be 0.00, which was lesser than our decided $\alpha = 0.01$. Hence the null hypothesis was rejected. The findings suggest that the experimental and control group students differed significantly in the intended behaviour of problem-solving skill. It can be concluded that the intended behaviour of the problem-solving skill of the students in the experimental group was stochastically higher than the students in the control group, which was due to the use of the Student Leadership Program in developing problem-solving skill.

Discussion

The results showed that the Student Leadership Program (SLP) developed to inculcateproblem-solving skill among secondary school students was effective. It was found that the conceptual knowledge and intended behavior in leadership skill of problem-solvingfor Class IX students of the experimental group was higher due to the implementation

of the Student Leadership Program (SLP). The control group was given curricular and co-curricular inputs as scheduled in their regular school program where-in the focus on the skill of problem-solving may have been lacking.

Problem-solving is a mental process. The students who can solve problems effectively could become individuals who can succeed in any sphere of life, a classroom, or society. Theinvestigator had planned sessions to develop problem-solving skill among the students by exposing them directly to discussions and activities. It goes in line with the study of Picus et. al., (1983) where the researcher had conducted a literature study about problem-solving skill and their inculcation in the curriculum and found that students can learn to be better solvers through exposure to focused instruction and directed teaching. It also validated that problem-solving competence requires adequate knowledge in the content area. In the study, the skill development began with various activities that again go in line with this research where it was claimed that transfer and use of problem-solving strategies appear more likely when problems used in instruction are like those that will be routinely encountered.

The investigator had developed the theoretical inputs for each session that helped understand various vital concepts to learn the skill more effectively. It can be substantiated by the study of Bransford et. al., (2006) where it was concluded that the programs designed to teach problem-solving could be strengthened by focusing more explicitly on domain knowledge. The investigator also used various activities for each session that helped the students understand the importance of multiple components in amore practical way. The study of Bransford et. al., (2006) is also in this path in regards that different learning methods can affect their abilities to solve relevant problems in a significant way.

In various sessions, the investigator had used group activities. It was found that it enhances the learning among the students that can be supported by Henry's (2005) research where the effectiveness of cooperative learning techniques was observed quite significant in terms of the development of problem-solving skill.

The investigator had prepared a specific student leadership program (not integrated into the curriculum) for the development of problem-solving skill, and it can go in line with Calsikan et. al., (2009), where the results reflected that the specific program was influential in developing the skill among the students as well as it also enhances their conceptual knowledge on various themes of skill development.

The various inputs of the SLP were imparted in a deliberate manner and this conscious effort for skill development had a positive impact on student learning. It goes in line with Gamze et. al., (2010), where traditional teaching was combined with strategic teaching, and it gave significant results in the performance of the students towards skill development.

It is imperative to provide proper exposure of conceptual knowledge during adolescent age with clarifications of concept. In this program, the investigator provided the theoretical inputs for each sub-theme with practical examples. There was a significant increase in the knowledge level of students. In the study of Parvathy and Pillai (2015), it was found that the knowledge level of the experimental group is more due to proper inputs of concepts in the program.

Adolescent students need to work on all the domains of knowledge. The developed program had various forms of activities that impact their cognitive environment, and it has also shown a positive impact on their learning. This is consistent with the study of Klegeris et. al.,

(2013), where the results depicted that cognitive domain development significantly impacted their skill development. The use of different techniques and approaches in an effective way showsthe positive impact on learning among students. The investigator had utilized the sessions giving due weightage to theoretical inputs and skill-oriented activities. This has made a significant impact on the learning of the experimental group students. It is in line with Yulindar et. al., (2018) findings where the enhancement of problem-solving ability was observed due to the applicability of model-specific problem-solving skill development.

Conclusion

The Student Leadership Program (SLP) effectively developed problem-solving skill in terms of conceptual knowledge and intended behaviour insecondary students. However, the transaction of the school curriculum at the secondary level often lacks focus on this skill.

When the students are faced with unique challenges, it has been observed that they may lack the ability to analyse different options/alternatives to solve problems. However, every child has a unique ability to solve the problem on their own. What they need is severalreliable inputs in the form of intelligent problem-solving methods and techniques. A systematic and concrete approach for skill development with the help of Student Leadership program could be a useful step in developing problem-solving skill. The findings of the study have implications for school principals who could encourage the development and use of such leadership programs, making it a part of their school curriculum. The schoolteachers can be encouraged to give theoretical and activity inputs to develop leadership skills. The text-book designers can focus on leadership skills in their school text.

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Implementation of Innovative Learning Strategies in Promoting Inclusive Education and its Impact on the Upcoming Generation in India

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Abstract

At present standing in the 21st century, we have come a long way in the world of technology. In the age of modernization, children are deeply involved with various types of technologies. Nowadays most of the higher education institutions are giving a lot of importance to e-learning in their teaching learning method. So, the blended learning and flipped learning probably the better ways for delivering teaching learning materials and feedback for the new generation of students in higher level education system. The blended learning design adopted in these programs has involved the thoughtful amalgamation of learning and teaching approaches in both on-campuses, face-to-face and online/virtual learning environments by utilizing the benefits of each of these environments. In flipped learning use revised bloom taxonomy which is related to higher thinking order with the help of online learning.There are so many students pay their volitional and non-volitional attention and fully engaged with online learning in abroad. So far as due to the pandemic situation mostly all of the institutions are going to adapt the blended and flipped learning over traditional learning. It will increase the collaborative and cooperative learning perspective in classroom situation. It will also focus the light on the paradigm shift from traditional learning to blended and flipped learning.

Key Words: *Blended learning, Flipped Learning, Traditional learning, Collaborative learning, Cooperative learning, Virtual learning environment, Online teaching activities, Self-paced learning.*

Introduction

Blended learning and flipped learning are relatively new educational innovation that has swept the nation in recent years and in the process, garnered quite a bit of both support and scepticism. The term blended learning has no single agreed upon definition, but it refers to an approach to the development of curriculum where some form of an online learning environment supports and enhances the traditional classroom or face-to-face experience in an

integrated manner[i]. Blended learning and flipped learning both the term are increasingly used in education to describe the way e-learning being combined with traditional teaching methods and independent study to create a new, fusion teaching methodology. In the present era, increased demand for self-paced learning products and services predicted has reduced the percentage of tertiary education students preferring blended learning to traditional face-to-face classroom[ii].

Innovative Learning Strategies: Need of the day for bringing "Inclusion"

"The principle goal of education in the schools should be creating men and women who are capable of doing new things, not simply repeating what other generations have done; men and women who are creative, inventive and discoverers, who can be critical and verify, and not accept, everything they are offered."(Jean Piaget, 1967). Education is the most important tool, evolved by man, for one's progress. It is, therefore, no wonder that all dynamic and progressive nations demand an educational system that will take leadership in piloting and managing a future that ensures a better life to all[iii]. In the context of developing countries, education will eventually have a great role in the process of sustainable development. Hence, the progress of any society depends mainly on the utilization of the potential of its individuals and the best educational ideas in all disciplines of knowledge. Evidence shows that there has been an enormous advancement of knowledge in every field. In the history of civilization, both knowledge and education have always been predominant factors of progress. Presently, India's educational purpose is the one that envisages creating a good and valued society, an enlightened life for all its members and using all the intellectual and natural resources to that purpose[iv]. Education is considered to be the most vital and powerful instrument in achieving rapid development, technological progress and creating a social order founded on values of freedom, socio-economic justice and with equal opportunities for all in all fields. The different types of innovative learning strategies are:

Blended learning- It is an approach to education that combine online educational materials and opportunities for interaction online with traditional place-based classroom methods. It will be the mixture of online and offline mode. The term blended learning originated in USA[v]. There is no clear single definition available for it. Blended learning combines online learning with face-to-face learning. It also defined as the combination of multiple approaches to pedagogy or teaching, for example, self-paced, collaborative or inquiry-based study. The goal of blended learning is to provide the most efficient and effective instruction experience by combining delivery modalities[vi].

Flipping the classroom- A flipped classroom is a type of blended learning where students are introduced to content at home and practice working through it at institution in face-to-face mode. This learning is a pedagogical approach in which direct instruction moves the group learning space to the individual learning space and the educator guides students as they apply concepts and engage creatively in the subject matter[vii]. The concept of flipped learning was first brought up by Jonathan Bergmann and Aaron Sams, who were both high school chemistry teachers in their book, "Flip your classroom: Reach every student in every class every day (2012)".

There are three stages in flipped classroom:
1. **Before class:**Content sharing, Remembering and understanding
2. **During class:** Doubt clearing, Application, Analysing, Practicing
3. **After class:** Evaluation and Creation

Flipping allows teachers to know their students better. It increases student-student instruction. It makes the class transparent. Flipping changes, the way we talk to parents and educate parents. Flipping is a great technique for absent teachers and absent students[viii].

Use of Virtual Labs: The implementation of technology in classroom goes beyond Google searches and reading apps. It stretches into every area of learning, including the sciences. Virtual laboratories are popping up in education as they are easy to use, less expensive and can be done anywhere at any time[ix]. A virtual lab is an interactive experience during which students observe and manipulate system-generated objects, data, or phenomena in order to fulfil the learning objectives of a lab (electronic, computer lab) experience. Virtual classroom any online area in which server and user meet via internet/wired connection. This helps in integrated e-learning environment for a user. This will also be used by distance education programs which are offered by institutes, which enable students to aware of the academic facilities. Virtual labs help teachers and learners to understand the concepts of theory through practical approach. The virtual lab is intended to be of use both to tutors giving in-class demonstrations and to students studying at home and performing lab practical[x]. Virtual lab is mainly for all engineering educational colleges. Virtual labs are a boon for science students where there is Lack of lab or equipment, or insufficient lab conditions which limits the teacher to perform a simple lab activity. Virtual labs create an environment for Interactive learning by using animations and simulations. They provide opportunities for students to construct and understand difficult concepts more easily[xi]. Therefore, use of Virtual lab, use of virtual lab or simulation programs, overcomes some of the problems faced in traditional lab and make positive contributions in reaching the objectives of an educational system.

Audio and Visual Aids in Teaching: Audio visual aids are important in education system. Audio visual aids are devices that are used in classrooms to encourage teaching learning process and make it easier and interesting. They are the best tools for making teaching effective and for the dissemination of knowledge[xii]. They help to complement teaching, stimulate discussion, or allow out-of-class teaching. Tools designed for this purpose, such as PowerPoint, can be used well, to draw the attention of the students. Use of internet can also serve as a catalyst in process of teaching and learning. There is no doubt that technical devices have greater impact and dynamic informative system[xiii]. The apps like text to speech and speech to text can be used to make presentations more interesting.

Collaborative and Cooperative Learning: Collaborative style focuses on the process of working together. It has British roots. Collaboration is a philosophy of interaction and personal lifestyle. The students are in charge of obtaining the additional source material[xiv].On the other hand, cooperative learning stresses the product of working together. It has largely

American roots. It is a structure of interaction to facilitate the accomplishment of goals. The teacher provides extra materials for learners to analyse.

Changes in Technology Enhanced Teaching & Learning with respect to Inclusive Education

Widely accepted definition of technology-based learning is learning of content through electronic technology which includes Internet, Intranet, Audio and Video Conferencing, Computer-based Instruction etc. Technology Based Learning also encompasses related terms such as e-learning and web-based learning. Technology Enhanced Learning describes a methodology in which technology plays a role and serves to enrich a traditional face to face classroom. Technology-based learning is grouped into synchronous and asynchronous delivery modes[xv]. In synchronous learning instructor and learners meet in a physical or virtual classroom at the same time which occurs in web Conferencing or webinars. Asynchronous learning are self-paced learning environments where instructors and learners have no constraints of timing and geography likewise in blogs, podcasts, simulations etc[xvi]. So, the changes in technology from Multimedia, Video Lectures, E-Learning, Educational Videos to Blogs, Wikis, Webpage, Podcasts, Social media (Face book, Twitter), Video Conferences, Webinars, Skype Lectures, Learning Management Systems, Virtual Labs & Simulations, Concept/Mind Mapping, Info graphics, Collaborative Learning, Mobile Learning.

Upcoming Implications of Innovative Learning Strategies for brining 'Inclusion' in the Present Education System

In today's world, some degree of education is necessary for people of all countries and the education should be full of qualities. Most technical sense, education is the formal process by which society deliberately passes accumulated knowledge, skills, customs and values from one generation to the next[xvii]. So, the implications are:

1) Providing universal access to quality education specifically with respect to Inclusive Education is the key to economic growth, social justice and equality, scientific advancement, national integration and cultural preservation; and for India's continued ascent, progress, and leadership on the global stage.

2) There will be a growing demand for humanities and art, as India moves towards becoming a developed country and among the three largest economies in the world. So, the courses are trying to amalgamate in the new education system[xviii].

3) While learning by rote can be beneficial in specific contexts, pedagogy specifically with respect to Inclusive Education must evolve to make education more experiential, holistic, integrated, discovery-oriented, learner-centred, discussion-based, flexible, and, of course, enjoyable[xix]. The curriculum must include basic arts, crafts, humanities, games, sports and fitness, languages, literature, culture, and values, in addition to science and mathematics, to develop all aspects of learners' brains and make education more well-rounded, useful, and fulfilling to the learner.

4) The National Education Policy specifically with respect to Inclusive Education also lays particular emphasis on the development of the creative potential of each individual, in all its richness and complexity. It is based on the principle that education must develop not only cognitive skills - both 'foundational skills' of literacy and numeracy and 'higher-order' cognitive skills such as critical thinking and problem solving – but also social and emotional skills - also referred to as 'soft skills' - including cultural awareness and empathy, perseverance and grit, teamwork, leadership, communication, among others[xx].

Conclusion

The teacher student ratio in West Bengal is very poor. It drives a demand for courses which can be available and can be teach without any physical presence. The demand for online teaching learning and the advancement in technology can very well support this new way of education. People are creating 2000 websites every hour in a day of 24 hours[xxi]. Due to pandemic COVID-19 pupil spend more time in online education in compare to offline education. Now the government of India also promoting the online class in the way of digital India mission, skill India mission. The government of West Bengal arranges various types of refresher courses to develop the skills of teachers[xxii]. Therefore, we can see a paradigm shift from conventional teaching process to online teaching process specifically with respect to Inclusive Education. Teacher must help their students to hold the span of attention level. So, long duration class should be avoided by the teachers. In this way the school level education aspiring students can be provided so many facilities by means of online teaching-based education and innovative learning strategies.

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Implications of Social Diversity for Science Education in India

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Abstract

India is a highly diversified country with multiple languages, religions, cultures, traditions, values, etc. This diversity is represented in our classrooms as well amongst our learners. Science is often considered as a subject that is objective and has nothing to do with the background of the students but this is far from being true. This paper discusses the implications of having diversity amongst learners in a classroom on teaching especially science. The paper elucidates how diversity in terms of language, religion, gender, caste, and culture influence education with a special focus on teaching science. This has an important implication for the teachers and educators to acknowledge diversity amongst learners while teaching to make learning more enriched.

Keywords: *Science Education, Gender, Religion, Caste, Language*

Introduction

India is the largest and most plural society in the world. Here people speak multiple languages, belong to varied cultures, and profess different religions like Hinduism, Islam, Sikhism, Buddhism, Christianity, etc. It houses a vast variety of classes, castes, tribes, customs, and ethnicities. Social diversity often used interchangeably with 'plurality', 'multiculturalism', 'social differentiation' etc can be defined as the co-existence of different social groups within a given geopolitical setting. Many types of group identities constitute social diversity. According to the National Curriculum framework (2005) position paper on science teaching, the science curriculum should be an instrument of social change to decrease the divider relative to gender, caste, class, and religion. Difference blindness, a form of colour blindness is an idea that in teaching only individual students are important not their membership to a particular demographic subgroup. Teachers who practise difference blindness do not acknowledge individual differences. Consequences of this difference blindness are: The habits, prior knowledge, beliefs of mainstream students and teachers taken as the norm and all deviations are either devalued or neglected, it limits the fact that all students have their personal belief/attitude/perspective which needs to be acknowledged and valued, students have to accept school knowledge even if it contradicts their belief system. Hence it becomes important to acknowledge diversity while teaching in a science classroom or any classroom for that mater. Described below are certain types of diversity and their implications for education especially science education.

Language & Science

According to the *People of India* project of the Anthropological Survey of India, there are as many as 4,599 separate communities and nearly 325 languages and dialects in 12 distinct languages and some 24 scripts in India. India being highly diversified in terms of languages has still not been able to solve many language-related problems despite the language-based reorganization of states. The diversification of languages has some critical educational implications as it poses multiple challenges for education. There are still challenges in the implementation of the three-language formula at different levels; protection of the educational, cultural, and economic interests of the language minority groups who inadvertently have fallen in particular state territory.

Science is considered a difficult school subject because students find science words tough or unfamiliar (Oyoo, 2015). According to Merkel-Piccini (2001), science learning requires learners to have a certain learning capacity to be able to grasp its content as well as the context. If the child cannot sequence events, follow directions, or conclude, science theory can be abstract, and hard to understand. Learning science requires the mastering of the academic literacy skills specific to that discipline (Merino and Scarcella, 2005). Learning barriers associated with learners' inability to express their views are usually leaning towards language challenges. Learner's academic performance is influenced by language barriers in the long term (Elsworth, 2013). Language in science teaching could entail the medium of instruction used by the teacher, the language of the learners which could either be their mother tongue or the everyday language they use to communicate, as well as the language of scientific terminologies.

Language of teaching and learning

The teacher, as the immediate curriculum developer, has a responsibility to use a suitable level of language of instruction to accommodate the learners whose home language is not the language of instruction. It is critical for the teacher to simplify the scientific terms and use the language of science consistently and correctly without confusion. In African elementary schools, there are no formalized reading programs and reading is subsumed in the English language lesson and is taught by the language teacher. Therefore reading is not taught as a discipline rather as a tool to reinforce other language skills (Okebukola, 2008). The most significant factor in learning science and mathematics is whether students are fluent in English or not (Howie, 2003). Although many problems are presented by concepts, four areas are the most concerning namely, ambiguity, vagueness, unfamiliarity, and emotive words. Most learners are faced with such problems as a result of which the students lose the meaning of the question itself (Rossouw, 2003).

Language used by teachers

For the learners, whose language of instruction is a second language, there is an added burden of translating the language of instruction to their home language when being taught. The same learners are also faced with the added burden of thinking answers in their language and then translating them into the language of instruction before they answer them. The language changing within a lesson to create an understanding of a concept or phenomenon is referred to as code-switching. Code-switching refers to alternations of language within a single conversation, often involving switches within a single speaker turn or single sentence (Rose & Dulm, 2006). Teachers have to be considerate when asking questions and use words that

would be of easy reach to these learners. A study conducted by Brown and Ryoo (2008) found that students who learned the basic concepts of photosynthesis in ”Everyday English” before learning the scientific terms for the same, scored better on tests rather than students taught the conventional way. For instance, words like "sugar" at the beginning of the lesson can be used and changed into ”glucose” later. Also, the use of "energy pigments" initially and subsequently introducing ”chlorophyll” and ”energy pouch" as a temporary stand-in for ”chloroplast”, is a strategic approach while introducing scientific terms for the first time. This method to teach learners is called the ”content-first” approach which can help enhance the conceptual and linguistic understanding of science. Also, the use of analogy or linking to everyday items could be useful for a better understanding of concepts.

Language of Instruction

The language of instruction is the language that is used as a Medium of Instruction in schools. Brock-Utne (2006) hypothetically said, “wanting to give education without considering the medium of instruction, is like wanting to give water to a village but not considering the pipes”. Malekela (2003, Pg: 111) made a statement that ”to continue using English as a medium of instruction in post-primary education is a torture to most of the Black children”.

In India, language diversity poses several problems for learning science among students. This is especially true in India as the home language of students is not English, many face problems comprehending what is being taught in the classrooms. Learning science in a second language adds a considerable burden, particularly at the primary level. Even though students from rural schools study science in their local language up to Class X students in urban areas get less opportunity to study in local language as English is the predominant language. Even if schools allow students to study science in Hindi or other local languages, there is a dearth of study material and resources available for the teachers as well as the students which creates extra problems.

Religion& Science

Religion can be defined as a broader framework of life, a framework shared with their families, place of worship, broader cultural communities. Religion stands for the belief in supernatural beings or entities. India is a multi-religious society and wherein people practise diverse religions such as Hinduism, Christianity, Islam, Sikhism, Buddhism, Jainism, etc. The Constitution of India affirming the secular nature of our country treats all religious groups on equal terms. It grants freedom to all religious groups to hold and practise their beliefs and rituals.

Students’ religious beliefs are often contradicted in a science classroom. Some controversial topics in science can contredit the religious beliefs of the students. Some of these topics are the origin of life, creation of the universe, climate change, biological evolution especially of homo sapiens. Research conducted in Alabama on teaching evolution in a science classroom shows that teachers assign chapter on evolution to their students but do not discuss it in the class (Dean, 2005). Aguillard (1999) showed that 60% of Louisiana’s teachers take less than five days in teaching evolution. According to Smith and Scharmann (1999), science does not refute supernatural forces or the existence of God. But it does not assert the use of supernatural /metaphysical explanations in constructing knowledge. It does not mean these things do not exist it means that including them makes explanation less scientific. It does make an argument wrong or weak just not science. Hence a vivid distinction between science and non-

science provides students ”a place to stand” when conflicted with two contrasting views deciding for themselves where it fits. A study was conducted by Chunawala et al. (2013) regarding teachers’ and students’ perceptions of science & religion. It showed that students demarcate between students' scientific and religious beliefs. They also compared male & females students concerning their perceptions regarding science & religion. This paper revealed that 26% of the students considered religion not important enough to be divulged in front of strangers, whereas 43% considered it very important. This clearly indicates that religion holds immense significance in the lives of students. When asked about their families' & teachers’ beliefs about the origin of life, the majority of the students responded that they think their families would support that God is the creator of human life while the majority of students supported evolutionary explanation in the case of teachers with little or no variation in boys & girls. This clearly indicates that students can differentiate between ideas that are scientific with those that are not and are also aware of who will support what. Another finding suggests that in case of a conflict between religion and science, teachers tend to stick to their scientific explanations & defend the scientific ideas. Teachers give freedom to students to choose their own way. This study reflected an instance where teachers teach science from their perspective. The examples cited by the teachers are also based on their own religion and they are oblivious to other religions hence tend to stick to the topic only. Another study conducted by Chunawala & Birwatkar (2014) used intervention which was carried out in 3 secondary schools of Mumbai, where the topic ”Biological diversity” was taught to class VIII students so as to address the diversity in human beings (gender, religion, culture, etc). This study gets its rationale from the fact that students possess alternate conceptions about things which are a result of their personal experiences & social background. The conflict between science & religion could be difficult for child if it is not properly addressed inside the classroom The intervention included many steps: asking students to identify the diversities amongst themselves discussing non-physical differences, such as culture, ethnicity, language, belonging to a certain region and religion to break some gender-associated myths, showing a collection of human beings (men and women) from all over the world to find out the similarities & the differences between them so they can distinguish between inter-species and intra-species diversity. Kanpol (1994) pointed out the idea of establishing similarities within differences develops an empathetic understanding in a culturally diverse classroom. Similarly, the decline in forests due to humans was linked to the declining female sex ratio in India which is also cultural and not biological. Students had to match states with the respective male-female ratio on a map followed by discussions on reasons for the unequal ratios and differences in states regarding male-female ratios. The thing common in all activities was that they were based on argumentation, debate, collaborations, and student-group interactions promoting peer learning. The findings suggested that teachers had a neutral stance on gender diversity & considered science as neutral. So teachers did not feel a need to concentrate on the interests or experiences of boys and girls. Teachers did not reflect on diversity & its role in the teaching-learning process. When asked about the evidence that students made progress in the lesson taught during intervention they mainly concentrated on evaluating the performance on the oral or written form of examination and in some cases assignments. This indicates that teachers are more focused on imparting content knowledge. But they need to realise

that alternative conceptions of students and the doubts arising from them need to be catered to impart correct and holistic scientific knowledge.

Gender& Science

Gender can be defined as the socio-biological difference between man and woman. Conceptually the term 'gender' differs from 'sex', as sex refers to differences owing to physical characteristics between male and female. The educational system in India is plagued by gender disparities at all levels of education. There is a wide gender gap in education in which the female literacy is 54.16 per cent as against 75.85 per cent for males (Census, 2011).

Women's contributions to science date back centuries. But for most of the time in history, women scientists had faced barriers to opportunity and access while striving to contribute to the field. Historically, there has been inequality of representation and participation in the field of sciences. Renowned women scientists like geneticist Barbara McClintock had to overcome significant barriers in their professional journey for their work to get recognition and due credit. Despite increased opportunities in the sciences in recent years, women are still not represented in the proportion of the national demographics. It is also seen that the higher the status of the science field subfield, or position in question, the greater the degree of inequality when it comes to the representation of women. Feminist critiques of science and science education have largely been ignored in the scientific community. In a study conducted by Seymour and Hewitt (1997) to learn the reasons as to why do women drop out of university science majors and how these reasons differ from the reasons for males. One of the most common responses was that science is fundamentally meritocratic and self-correcting. So even though women have faced discrimination in the past, such inequities are being resolved now that women have equal access to the required training opportunities. The increased enrolment of women in medical and veterinary schools, where women now make up the majority of students, is often cited as evidence of the self-correcting nature of the field. Several studies show that widespread perception of science as male or masculine continues to be one of the greatest barriers to adolescent girls' willingness to pursue advanced science education or to enter scientific fields (Oakes, 1990; Rosser, 1987). Hence the perception of women regarding "science" plays a very important role. Beilock et al. (2010) proposed a mathematics anxiety hypothesis who found that the anxiety amongst teachers regarding the subject mathematics causes a drop in the performance of female students but not male students. Antecol et al. (2015) tested a hypothesis loosely based on the mathematics anxiety hypothesis. The indicator for mathematics anxiety chosen in the study conducted was whether education teachers have got a major in mathematics or a related subject as they believe that anxiety would be developed if teachers do not have good content knowledge. The issue is also important because the focus here was on the females from disadvantaged backgrounds assumed to be lacking a positive role model in the family who could challenge their notions & stereotypes. They found out that there was underachievement amongst students where female teachers had high anxiety. This is due to the fact that girls look onto their female teachers as a source of inspiration and anxiety of teachers leads to confirmation of the stereotypes that girls are bad in mathematics and they internalize this fact. But they found another significant thing that the underachievement could not just disappear but also turned into a positive outcome just by having female teachers with strong background knowledge. This according to them may be due to two reasons: teachers are well trained in mathematics so having good concep-

tual knowledge helps to transfer the same and secondly they themselves have defied the stereotypes of gender-related differences in terms of ability. So background knowledge came to be the primary important factor contributing to underachievement and secondarily the gender. Teachers might feel that they treat every student equally and do not differentiate between males and females in a classroom. The need of every individual is different irrespective of gender. Both have different educative experiences in classrooms. A study conducted by Scantlebury & Baker (2007) found that girls do not like lectures, worksheets, and 'busy' assignments and they prefer topics that have relevance to their daily lives. Girls are assigned passive roles in the class and performance-based assessments. They found that while boys used equipment for completing the tasks, the role of the girls was restricted to reading the instructions and recording the results. Teachers more often than not possess gendered perceptions of students' ability which is evident in the type of praise and expectations they have for their students. Girls were given less meaningful and less critical praise than boys. When the work done by the boys' work is applauded for being brilliant, girls' work is generally praised for its appearance and undervalued. Such unconscious behaviour on the teachers' part is harmful to the girls as they do not receive valuable feedback on their work to lead to a deeper understanding of concepts (Liu & Carless, 2006)). Therefore even gender plays a significant role in making students in a classroom different from each other. According to Jenkins & Nelson (2005), boys and girls differ in their interests in science. When students were asked to rate the topics of their interest the top-ranked items for boys were: explosive chemicals; being weightless in space; functioning of the atom bomb; biological and chemical weapons; black holes and other objects in outer space. For girls the top 5 items they would like to learn about in science were: why we dream when we are sleeping and what the dreams might mean; about cancer; how to perform first aid and use basic medical equipment; exercising to keep the body fit; about sexually transmitted diseases and their prevention. Teachers need to aware of these differences among boys and girls and try to include the experiences of both the genders wherever possible without considering them as a single entity.

Caste & Science

Caste is a system of social relations. Although caste finds its origin in the *varna* system of Hinduism, it is spread to all sections of the society and holds significance till today. Despite condemnation of several years, the caste system is still very much existent in the form of an ideology and social practices. The caste system is the root cause of many economic, political, and social problems owing to the structure of privilege and deprivation. 'Tribe' on the other hand is more of an administrative and political concept in India. The categorization of tribal groups has been done state-wise and isn't uniform. The tribal groups are much behind their non-social diversity and, tribal counterparts in terms of their educational attainment. Certain cultural specificities demarcate the tribal groups from other disadvantaged groups. The tribal people in themselves are composed of diverse groups. Our constitution has completely abolished the caste system but has established reservations in government and universities for the so-called Scheduled Castes— castes characterized by "extreme social, education and economic backwardness owing to the long-established practise of untouchability". It has made special provisions for the protection of the deprived castes mainly the Scheduled Castes (SC) and Other Backward Castes (OBC). However, discrimination against low-caste individuals based on caste remains very much part of the society, especially in rural India. In an experi-

ment carried out by Hoff and Pandey (2004) among 321 high-caste and 321 low-caste male students across India involving simple puzzles to solve, it was found that there was no difference between the performance of the students when their caste identity was hidden and a strong difference between the lower-caste and upper-caste learners when their caste identities were publicly known. A study on teacher motivation in Rajasthan finds similar stereotypes based on caste. Most of the teachers interviewed during the course of the study grumbled about teaching children belonging to scheduled caste who they considered ”dirty”. (Ramachandran et al, 2005). In a recent micro-study within the Gaya District among the Musahar children (Singh and Kumar, 2010) were asked for the rationale as to why children from marginalized communities fail, particularly those from the Musahar community, most of the teachers believed that the ”sanskara” of the Musahar children and their parents were to blame for this. This study showed that teachers still believed in the ”deficit model of learning” rather than an enabling discourse. They think of children as being ‘learning deficient’ or ‘uneducable’. As a result, they have very low or no expectation of learning achievement from these children This idea of heredity-based ‘educability’ of children is articulated through their notion of hereditary ‘sanskara’. This dependency on the home environment is detrimental to a student’s learning especially ones who are first generations learners. They fail to acknowledge the socio-economic differentiation and diversity amongst the students in a classroom. Teachers are convinced that they are non-discriminating and progressive and that they treat all children equally. However, this can be quite different from valuing each child equally. Treating each child equally would mean not recognizing, and not being sensitive to the differential learning needs and abilities of children. Such a perspective doesn't provide teachers with the skills to deal with differentiation within the classroom. They view their professional accountability in terms of just the transmission of content, without any concern for the resulting learning achievement of children. The findings of a study of an MCD school in a slum in Delhi revealed that the teachers feel that the environment of the home is the single most important factor for the child (Jain, 2006).

Although there is a dearth of studies focussing on the role of caste of students on learning science but these studies are evident enough to establish the role caste plays in a classroom. These influences can vary from teachers' attitude or motivation to students’ self motivation in studying. Hence it becomes imperative for teachers teaching science to be conscious of these influences while teaching science.

Culture & Science

A society bound with its own culture helps its inhabitants to live with a mutual corporation with each other. In other words, culture represents the social behaviour of a society with its set of values. The concept of culture encompasses the knowledge of ethics, norms, traditions, etc. Education plays a vital role in the transmission of culture from one generation to another. Education can be used as a tool to transmit social values and ideas to the coming generations. The curricula, teaching methodologies, and assessment strategies in our schools do not recognize or appreciate the notion of the importance of place in their societies (Kawagley 2006). Many people have started to recognize the limitations of a monocultural education system, leading to a more enriched and inclusive way of understanding the relationship between indigenous ways of knowing and those associated with formal education. It is a challenge for the

education system to devise a system of education for all people that respect the epistemological and pedagogical foundations provided by both indigenous and western cultural traditions. To accord significance to learning in indigenous settings, any natural phenomena taught in the classroom are best understood by students if they are first explained in the indigenous terms to which they can relate and then afterwards in western terms (Aikenhead, 2001).Western science which is taught in science classrooms is considered to be the high-status knowledge every student should learn to become a competent citizen in the society. However, the knowledge possessed by students from diverse cultures can be different from those in the mainstream. When there is a disparity between school science and students' cultures, the students suffer from bad educational experiences especially when students are compelled to accept Western science without sharing its meanings. In a class with students of diverse cultures, to achieve equity, teachers need to have knowledge of science as well as an understanding of the students' cultures (Lee & Fradd, 1998). There might be tensions when there is a difference between the ways in which science is taught in school and the diverse views of the students. (Gilbert&Yerrick, 2001; Lewis & Collins, 2001). The answer lies in the Multicultural Science Education (MSE) in this regard which can focus on curriculum or instruction in science. Proponents of Curricular Multicultural Science Education (CMSE) describe that to be sensitive to students 'knowledge and beliefs that are counter to science, one must redefine one's conceptions of science to be more inclusive of the students' cultural beliefs. Instructional Multicultural Science Education (IMSE) on the other hand stresses on crafting instructions respecting students 'cultural beliefs. Hence teachers need to endorse the fact that accepting and inculcating students' cultural beliefs would be helpful not just in dispelling any myths that children might have but also in enriching the experiences of all the students in the classroom.

Conclusion

In this paper, only the social aspects of diversity i.e. language, religion, gender, caste, and culture are discussed along with their implications for education in India. However, diversity amongst students can also be present in terms of their socio-economic status, learning styles, personal experiences, geographical origin, etc. The underpinning point being no matter what the classroom composition is, diversity is an aspect which is indispensable in a classroom therefore instead of choosing to ignore it if we acknowledge the diversity amongst learners in a science classroom or all subjects for that matter and understand its importance in education, we can enhance the learning experience of all the learners in our classroom.

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Teacher Performance Appraisal at School: A Critical Analysis

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Abstract

Everyone wants a feedback to improve so why to leave the person who is doing the most important job in the world, they are the teachers who have the most important responsibility of making the future of our country. They have the potential to bring a qualitative change in the whole education system if provided a right kind of support through a constructive feedback. It has been observed that India faces a major challenge in qualitative change in education; study after study shows that children are failing to meet grade-level learning outcomes (ASER, 2015). Somewhere it can be a result of faulty or lack of practice Teacher Performance Appraisal (TPA) as Teacher performance has a strong link with student outcomes. In the school effectiveness of teaching learning and its continuous improvement is assured by the effective monitoring and evaluating. It is the key aspect to bring qualitative change in education system by enhancing the teaching quality. The same has also been recognized by OECD 2013b"teacher appraisal can be a key lever for increasing the focus on teaching quality." TPA generally consider as the formal process which a school uses to assess the teachers' performance and effectiveness in the classroom. Ideally, the findings from these evaluations or appraisal are used to provide feedback to teachers and guide their professional development. Even the developed countries like USA, England, Canada, Singapore, Australiaetc. have adopted TPA as one of the most important part of their education system. These countries have a separate framework for this particular purpose. In our country also NCFTE (2009) is there but in that also the emphasis has been on the evaluation of pre service teacher trainees while the guideline for evaluation of in service teachers has been neglected. Although in the schools whether it government, private or semi-government different type of evaluation system has been used to give feedback to the teachers either directly or indirectly. Some of the prevailing practices like APAR (Annual Performance Assessment Report), ADEPTS (Advancement of Educational Performance through Teacher Support), PINDICS have been analysed in the present paper and the strengths and weaknesses of those practices have been discussed briefly. Besides this some suggestions also havealso been discussed to improve the TPA system to bring the required qualitative change in the education system.

Key words: *Teacher performance appraisal (TPA), Current Practices, Critical analysis, APAR, ADEPTS, PINDICS.*

Introduction – Our teachers also want feedback like other professionals so that they can improve after all they are the person who is doing the most important job in the world of taking the most important responsibility of making the future of our country. They have the potential to bring a qualitative change in the whole education system if provide a right guideline and support. It has been observed that India faces a major challenge in qualitative change in education; study after study shows that children are failing to meet grade-level learning outcomes (ASER, 2015).In general, teacher evaluation refers to the formal process a school uses to review and rate teachers' performance and effectiveness in the classroom. Ideally, the findings from these evaluations are used to provide feedback to teachers and guide their professional development. Borg (2018) has defined Teacher appraisal is sometimes used interchangeably with teacher evaluation, but it more specifically refers to 'formal performance reviews, usually conducted by a school level supervisor, to judge individual teacher performance'. In this sense, teacher appraisal is one aspect of the broader process of teacher evaluation, which may also include informal assessments. Teacher performance evaluation is the key aspect to bring qualitative change in education system by enhancing the teaching quality. The same has also been recognized by OECD *2013b"teacher appraisal can be a key lever for increasing the focus on teaching quality."* Measuring quality in the classroom is a challenging but crucial factor in the development of any education system. It has been observes in the various researches that teacher performance evaluation improve the quality of teaching learning process result in high achievement of students achievement. By recognizing importance of TPA in education few of its current practices have been analysed in the current paper.

Importance of appraisal system – Appraisal system has various advantages pertaining to teachers if done in a constructive way it can bring a magical improvement in teacher's performance and can fuel their motivation to bring innovation in their teaching learning and self-development. TALIS results reveal that the great majority of teachers report that the appraisal and feedback they receive is beneficial, fair and helpful for their development as teachers (OECD, 2009b). The various other importance of the Teacher appraisal systems are as follows:-

- ✓ Appraisal is a supportive process which will be used to inform continuing professional development.
- ✓ It helps to develop pedagogical skill and content mastery of the teachers.
- ✓ It helps to boost the confidence in the newly appointed teachers.
- ✓ It develop positive attitude towards the ongoing teaching process.
- ✓ It helps to promote teacher development;
- ✓ It encourages professional learning and growth;
- ✓ Identify opportunities for additional support where required.
- ✓ It can be used for accountability and improvement purpose.
- ✓ The TPA system helps strengthen schools as learning communities where teachers have the chance to engage in professional exchanges and collaborative inquiries that foster continuous growth and development.

- ✓ The appraisal process can also promote the collaboration and relationship building essential to create and sustain an effective learning community.

Current practices of teacher performance appraisal at school –Variety of different evaluation tools and processes are being followed across the India but there is lack of consistency around the quality of their implementation. There is no fix universal TPA framework available which can be used by all type of schools even NCFTE (2009) has also given emphasis on the evaluation of pre service teacher trainees while the guideline for evaluation of in service teachers has been neglected in it. Although in the different type of schools like government, private or semi government different type of evaluation system has been used to give feedback to the teachers either directly or indirectly. Some of the prevailing practices have been discussed below:-

- **APAR (Annual Performance Assessment Report) –** APAR is followed by government institutions like KVs (Kendriya Vidyalaya) and NVs (Navodaya vidyalaya) to assess the teachers performance. It is a kind of summative report which is divided into five parts.
  - ➢ First part is about personal data to be filled by the administrative section of the office
  - ➢ The second part is self-assessment of teacher which has four questions which they have to fill in the box given below each question which are related with the brief description of duties, target and achievement of the current session, description of shortfall in achieving target, their role in getting significant higher achievements and the last one is about annually returning the immovable property by the teacher.
  - ➢ Third is numerical grading by the supervisor which is again divided into four part

Part	**Weightage**	**Area**
Part 1	40%	Work output
Part 2	30%	Personal attributes
Part 3	30%	Functional competency

This is the only part in which NVs and KVs APAR differ in NVs these parts and its weightage is little different.

Part	**Weightage**	**Area**
Part 2	60%	Academic output with monitorable and verifiable targets and achievements
Part 3	20%	Personal attributes and personal competency
Part 4	20%	Assessment of contribution towards residential components

- Fourth part is the general remark of the reporting officers which include public, training, state of health, integrity and the description of overall qualities of the teacher to be assessed in 100 words.
- The last part five is the remark of the reviewing officer in which agreement of the reporting officer's grading is given. And if the reviewing officer is in disagreement at some point he/she can modify the report as wanted

This APAR is a summative type of appraisal report which is held at the end and summarize in just one word satisfactory or unsatisfactory. The one thing that is different from other appraisal, about this appraisal is the consistency and uniformity as it is a mandatory for all the KVS and NVs to do it with the same given format.

- **ADEPTS (Advancement of Educational Performance through Teacher Support)**–it is an initiative taken by MHRD (Ministry of Human Resource Development) and UNICEF. It was implemented under SSA and launched in 2007 but taken back slowly although it is still used by some of the states but most of the states have dropped it. Its origination lies in the strongly felt need for the fruits of in-service teacher training to be visible in the classroom processes and in children's learning. It provides standards to measure teacher's performances. An ADEPT addresses the key questions of:

✓ How to improve teachers' performance – based on what they actually *do* in class?
✓ How to enable CRCs-BRCs-DIETs to enable improved teacher performance?

The standards given by ADEPTS are more in the form of *generic* statements, with the details/indicators and background considerations divided into four dimensions they are cognitive, social, physical and organizational. It is very good tool for the TPA of the elementary teachers as it covers all the main aspects to be assessed but it can bring change only if the implementation and consistency can be assured all over India.

- **PINDICS–**It was launched in 2013 by the National Council of Educational Research and Training (NCERT). It has given guidelines for the performance indicators for elementary teachers. It builds on the work done under the MHRD–UNICEF initiative described above (ADEPTS). It can be used by teachers themselves for assessing their own performance and to make continuous efforts to reach the highest level or by the supervisory staff/mentor to assess and to provide constructive feedback for the improvement of teacher performance.

  In this, following seven performance standards have been identified.

  1. Designing Learning Experiences for Children
  2. Knowledge and Understanding of Subject Matter
  3. Strategies for Facilitating Learning
  4. Interpersonal Relationship
  5. Professional Development

6. School Development
7. Teacher Attendance

Each performance indicator is rated on four point scale ranging from 1 to 4 indicating the levels of performance.

The rating points are:

1. Not meeting the expected standard
2. Approaching the expected standard
3. Approached the expected standard
4. Beyond the expected standard

Strengths:

- Clear guidelines have been given in all the TPA for filling the form in an expected way as they want.
- Self-appraisal has been given due weightage in all.
- Interpersonal relationship has given importance in all the TPAs.
- Used as a professional development, increment and promotion purposes.
- Description of improvement in the unsatisfactory performance.
- Measure of achievements and in-service educational program attended has been importance.
- Standards have been defined clearly.
- Provision to measure of all the activities of classroom teaching, creating environment etc.
- Proper implementation is ensured.

Weaknesses: After analyzing the above practices some of the weaknesses have been identified by the researcher in the current practices of teacher performance appraisal which are listed below:-

- Lack of awareness for the existing evaluation – instead of the initiative taken by government to bring TPA it's still a question whether all the educational institutions like government, private and aided school are aware of these TPA or not.
- Lack of training to take TPA – there is lack of training to take these assessments although TPA is an important task which if not done properly quality cannot be assured thus there should be proper training to the supervisors and authorized person.
- Lack of formative assessment – generally all type of assessment took place at the end of terms means summative type of assessment is given more weight age than formative, while teaching is an ongoing process and it should be assess in a continuation rather than at the end.
- Same format for all type of teachers - In other developed countries there is a different format of evaluation for new and experienced teachers while we have the same type of proforma for all type of teachers as well as the same is implemented for the principal and other non-teaching staff as well.

- Lack of tools for secondary and tertiary teachers – although government has taken initiative to bring TPA for the elementary teachers but there is no tools introduced from the government side to assess the teacher's performance at secondary and tertiary level.
- No place for other kind of feedback – In the above practices only emphasis is given to the appraisal from self and the authoritative person while the other stakeholders, parents and students have not given place while they are also important person whose suggestion should give due advantage.
- Lack of descriptive feedback – there should be some description for the teachers how they can improve the current practice so that they can improve and grow while in the above TPAs feedback is give in one phrase or sentence.
- Lack of measuring innovative practices and research – there should be proper measure of innovative practices with the more weightage in the TPA so that they can get motivated to practice it as well as motivation to take action research should also give due weightage by measuring it.

Suggestions:

1. It should be based on formative assessment for the continuous feedback and support to the teachers more than the summative that took place at the end of the session.
2. Instead of so many different practices of TPA there should be one which can be implemented in all type of institutions and it should also be taken online in the portals so that all the teachers' performance can be ranked.
3. The feedback should be in descriptive way with the proper explanation where not only weaknesses are explained but the strengths should also be placed to fuel the needed motivation for the very practice.
4. Proper training to the teachers for the self and peer appraisal should be given so that it can be more objective, accurate to support the teacher's growth.
5. It should be linked with the professional development opportunities.
6. There are various methods available for the appraisal which is normally done by principal, peers, self or the selected supervisors but what about other stakeholder, parents and community. A perfect performance appraisal must collect data or appraisal from all the members who are directly or indirectly attached with the education system.
7. There should be provision for proper feedback into the teacher development as where corrective and constructivist feedback can bring improvement; the rigid critical feedback can bring conflict and disturbance.
8. There should be a clear framework of TPA at school like other countries.
9. Separate provision of evaluation for different type of teachers like new and experienced, primary, secondary and PGT teachers.
10. Clarity about the performance expectation from the teachers so that they can bring about the expected change in their teaching.

11. Proper motivation for taking appraisal system should be given to the teachers by recognizing their effort through non monitory ways.
12. Standards should be explicit statements that are appropriate in all schools and measurable/observable. It should be conduct in fair and objective way.
13. Proper implementation of teacher performance appraisal at all levels should be there.
14. Opportunity to observe most effective teachers should be there as we need all teachers be as good as the best one.

Conclusion:

In this way we can conclude that teacher performance appraisal system does not only assure the teaching learning but it also develop the positive attitude toward the ongoing learning. Performance standards can be used to guide teacher recruitment and retention, initial teacher training courses, induction and certification programs, ongoing professional development, performance pay and career progression. It can act as a magical tool for the quality improvement in whole education system but only when it comes with the quality and ensure its successful implementation. As it has been seen that various assessment tools have been introduced in the past years like discussed in the present paper as well but they come and vanish awayafter some time. So the thing needed in the present time is rather than introduction of new assessment tools, a persistent implementation of these tools into practice. It should be objective and uniform for all type of school teachers so that the consistency and quality can be assured.

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Internet Addiction in Adolescents

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Abstract

The internet is a global system of interconnected computer networks that has become an integral part of modern life. It is increasingly used by all people as one of the most important devices for access of information in the world. The excessive use of internet has grown as a psychological problem. Adolescence is the age which is most vulnerable to be effected by such psychological problem. Present study aimed to assess the level of internet use among teen age students. 200 students (100 M and 100 F) were taken from various schools of Varanasi city. Age range of the sample was from 15 to 19 years. Pathological Internet Use Scale by Asthana and Verma (2019) was used for data collection. Results revealed that internet usage by the sample was of normal level. Gender difference was not significant for five out of six dimensions as well as for overall scores. The only significant difference among boys and girls was observed on 'neglect of social life' dimension of the scale where boys scored higher in comparison to girls.

Introduction

The internet is a global system of interconnected computer networks that has become an integral part of modern life. It is increasingly used by all people as one of the most important devices for access of information in the world. It has become an increasingly popular notion that similar to other subjective rewarding activities,(e.g. substance use, shopping, gambling, running, using computer, working), the use of internet can also become the object of addiction.

The term "Internet addiction" was proposed by Dr. Ivan Goldberg in 1996 for pathological compulsive Internet use. The many names given to this phenomenon recognize the various ways in which it has been regarded - Internet addiction (Goldberg 1996),Internet dependency (Schere, 1997), Compulsive computer use (Black, et al 1999),Pathological Internet use (Davis 2001), Internet addiction disorder and Problematic Internet use (Caplan, 2003).Over the last couple of years, Internet addiction has been become a global concern to the public and can be classified as a health issue. Internet addiction is characterized by extreme overuse of the Internet, resulting in negative consequences in one's work, personal life, emotional health, or physical health (Byne etal,2009; Young, 2009,Kuss and Griffiths 2015). It is a problem that clinicians and researchers in several countries recognize, even eliciting government intervention in some cases (Zhang et

al, 2008). This phenomenon received enough attention that the Diagnostic and Statistical Manual-V (DSM-V) Development Committee recently considered (but ultimately decided to include in section 3 under conditions for further study) a variation of Internet addiction for inclusion in the DSM-V, ultimately deciding that more research was needed before formal inclusion was warranted (American Psychiatric Association).

Definition of Internet Addiction

The appropriate definition of Internet addiction has been debated. Some investigators have linked Internet addiction to addictive disorders, grouping it alongside alcohol and drug use disorders (Griffiths 1999). Others have linked Internet addiction to Obsessive-Compulsive disorder (Sussman 2005), or to the impulse control disorders (Shapira, et al 2000, Young 1998).Internet addiction means the over use of Internet to such extent that our everyday life collapses. At the end it leads to complete breakdown of our personal and social relationship, work and sleep routine as well as our mood and thinking capability.In the psychiatric literature, Black, et al (1999) described a series of 'compulsive Computer users', the only requirement of which was that subjects acknowledged "Compulsive Computer use that had contributed to personal distress or social, occupational, financial or legal consequences". .further refined the definition of 'Problematic Internet use' by enumerating operational criteria that emphasize cognitive and behavioral aspects of the disorder, as well as impairment characterized by subjective distress and interference in social or occupational functioning, mania and hypomania should be ruled out as causes of the disorder.

Beard (2005) simply takes a holistic view of the phenomenon, stating that it occurs when "an individual's psychological state, which includes both mental and emotional states, as well as their scholastic, occupational and social interactions, is impaired by the overuse of the medium". Examples of processes that people have compulsively used the Internet for include shopping, pornography, surfing media feeds, video-game-playing, social networking, and gambling. The Internet is simply a medium, though the role of the medium itself should not be underestimated. The Internet has many beneficial applications, but also provides unhindered, instantaneous access to countless potentially addictive processes.

Internet addiction is described as an impulse control disorder, which does not involve use of an intoxicating drug and is very similar to pathological gambling. Some Internet users may develop an emotional attachment to on-line friends and activities they create on their computer screens. Internet users may enjoy aspects of the Internet that allow them to meet, socialize, and exchange ideas through the use of chat rooms, social networking websites, or "virtual communities." Other Internet users spend endless hours researching topics of interest Online or "blogging".

Similar to other addictions, those suffering from Internet addiction use the virtual fantasy world to connect with real people through the Internet, as a substitution for real-life human connection, which they are unable to achieve normally.

Classification

According to Young et al (2000) Internet addiction is a broad term covering a wide variety of behaviours and impulse control problems. The five subtypes of Internet addiction are as follows:

1- Cybersex addiction- This occurs in individuals who are typically engaged in viewing, downloading and trading online pornography or are involved in adult fantasy role-play chat rooms.

2- Cyber- relationship addiction- Addiction to social networking, chat rooms, and messaging to the point where virtual, online friends become more important than real-life relationship with family and friends.

3- Net compulsions- This subtypes includes a broad category of behaviours, including online gambling, shopping or stock trading.

4- Information overload- The World Wide Web has created a new kind of compulsive behaviour that involves excessive web surfing and database searches. These individuals spend a disproportionate amount of time searching for, collecting and organizing information.

5- Computer addiction- Most computers come equipped with pre-programmed games and people become addicted to playing them at the cost of work performance or family obligations.
Young(2000)suggests that people typically become addicted to a particular application that acts as a trigger for excessive Internet use.

Young (1998) was among the first to use the term "Internet addiction." She and other researchers adapted the diagnostic criteria of pathological gambling or impulse control disorders to diagnose Internet addiction (Griffiths, 2000; Young, 1998). Criteria according to these definitions include preoccupation with the Internet, increasing amounts of time on the Internet, unsuccessful attempts to quit, irritability when trying to cut back, staying online longer than intended, jeopardizing significant relationships to stay online, lying to cover up Internet use, and using the Internet as an escape from problems (Weinstein, 2010).
Firm diagnostic criteria have not yet been fully agreed upon by researchers, but Tao et al (2010) have suggested four components as essential to the diagnosis:
(1) Excessive Internet use (especially when characterized by loss of time or neglecting
(2) Withdrawal symptoms such as anger or depression when the Internet is inaccessible;
(3) Tolerance, exemplified by the need for increased use of the Internet to relieve negative emotional symptoms; and
(4) Negative consequences, such as arguments with friends or family, lying, poor school or work performance, social isolation, and fatigue.

Impact of Internet on India

According to Internet and Mobile Association of India (2013) there has been an explosive growth in the use of Internet not only in India, but also worldwide in the last decade. The

population of India was around 1.2 billion as of census 2012, of which the number of Internet users (both urban and rural) was around 205 million. In 2013, it was estimated to increase to 243 million by June 2014, and India was estimated to be the second-leading country after China which currently has the highest Internet user base of 300 million. Chandra, etal (2012) reported that the number of Internet users in India has grown five-fold since 2005. Mobile Internet usage is growing at the rate of nearly 85% per annum, with nearly 75% of non-voice usage being devoted to entertainment, where video and music streaming are major growth activities. According to a report there are 200 million face book users in India, other forms of internet users is excluded (Dainik Jagran, Apr. 10, 2018).

The understanding that the Internet use can be a disorder is still in its initial stages in India. There are limited numbers of studies estimating how common the issue of Internet addiction is in India(Goswami and Singh,2016). The present study aims to assess internet addiction among teenage students.

Sample:

Sample consisted of 200 adolescents (100 M and 100 F) studying in class 9^{th} to $12^{th}$from various schools of Varanasi. The age range of the sample was from 15 to 19 years.

Tool:

Pathological Internet Use Scale by Asthana and Verma (2019) was used for collecting data in the present study. This scale consists of 30 items covering six dimensions namely salience, excessive use, neglect work, anticipation, lack of control, and neglect social life. Each item has six alternatives to respond to: Never, Seldom, Occasionally, Often, Mostly and Always. Scoring is done as 0,1,2,3,4,and 5 respectively for the above alternatives. Minimum and maximum scores on the scale are zero and 150. Higher scores on the scale are indicative of pathological internet use or higher internet addiction.

Results:

The obtained data were analyzed for assessment of internet usage level among students and also for significance of mean difference between boys and girls regarding use of internet. Findings are presented in following tables and graph. Table 1 represents the frequency of students under various levels of internet usage.

Table 1:Frequency of students under various levels of internet usage

Students	Level of Internet Usage				Total
	Normal level of internet usage	Mild level of internet addiction	Moderate level of internet addiction	Severe dependence on internet	
Boys	76	16	8	Nil	**100**
Girls	72	18	10	Nil	**100**
Total	**148**	**34**	**18**	**Nil**	**200**

Table 1 shows that in the sample of teen ager students taken in the present study, no one had severe dependence on internet. However, eighteenadolescents, eight boys and ten girls were found at moderate level of internet addiction and thirty four (sixteen boys and eighteen girls) were found at mild level of internet addiction. Most of the participants had normal level of internet usage.

Table 2: Gender difference in Internet Usage

Dimensions	Boys (N=100)		Girls (N=100)		t
	Mean	S.D.	Mean	S.D.	
Salience	11.23	7.18	8.83	6.73	1.85
Excessive use	8.84	5.81	5.94	7.35	1.85
Neglect work	4.22	3.40	2.94	3.26	1.68
Anticipation	4.61	3.90	3.21	3.62	1.63
Lack of control	4.19	2.59	3.75	3.45	1.13
Neglect social life	4.71	4.12	2.96	3.22	2.11*
Overall	37.81	22.85	27.19	24.85	1.91

*significant at .05 level

Table 2 reveals that there is no significant difference in means of various dimension as well as overall scores of pathological internet use scale except the dimension of neglect social life. On this dimension boys scored higher than girls, showing that boys more neglect their social life due to internet in comparison to girls. The same is presented through figure 1 and 2.

Figure 1: Gender difference in various dimensions of Internet Usage

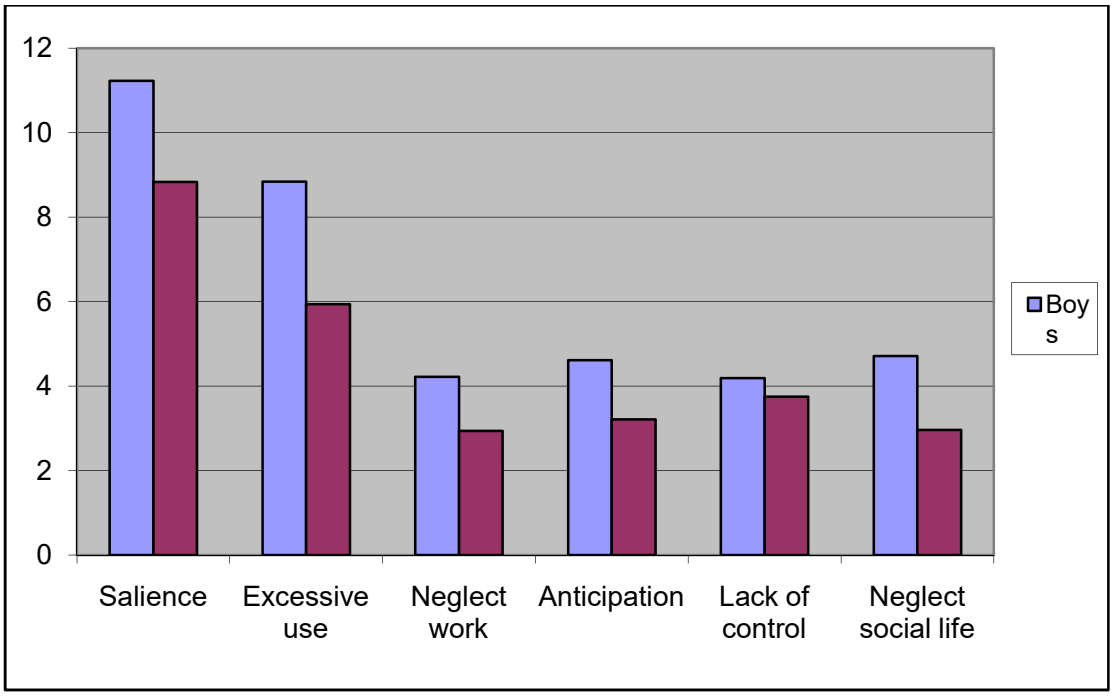
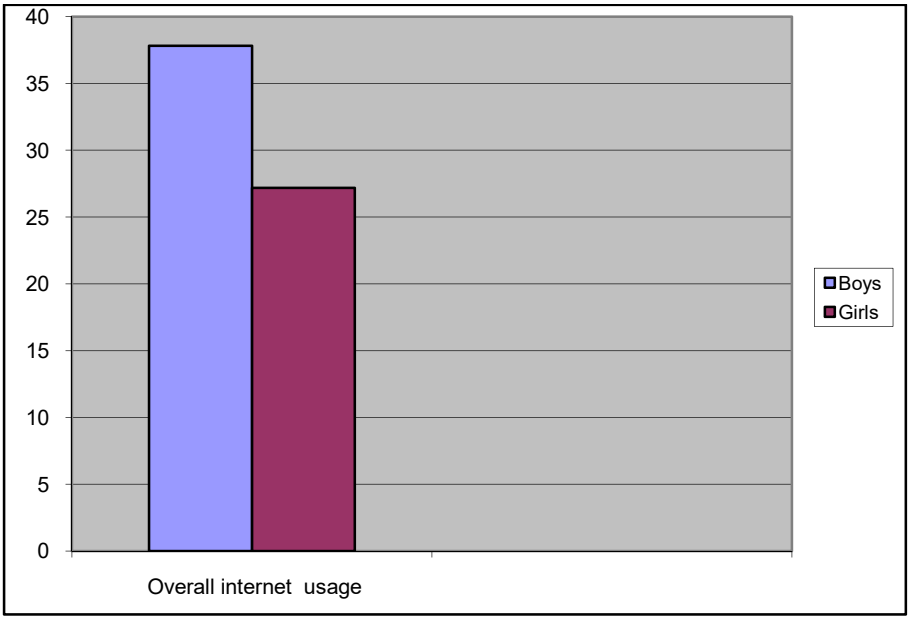


Figure 2: Gender difference in overall Internet Usage



Discussion: The excessive use of internet has grown as a psychological problem. A boon of technology has become a curse for being wrongly handled. Free internet facilities provided by several mobile companies, has promoted excessive use of internet leading towards addiction. We surprise whether services are free or we are free to spend more and more time on internet and tend to become addicted.

There are several studies conducted in India and abroad on internet addiction in adolescents. In Poland, Karacic and Oreskovic; and Rebisz and Sikora (2016) found 11% adolescents highly addicted to internet. They reported that 15-16 years, especially males were prone to the development of internet addiction, whereas aged 11-12 girls were least users of internet. In Japan, Kawabe and Oka (2016) reported 2% (2.1% M, 1.9% F) junior high school students were addicted and 21.7% (19.8% M, 23.6%F) were possibly addicted. In China the situation is most alarming. 24 million adolescents were determined as having internet addiction. Yaojun Shao et al (2018) in a meta- analysis of 26 researches published during 2006 and 2017 found 11% internet addiction in China. In Holland, Kuss and Mheen (2013) found 3.1% Dutch adolescents addicted to internet. In Turkey Sasmaz et al (2014) found 15.1% (20.4% boys and 9.3% girls) addicted to internet. Moreno et al (2013) reviewed 18 researches published up to 2010 to assess prevalence of internet addiction in adolescents and college students in United States. Eight studies reported prevalence of internet addiction from 0% to 26.3% while other ten studies did not report prevalence of internet addiction. In India, Nalwa and Anand (2004) considering mean ± ½ S.D. as criteria for inclusion in extreme group reported 18% school students dependent on internet, and Goel and Subramanyam (2013)reported 0.7% adolescents addicted to internet but in a recent study Kayastha, Gurung and Chawal (2018) had found only 0.5% adolescents addicted. The study was conducted on a sample of 200 students aged 12 to 16 years from Mangalore. Majority of students (70.5%) were normal users, 23% had mild addiction, 6% had moderate addiction and 0.5% had severe dependency on internet. Similar findings have been obtained by Rajeshwari et al (2017) on a sample of 200 adolescents from Bangalore. They found 49% students mild addicted, 28.5% moderately addicted and 0.5% severely addicted to internet. The findings of present study are in line with Rajeshwari et al (2017) and Kayastha et al (2018). Here internet addiction was found 0%. Majority of adolescent students (76%) were normal users, 17% were mildly addicted, and 9% were moderately addicted or prone to be addicted.

We can take a sigh of relief that Varanasi is relatively safe from this addiction. But it is time to raise our eyebrows and to be prepared for combating this growing problem of internet addiction.

Adolescents increasingly use internet for communication, education, entertainment and other purposes in varying degrees. Given their vulnerable age, they may be prone to internet addiction. Also they have less ability to control their enthusiasm for internet activities which increases their vulnerability to internet addiction. It is crucial for us to investigate prevalence of internet addiction among students in order to provide epidemiological information to better understand and tackle the problem. The present study has been conducted on a sample of only 200 students however findings on a larger sample will help to generalize the outcomes.

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Attitude of Student Teacher-Educators (M.Ed. Students) Towards Research

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Abstract

In today's lightening fast changing world, it is necessary for a teacher to achieve ongoing professional, academic, occupational and professional growth through pursuing research in their teaching area. Students who join master of education (M.Ed.) Programme have variety of motives. In M.Ed. They get first exposure to educational research as a part of their study. Attitude of M.Ed. Students are most important for the future innovations in educational field. In present study, the attitude of M.Ed. Students towards research was studied. The attitude towards research was the dependent variable of the study whereas the gender, educational stream and semester were the independent variable of the study. The study was a quantitative survey study. From the population one college was selected by convenience sampling method. The sample of 50 M.Ed. Students was selected by cluster sampling method. Data was collected on a self made research attitude scale. To analyze the data, sigma score was obtained and on the basis of these sigma score, 'chi square test' was administered. The results of the present study show that, overall, prospective teacher educators have neutral and slightly positive tend of attitudes towards research. Gender, educational stream and semester are not affecting variables on the attitudes of the M.Ed. Students towards research.

Key words: Student teacher-educators, Attitudes toward research.

Introduction

People behave according to their attitudes. To understand human behavior, attitude is the prime key. Attitude is very important for a teacher. The primary obligation of the teaching profession is to guide the children, youth and adults in pursuit of knowledge and skills to prepare them to the way of democracy, which help them to become happy, useful, self-supporting citizens. A teacher affects students in many ways and can shape their learning experience. Kothari Commission has rightly

said: "The destiny of India is being shaped in her classrooms." This is true but to be able to shape the destiny of our country, our classrooms must be developing and changing according to the demand of time. In today's lightening fast changing world, teachers as knowledgeable, responsible and mature individuals in the lives of students can impact in multiple ways. Some of new demands are added with the passing of time from teachers. To fulfill these new demands, teachers must possess the competencies, sensitivities and skills. In this global society, the role of a teacher is not only limited as a teacher but also extended as a learning mediator, assessor, researcher, facilitator, mentor, curriculum planner, resource developer and so on. That's why it is necessary for a teacher to achieve ongoing professional, academic, occupational and professional growth through pursuing research in their teaching area.

Students who join Master of Education (M.Ed.) programme have variety of motives such as further progression in the carrier, advancement in the pedagogical research knowledge and skills, and better status in the society. During B.Ed. programme, they were trained to acquire teaching skill as a teacher of content and pedagogy. Majority of the M.Ed. students do not have previous research experience. In M.Ed. the student teacher-educators (M.Ed. students) get first exposure to educational research. Here they have to conduct a research as a part of their study. So they may have problems in selecting, planning, in tryout and in writing a research report. At this time, attitude matters for success. Attitude of M.Ed. students are most important for the future innovations in educational field. A positive attitude towards research is a key to success and progress in the knowledge based societies. As a teacher of a Teacher-educator college (M.Ed.) a question came in to the researcher's mind that what type of tend of attitude would be possessed by student teacher-educators (M.Ed. students)? Present research was a quest to answer this question.

Title and Statement of the Problem

Attitude of Student Teacher-Educators (M.Ed. Students) towards Research

In present study, the attitude of M.Ed. Students towards research was studied. The attitude towards research was the dependent variable of the study whereas the gender, educational stream and semester were the independent variable of the study.

Theoretical Consideration

Attitude is the tendency of mind to favour or not to favour some kind of situation or object. It is a learned tendency to evaluate things in a certain way. This can include evaluations of people, situation, issues, objects, or events. Such evaluations are often positive or negative. **Affective Component (**how the object, person, issue, **Cognitive Component** (thoughts and beliefs about the subject) or event makes one feel) and **Behavioral Component (**how the attitude influences behavior) are three main components of attitude.

Review of the Past Studies

Westhuizen, S. (2012) studied Postgraduate students' attitudes towards research, their research self-efficacy and their knowledge of research. The purpose of this study was to determine the degree to which an online module influenced honours students' attitudes towards research, their research self-efficacy and their knowledge of research. An availability sample (N = 279) of postgraduate students enrolled for an online course in research methodology (n = 97 for semester 1 in 2012 and n = 182 for semester 2 in 2012) at a distance education institution in South Africa was used. The attitude towards research scale, self-developed research self-efficacy test and knowledge tests were administered. Dependent t-tests revealed that in general, students' positive attitudes towards research, their research self-efficacy and their knowledge of research increased from the onset to

the completion of the module. However, students' perceptions of the usefulness of research for their careers declined and their research anxiety and self-efficacy with regard to data analysis remained unchanged on completion of the module.

Butt, I. H. and Shams, J. A. (2013) studied Master in Education Student Attitudes towards Research: A Comparison between two Public Sector Universities in Punjab. This study explored the student teacher attitudes towards research. The sample consisted of 194 participants from two public universities of Pakistan by using census sampling technique. The participants were Master in Education students in their second semester. The results showed that student teachers have a negative attitude towards research. A significant difference was found in the attitudes with respect to the type of program and prior areas of specialization.

Muthuswamy, P., and others (2017) studied Attitude Towards Research among the Doctoral Students. A self-developed questionnaire to assess the attitude towards research was used. The sample of 159 students who have completed one year of course work in their doctoral program was selected. The factor analysis yielded 6 factors of attitude towards research. The factors are love for research, research fear, research usefulness and difficulties in research, importance of research and benefits of research. Top three reasons that have high level importance in their decision to join doctoral program are interest in subject domain, wanting to work in a first grade research group and availability of an interesting project. Top three factors that influence the student towards doctoral course are teachers, an enthusiastic mentor and friends.

Significance of the Study

The present research will be useful as its results will potentially provide insights to the curriculum developers, teachers and policy makers regarding the attitudes of trainee teachers' educators towards research. By studying the attitudes of prospective teacher - educators towards research at M.Ed. level, the future planning attitude development programme can be organized if needed. As, the student teacher – educators are going to train future teacher, if they have positive attitude towards research, they can transfer the same in to their students. So, it is very important to study the attitudes of the M.Ed. students towards research.

Objectives of the Study

1. To study the attitude of M.Ed. Students towards research.
2. To study the attitude of M.Ed. Students towards research with reference to their gender.
3. To study the attitude of M.Ed. Students towards research with reference to their educational stream.
4. To study the attitude of M.Ed. Students towards research with reference to their semester.

Questions of the Study

The questions of the study was as follows.

- What kind of tendof attitude will the M.Ed. Students havetowards research?
- Will there be any significant difference between the scores on attitude scale of the male and female students of M.Ed. towards research?
- Will there be any significant difference between the scores on attitude scale of M.Ed. Students having general stream and science stream towards research?
- Will there be any significant difference between the scores on attitude scale of M.Ed. Students studying in first semester and third semester towards research?

1. Explanation of the Important Terms

M.Ed. Students. The students pursuing the Master of Education in the education colleges, affiliated to H.N.G. University, Patan were considered as the M.Ed. students in present study.

Attitude towards Research. Attitude is a tendency to react favourably or unfavourably towards a designated class of stimuli such a national or ethnic group a custom or an intuition (Anastasi, 2008, P. 419). Attitude is considered as a predisposition to behaviour. He further quotes that the term 'attitude' has been most frequently associated with social stimuli and with emotionally toned responses. It also often involves value judgments.

In present study, the attitude of the M.Ed. students towards research means the predisposition of M.Ed. students towards research. Here the attitude towards research was measured on the bases of the score gathered on Research attitude scale. The score of the score is considered as the attitude towards research.

Attitude Scale. In present study, Attitude Scale means a self prepared five point rating scale, consisted of 20 items. It was consisted of four components such as research usefulness, research anxiety, positive attitudes and research difficulties. The higher score on the scale represents positive attitude towards research. The scale was comprised of both negative and positive worded items. The higher score represented higher (positive) level of attitude.

Variables of the Study

Table 1 represents the variables of the study and the tool used to measure that variable.

Table 1

Variables of the Study

No.	Name of Variable	Type of Variable	Levels	Classification of the Levels	Tool Used to Measure
1.	Gender	Independent	2	1. Male 2. Female	Primary Information
2.	Semester in which the Study	Independent	2	1. Semester I 2. Semester III	Primary Information
3.	Educational Stream	Independent	2	1. General 2. Science	Primary Information
4.	Attitude towards Research	Dependent	-	-	Self made Attitude Scale

Delimitations and Limitations of the Study

Present study was limited to the M.Ed. students studying in the M. Ed. Colleges affiliated to the Hemchandracharya North Gujarat University, Patan.

The following were the limitation of the study.

- The Research Attitude Scale was self made.
- A sample of 50 students was selectedfrom M.Ed. Students of Smt. R. K. D. Khanushiya M.Ed. College, Palanpur (Gujarat).

Research Method of the Study

The aim of the research was to study the attitude of M.Ed. Students towards research. So, the present study was a quantitative survey study.

Population of the Study

The population of the present study was the scholars seeking Master of Education Course during the academic year 2018-19 of education colleges affiliated to H. N. G. University, Patan (Gujarat). There were total 19 colleges affiliated to HNGU, Patan.

Sample of the Study

In present study, the sample of 50 M.Ed. students was selected. The college was selected by convenience sampling method. So, Smt. R. K. D. Khanushiya M.Ed. College, Palanpur (Gujarat) was selected. As the students got online admissions as per their merit, the researcher has selected one college to collect data. The students were selected by cluster sampling method. By this way, 50 students were selected in the sampling. Out of 50 M.Ed. students, 23 were studying in semester 3 and the rest 27 were studying in semester-1in Smt. R. K. D. Khanushiya M.Ed. College, Palanpur (Gujarat).

Tool of the Study

A self made Research Attitude Scale was prepared. The scale was five point rating scale, consisted of 20 items which was consisted of four components such as research usefulness, research anxiety, positive attitudes and research difficulties. The items were constructed and then experts' opinions were collected. The scale was piloted. The items were selected on the basis of 't' value and 'r' value. Thus, 20 items were selected after piloting. The reliability of the scale was established through test -retest method. Reliability of the scale was 0.68. The scale was having content validity and face validity. The higher score on the scale represents positive attitude towards research. The scale was comprised of both negative and positive worded items and a higher score represented higher (positive) level of attitude.

Statistical Techniques Used

To analyze the data, sigma score was obtained and on the basis of these sigma score, 'Chi square test' wasadministered.

Presentation of the Data and Analysis

To analyze the data inferential statistics were used. Tendof attitude towards research was analyzed by sigma score. The total score on attitude scale was found out. Then on Normal probability curve, the sigma scores were computed.

Table 2 shows the range of sigma score, observed frequency, percentage and calculated chi-square value for total M. Ed. Students.

Table 2

Tend of Attitude Towards Research

Tend of Attitude	Range of Scores	Observed Frequency	%	Chi –Square Value
Highly positive	61 or more than it	01	2%	162.20**
Positive	59-61	02	4%	
Neutral	53-58	46	92%	
Negative	52-50	01	2%	
Highly negative	49 or less than it	00	0%	

** means significant at 0.01 level

It means there is significant difference in tend of attitude towards research. From table 2, it can be concluded that the students are having neutral (92%) and positive attitude(6%) towards research.

Only 2% students are having negative attitude towards research. So, it can be concluded that the tendency of attitude towards research is neutral and tend of attitude is slightly positive in M.Ed. students.

Attitude Towards Research and Gender. Table 3 shows the range of sigma score, observed frequency, percentage with reference to their gender and calculated chi-square value.

Table 3

Tend of Attitude Towards Research with Reference to their Gender

Tend of Attitude	Male			Female			
	Range of Score	Observed Frequency	%	Range of Score	Observed Frequency	%	Chi –Square Value
Highly positive	65 or more than it	1	4.17%	66 or more than it	1	3.85%	2.02 (Not Significant)
Positive	60 to 64	2	8.33%	61 to 65	2	7.69%	
Neutral	52 to 59	20	83.33%	53 to 60	22	84.62%	
Negative	48 to 51	1	4.17%	50 to 52	0	0%	
Highly negative	47 or less than it	0	0%	49 or less than it	1	3.85%	

It means there is no significant difference in tend of attitude towards research with reference to their gender. From table 3, it can be concluded that the male students are having neutral (83.33%) and positive attitude (9%) towards research while the female students are having neutral (84.62%) and positive attitude (11%) towards research. Only 4.17% male students and 3.85% female students are having negative attitude towards research. So, it can be concluded that the tendency of attitude towards research is positive in M.Ed. students and gender is not an affecting variable on the attitudes of the M.Ed. Students towards research.

Attitude Towards Research and Semester of the Students. Table 4 shows the range of sigma score, observed frequency, percentage with reference to the semester of the students and calculated chi-square value.

Table 4

Tend of Attitude Towards Research with Reference to their Semester

Tend of Attitude	Semester - I			Semester - III			
	Range of Score	Observed Frequency	%	Range of Score	Observed Frequency	%	Chi –Square Value
Highly positive	61 or more than it	1	4.35%	67 or more than it	2	7.41%	3.44 (Not Significant)
Positive	60 to 58	2	8.70%	63 to 66	0	0%	
Neutral	57 to 53	19	82.61%	62 to 52	24	88.89%	
Negative	52 to 51	0	0%	51 to 48	1	3.70%	
Highly negative	50 or less than it	1	4.35%	47 or less than it	0	0%	

It means there is no significant difference in tend of attitude towards research with reference to their semester. From table 4, it can be concluded that the students of semester I are having neutral (82.61%) and positive attitude (13%) towards research while the students of semester III are having

neutral (88.89%) and positive attitude (7.41%) towards research. Only 4.35% students of semester I and 3.70% students of semester III are having negative attitude towards research. So, it can be concluded that the tendency of attitude towards research is positive in M.Ed. students and semester of the student is not an affecting variable on the attitudes of the M.Ed. Students towards research.

Attitude Towards Research and Educational Stream of the Student. Table 5 shows the range of sigma score, observed frequency, percentage with reference to the educational stream of the students and calculated chi-square value.

Table 5

Tend of Attitude Towards Research with Reference to their Educational Stream

Tend of Attitude	General Stream			Science Stream			
	Range of Score	Observed Frequency	%	Range of Score	Observed Frequency	%	Chi –Square Value
Highly positive	66 or more than it	1	3.70%	63 or more than it	1	4.35%	2.90 (Not Significant)
Positive	62 to 65	1	3.70%	60 to 62	0	0%	
Neutral	53 to 61	24	88.89%	53 to 59	21	91.30%	
Negative	49 to 52	1	3.70%	50 to 52	0	0%	
Highly negative	48 or less than it	0	0%	49 or less than it	1	4.35%	

It means there is no significant difference in tend of attitude towards research with reference to their educational stream. From table 5, it can be concluded that the students of general stream are having neutral (88.89%) and positive attitude (7%) towards research while the students of science stream are having neutral (91.30%) and positive attitude (4.35%) towards research. Only 3.70% students of general stream and 4.35% students of science stream are having negative attitude towards research. So, it can be concluded that the tendency of attitude towards research is positive in M.Ed. students and educational stream of the student is not an affecting variable on the attitudes of the M.Ed. Students towards research.

Findings of the Study

- Tend of attitude towards research is neutral and having slightly positive tend towards research in M.Ed. students.
- Tend of attitude towards research is positive in M.Ed. students and gender in not an affecting variable on the attitudes of the M.Ed. Students towards research.
- Tend of attitude towards research is positive in M.Ed. students and semester of the student in not an affecting variable on the attitudes of the M.Ed. Students towards research.
- Tend of attitude towards research is positive in M.Ed. students and educational stream is not an affecting variable on the attitudes of the M.Ed. Students towards research.

Conclusion

The results of the present study show that, overall, prospective teachereducators have neutral or having slightlypositive attitudes towards research irrespective of their gender, educational stream or semester in which they study. This is the good sign for their futureprofession.Students should be motivated more and more to conduct more and more research in future during their service as a

teacher. Students having positive attitude towards research should be motivated and should be provided intensives so that their positive attitude retain.

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School Internship Programme: Inclusion of Prospective Teachers to Become Professional

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Abstract

School internship programme is a tool to develop professional teachers. Connecting prospective teachers globally utilizing teacher training programme will bring the learners' community together and reduce the distance among the knowledge seekers. The models of internship are performed in isolation (Chennat, 2014). Considering the current structure of the internship programme prescribed by the National Council for Teacher Education, the aim and objective of this study is to found various practical ways to collaborate prospective teachers through teacher training programs globally (Yadav, 2011). The study has focused on and discussed the training modules being practiced in India. The paper has suggested practical alternatives for teacher training modules using ICT to connect the prospective teachers globally.

Keywords*: School Internship Programme, Teacher Training, Inclusion, Prospective Teachers and* Professionalism

Introduction

The key to developing professionalism in a prospective teacher is 'practice'. There is a saying that, the more you practice the more you will achieve perfection. School internship is a continuous commitment towards the school for a fixed period is known as 'school internship', which includes a combination of theory and practice. National Council for Teacher Education (NCTE) defines an internship as 'a prolonged engagement with the school for defined time is called school internship'. Practica are held to build a connection between real-world classrooms and theories taught in the classroom by the subject specialists. Internship is a tool to make prospective teachers aware of real-world classroom scenario, and how the school as a whole runs on a daily basis containing various tasks and activities.

In this case, the role of the mentor teacher turns out to be critical. It is a time to understand and accept the fact that, school internship is not only about 'preparing lesson plans', 'executing prepared lessons in front of learners', and 'making journals based on the task performed in the classroom'.

The world is adopting technology rapidly in every possible manner, in almost all existing professions. This brings a fresh challenge for existing teachers as well as for prospective teachers to develop compatibility and ease with the use of technology. A development of comparison generates in the mind of students using technology. Online tutorials and tutors are just a click away from learners, knowingly or unknowingly learners start comparing their teachers from whom they learn in the classroom. So this is an ongoing test for teachers to sustain learners' interest in classroom teachings as technology and Artificial Intelligence (AI) are becoming a part of teaching methods. Those teachers who are working in such conditions where the infrastructure of the school lags in technology create a tough scenario for teachers to bring back the interest and attention of students in the classroom.

In India, the statutory body NCTE is regulating teacher education. As per NCTE, the in-depth engagement of prospective teachers in the internship shall build a clear understanding, proficiencies, and skills of the 21st century. The conception of school internship has been changed now, where the practice is sharing an equal ratio of importance with theory. NCTE Regulations, 2009 has attempted to widen the coverage of practice-teaching. Enough of emphasis has been given to experience all the activities exercised in the school by providing various opportunities under the umbrella of 'school internship programme'.

Countries like Finland, Japan have multiple levels of internship structure for their prospective teachers, which clearly indicate the huge importance given to internships in preparing quality professionals. Whereas countries like India, Sri Lanka, and Bangladesh have different practices. Considering the availability of resources, population, several admissions, and availability of schools play a vital role in shaping the prospective teachers and so the nation.

As the world is shrinking every moment with the use of technology, it is easy to understand the significance of being aware and updated with time to cope up with future demand in various aspects of life.

Internship Scenario in Bangladesh, Japan, Finland, Sri Lanka, and India

In India, as per NCTE Regulations, it is a must to have a professional teaching degree to teach in the school, whereas in a country like Sri Lanka, professional qualification is not required to teach in the classrooms.

A ‘Study on the Professional Development of Teachers and Teacher Educators in Sri Lanka’, done by the National Education Commission, Sri Lanka reveals that concerning to developed countries, pre-service teacher education is lagging in Sri Lanka and have an immense scope of improvement in the area of teacher education. Whereas in Finland, much emphasis have been given on rigorous training for the preparation of prospective teachers. In Sri Lanka, majorly three institutes facilitate teacher education programme. University of Colombo (UoC), Eastern University of Sri Lanka (EUSL), and The Open University of Sri Lanka (OUSL) provide Teacher Education, wherein OUSL focuses majorly on Drama and Theatre. It is specially meant for B.Ed. in Drama and Theatre in collaboration with an organization other than the University. In the era of information and technology, one thing which makes a difference is, in teacher education programme UoC has made ICT compulsory whereas EUSL does not provide ICT as a core or elective course in its teacher education programme (National Education Commission Sri Lanka, 2016). The four-year B.Ed.

programme is common in all three universities with minor changes. First-year is common for all the enrolled prospective teachers. In the second and third year of programme the prospective teacher will choose from the given electives. In the fourth year, prospective teachers undergo the teaching training and learn about classroom management, content delivery, and various concerned aspects of the teaching profession.

In Finland, the duration of B.Ed. is 3-4 years or 4-5 years, which includes exhaustive teacher training under the observation of senior teachers and peers too. Two years of the internship have been dedicated in the four years of the degree programme of becoming a teacher. Teacher training happens at two levels; 1) for Elementary schools, 2) for secondary education. Two types of training take place. Initial training is known as 'harmony internship' under which observation of the classroom happens at multiple levels such as different grades, different curricular and co-curricular activities, in the second phase of teacher training known as 'basic internship' prospective teacher takes classes under the observation of supervisor and subject expert. In this phase, only remarks and criticized comments are shared with the prospective teacher. The aim behind going through such a process is to prepare prospective teacher for the real-world classroom, where a teacher encounters herself/himself with various kinds of difficulties occurs in the actual classrooms. (Baskan, Yilidz, and Tok, 2013). Practice teaching happens in practice schools affiliated with the education department. (Kansanen, 2003). Finland is known for its strong education system and for the importance given to prepare one of the world's best teachers.

Another study on Japan shows that every Japanese teacher undergoes training to achieve a teaching certificate based on their subject requirement. There are three levels of certification namely 1) advanced level 2) the first level and 3) the second level. To become a teacher one may choose from the given two directions: 1) a Two-year course at junior college and 2) a four-year course at a university level. The study also focuses on the difference in the training given in the United Kingdom and Japan. The theory remains the focus of training in Japan. A survey conducted on 100 teachers in Japan come up with the findings that, prospective teachers of language subjects have not undergone any training for teaching methodology, classroom management, or general educational practice. On asking upon the status of training one of the teachers explained that, "When I started teaching I just started with the methodology my teacher used in her classroom, taught me in my high school and showed me how to teach on teaching practices" (Lamie, 2006). The study also reflects upon the varied duration of teaching practices in the classroom, which contains 2 weeks teaching practices by 70% of total prospective teachers, 3-6 weeks teaching practices in the classroom by 26% of total prospective teachers, and maximum 7-9 weeks of teaching practices by 4% of the total number which is very nominal in total. The study also reveals that the teacher does 'help' prospective teacher in preparing lesson plans which means preparing a perfect lesson plan on paper (Lamie, 2006).

In India, the internship programme allows prospective teachers to flourish their teaching methodology and techniques in government and private schools at a time, whereas in Bangladesh teaching practice takes place in private schools only. The duration of the internship also differs; NCTE has fixed 20 weeks of internship, while in Sri Lanka and Bangladesh it lasts for about five weeks to eight weeks. (Yadav, 2011).

Considering all the subjects offered in the B.Ed. programme across the mentioned institutes, structure & duration of programme, each stage of internship, area covered in performing teaching practices, and developing the skills of teaching, there is no visible evidence of collaboration with

any of teacher education institutions with other teacher education institutions. Only Japan emerges as an exception; the Japanese teacher education system has been sending their prospective language teachers to the United Kingdom, native speakers of English to teach their prospective teacher a communicative language fluently along with its methodology of delivering lessons to the learners (Lamie, 2006). Teachers are the pillar of any nation. There is a proverb that when a teacher fails, their nation too. When the study is focusing on a school internship programme in the era of globalization, it is so much important to not see the noble profession of teaching in isolation and understanding the need for an hour to build the connectivity among the community of learners, the prospective teachers by brining reformation in the curriculum and structure of school internship, which is currently in practice.

Observations and Suggestions to Connect the Prospective Teachers Globally

Building connection among various teacher education institutes and education faculties are important, as it opens up I) an opportunity to interact with the non-university member, II) to know the teaching culture, III) to understand the perspective on common curriculum across the globe, and IV) to learn from the unknown at their best. As various studies depict, some of the world's best practices are also lagging in connecting the teacher education institutions at any platform like Finland, Japan.

Bridging the institutions using the platform of the internship will be a huge step, which will open a window for a prospective teacher to explore, learn, un-learn, re-learn and widen the horizon of understanding in their respective areas of the teaching profession. Interaction with another prospective teacher, who is unknown to other prospective teachers, can provide the immense scope of discussion and learning without leaving the scope of 'being biased' or 'judgmental' towards each other.

Making ICT an Undivided Tool of Learning

Information Communication and Technology (ICT) have become an integral part of life and profession across the globe. As ICT reflects, is an essential tool in the era of globalization and technology. Considering the gigantic information available on one click, it is essential to recognize its potential in bringing change and enhancing professional skills regardless of any area of any profession.

In today's time, irrespective of any profession, it is a need of an hour to develop the skills which are accepted and expected to flourish and contribute to the chosen profession. No technology can replace the teacher. But considering the tilt that the world is moving towards Artificial Intelligence (AI), the role of teacher or prospective teacher will change. So, enabling prospective teachers towards technology using ICT is an important component of the internship programme.

Connecting Teacher Education Institutions across the Globe

There is a say that, a smile is a common language across the globe, and so does it implies the process of teaching & learning too. The teaching process is about having a passion to teach & learn both from the learners' end as well as from peers' and supervisors' end too. What matters the most to teach & learn is to have an enthusiasm and not merely the fluency in the language and knowledge of the content.

Language matters in communication but it cannot stop anyone from the process of learning. While linking the teacher education institutions across the globe language can be a barrier but using technology, enabling ICT in the process of learning, this barrier can be mitigated. Rationally and

culturally exchanging experiences and learnings of prospective teachers will develop a new perspective and will be helpful in understanding and knowing the context.

Providing a Platform to Commence Research in Collaboration with Non-Institutional Prospective Teacher

Being in the profession of teaching and learning, having the mindset of 'researcher' is imperative for a prospective teacher as well as for the whole teaching community. To develop an attitude of 'researcher' it is essential to understand the concepts of research and taking hands-on experience by conducting research is the key to develop the mindset of 'researcher'. Each child is different from another child. Understanding the need and learning methods of the child is the center of the teaching profession. Here, it is an institutions' responsibility to create a conducive environment for prospective teachers, where two or more prospective teachers from different institutions can research on a single or similar topic to understand the content and context of the child, to understand the area prospective teacher needs to work upon. Characteristics like being less judgmental - less biased, and more enthusiastic to understand the child and their needs will be developed as a part of this process.

Creation of Expert Teaching Community to 'to observe' and 'being observed' by other Prospective Teachers and Subject Experts

Based on the need and context, different teaching practice takes place across the globe. It is very common phenomena that, prospective teacher or learner receives guidance from their mentor or supervisor. The idea of 'to observe' and 'being observed' by other prospective teachers, mentors, subject experts, and/or supervisors of the department is a fresh way of learning.

Enabling ICT in the process of learning, getting feedback from the prospective teachers who are not from the same institution, mentor, subject expert, and supervisor who belongs to different institutions but commands a great level of knowledge and understating in the same area will be a huge benefit for the one who is 'being observed'. In both the conditions where one prospective teacher 'observes' other prospective teachers and 'being observed' by their peers will contribute to reducing boundaries and bringing 'teaching community' together.

Understanding Emotions

Emotions are the driving force behind any act done by an individual. If an individual decides to become a teacher, there is a driving force behind that decision. For any person, it is not possible to not have emotions. 'Emotionlessness' is a state of mind containing 'nothing'. Teaching is an emotion-driven field. It enables prospective teachers to understand the 'pre-conceived ideas on teachers & teaching', 'diverse culture across the globe', and 'personal nature of 'self' and of 'others'. Connecting prospective teachers will widen the degree of acceptance; hence this will build the emotion of 'oneness' towards the teaching community globally. Strengthening community across the states is fuel for prospective teachers. Receiving recognition and respect globally inspires an individual to work with dedication and ultimately enhances the efficacy of prospective teachers.

Development of 'Sense of Belongingness'

There is a say that 'the deeper the roots, the greater the fruits'. As various researches suggest, a sense of belongingness develops deeply when student-faculty, a community of prospective teachers' interaction takes place in different forms such as formal – informal talks, social and/or academic talks. Certain kind of talk affects prospective teachers' academic outcomes, their intellect, and development as an individual, level of satisfaction, and sense of belongingness. Classroom environment during regular classes and time invested during internship nurture the minds of

prospective teachers. The role of a mentor teacher, subject facilitator, and relationship with peers impacts both positively or negatively which results in their academic performance depends on the experiences prospective teacher obtains from the milieu.

Conclusion

Various studies have shown that teaching practices are happening in isolation. Teacher education institutions are not attached to other teacher education institutions in the country or across the globe. In the era of globalization and technology, the construction of quality teachers is a need of an hour. Various educational regulatory bodies and agencies for children have approved blended learning models, flipped classroom methods, experiential learning methods, but to facilitate such teachings we are still lagging in bringing prospective teachers and teacher education institutions on one platform across the states and globe. Bridging the gap among the teacher education institutions will ultimately help to know each other academically and culturally which further strongly contributes to creating a 'quality teacher' for tomorrow's nation builders.

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