THE EDUCATIONAL BEACON
A RESEARCH JOURNAL

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CHANDIGARH
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Views expressed in the research papers are the personal opinions of the contributors. The Editor-in-Chief and Editorial Board will not be responsible for these. All disputes are subject to the jurisdiction of U.T. Chandigarh courts only.
I feel happy to learn that Government College of Education is publishing their annual journal, "The Educational Beacon" which will highlight the research work of proficient researchers and academicians.

Education based on research is a necessity in the present age. Journals like "The Educational Beacon" act as enlightening source of knowledge for students, teachers, academicians and researchers. I am sure that this compilation of important researches will be of great benefit to all.

I convey my best wishes to the staff and hope that they continue to do such valuable work with utmost zeal in the future.

Anurag Agarwal, IAS
Secretary Home cum Secretary Education
Chandigarh Administration
Education and research activities are focused on making a real difference to individuals and communities. We want to grow and enhance this impact, something we simply cannot do alone.

Consistent research teaches to be resourceful. The more time one spends looking for answers, the more opportunities stream into one’s consciousness. Basic arithmetic, reading and writing will eventually get us somewhere but not everywhere. The higher our innovative tendencies, the better are the chances and opportunities in life.

The future holds really exciting possibilities for mankind. We should want to make the very most of them - to design and deliver education in ever more effective ways; to build on the research expertise and excellence; all within a rapidly evolving global context. To do this, we need increasingly innovative teachers and researchers who are ready to experiment with new approaches.

I believe it is important for intellectuals in today’s society to have knowledge of research methodologies and the effective implementation because researching specific theories, ideologies, and aspects progresses society further towards a better version of the truth.

I appreciate the endeavour of Govt. College of Education to provide this quality platform to the researchers and I wish The Educational Beacon to continue to excel and share outstanding educational research.

Jitender Yadav, IAS
Director Higher Education
Chandigarh Administration

MESSAGE

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PREFACE

"Together we grow", is a very profound and impressive thought which has enabled human society to grow with a thought of togetherness. With the evolution of our intellect, evolved a pattern to communicate, and necessities gave birth to inventions, and inventions in turn inspired creativity and research.

The rapid pace of growth today has brought to the fore compelling issue of effective management of the educational programs so as to better prepare our youngsters for the fast evolving competitive environment. The primary focus of most of the educational institutions is on focusing their energies on overall quality of education and making their students more employable so that they can make meaningful contribution towards the society. This focus can be accomplished not only with effective education delivery but also with filling the gaps with the help of research and its due application.

Research is not always a concept that practitioners, managers and policy makers respect. Too often it is seen as an academic activity conducted by others - to the profession, not with the profession. When education and research will become inseparable, not only in theory but also in practice, then only we can expect a new dawn of learning and education. Conducting research in an educational setting should be an important aspect of every educator's professional life.

Our Journal The Educational Beacon provides a range of research papers that speak of the major issues in education. On behalf of the editorial team of the journal, I would like to thank our readers, authors, and reviewers. My sincere gratitude goes to all reviewers, who provided valuable feedback to authors and made producing the current issue of journal possible which is dedicated to advancing the field of education through the quality research.

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Usage of Mobile Applications for Learning English Language

Dr. Meena* & Ms. Poonam Kumari Sahni**

Abstract

Mobile applications particularly of English language like 'Oxford-Dictionary', 'Learn English Grammar', 'Speak English', 'Hello-Hello' etc. focus on listening, speaking, reading, writing, grammar, vocabulary etc. of English language. These applications do not focus just on learning English language but on learning it in an interesting, easy and innovative way by involving multi-senses through multi-media. The present paper attempts to study awareness of 200 students towards usage of mobile applications for learning English language. The major findings of the study were (i) there exists significant awareness among students towards usage of mobile applications for learning English language and (ii) there exists no significant difference in awareness among boy and girl students towards usage of mobile applications for learning English language.

Keywords: Awareness, Mobile Applications, English Language

Introduction

With the advancement in technology, mobile phones are providing different types of applications which have become popular forms not only of entertainment but also of learning like Contact, Clock, Calendar, Calculator, Mobile Music (radio, songs and movies), Email, Global Positioning System (GPS), Banking, Order Tracking, Ticket Purchasing etc. The advanced mobile technology has provided various educational mobile applications like Wikipedia, TED etc. These educational mobile applications have also brought a revolution in the field of education resulting in students' learning particularly of English language.

English Language

English is a West Germanic language that was first spoken in Anglo-Saxon England in the early Middle Ages. It is now the most widely used language in the world. It is spoken in many countries around the world. It is the first language of the United Kingdom, the United States, Canada, Australia, Ireland, New Zealand and a number of Caribbean nations. English consists

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*Assistant Professor, Government College of Education, Sector-20-D, Chandigarh
** Ex. Resource Person (English), Post Graduate Government College, Sec.-11, Chandigarh
of the following four components without which learning of English language is not possible (as depicted in Figure 1):

![Figure-1: Components of English Language](image)

**Mobile Applications**

Mobile applications, popularly known as mobile apps, are computer programs or software designed to run on smart phones, tablets and other movable electronic devices like e-readers, laptops, etc. They are usually available through application distribution platforms which began appearing in 2008. They are typically operated by the owner of the mobile operating systems like Apple App Store, BlackBerry App World, Google Play and Windows Phone Store. Some mobile applications are free and some are chargeable. Usually, they are downloaded from the platform to the target devices like iPhone, BlackBerry Phone, Android phone or Windows Phone but sometimes they can be downloaded to laptops or desktop computers too. Some of the useful mobile applications for learning English language have been given in the following Table 1:

**Table-1: Name of Mobile Applications for Learning English Language**

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Mobile Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Listen &amp; Speak</td>
</tr>
<tr>
<td>2</td>
<td>Busuu</td>
</tr>
<tr>
<td>3</td>
<td>Cartoon- Free English</td>
</tr>
<tr>
<td>4</td>
<td>Speak English Pictures</td>
</tr>
<tr>
<td>5</td>
<td>English Podcast for Learners</td>
</tr>
<tr>
<td>6</td>
<td>Fluent English</td>
</tr>
<tr>
<td>7</td>
<td>Learn English Elementary</td>
</tr>
<tr>
<td>8</td>
<td>Language Verb Trainer</td>
</tr>
<tr>
<td>9</td>
<td>English Irregular Verbs</td>
</tr>
<tr>
<td>10</td>
<td>PvP- Phrasla Verbs</td>
</tr>
<tr>
<td>11</td>
<td>Guide to English Idioms</td>
</tr>
<tr>
<td>12</td>
<td>Question Tags</td>
</tr>
<tr>
<td>13</td>
<td>Lang Learner English Idioms</td>
</tr>
<tr>
<td>14</td>
<td>50 Languages</td>
</tr>
<tr>
<td>15</td>
<td>English Level Checker</td>
</tr>
</tbody>
</table>

Usages of Mobile Applications for Learning English Language

- **Listening Skill**: By having English listening practice session through audio-videos prepared by native speakers of English language
- **Speaking Skill**: By having English speaking sessions in different accents with immediate feedback
- **Reading Skill**: By having English reading practice sessions with immediate feedback.
- **Writing Skill**: By having English writing practice sessions with immediate feedback.

**Review of Related Literature**

Berk (2009) found that when watching videos, people experience feelings which enhance the learning capabilities. Godwin and Jones (2009) found that mobile phone technology is expected to provide greater assistance to language learners using their mobile devices. Cavus and Ibrahim (2009), Eisa (2012), Rachel H. et al. (2013), Melissa (2014) and Rana (2012) also supported that technological devices should be always used by students and teachers to enhance learning outcomes. The results of an experimental study conducted by Basal et al (2016) demonstrated the effectiveness of mobile applications on learning idioms. Suen and Fung (2016) paper described a project which examines the current developments in mobile learning applications of English literature with a focus on Shakespeare related apps listed in iTunes. Prabhakaran (2016) in his conceptual paper on learning through technology discussed and favored MALL (Mobile Assisted Language Learning).

**Emergence of the Problem**

It came to the observation of the investigators that some of the pupil teachers were using many free of cost mobile applications available in their mobile phones not only for the purpose of entertainment but also for the purpose of learning particularly for learning English language such as for reading e-books, for locating the meaning of difficult English words in English as well as in Hindi, for checking the spelling of tough words, for knowing the method of pronouncing new words, for correcting the grammatical mistakes etc. To find the educational benefits of this new digital way of learning, the investigators simply got fascinated and inspired to explore and to spread this educational world of mobile applications to the students to equip them with the latest devise to develop their skills especially their skills of English language.

**Objectives of the Study**

- To study awareness among students towards usage of mobile applications for learning English language.
- To compare awareness among boy and girl students towards usage of mobile applications for learning English language.
Hypotheses

**HO.1**: There exists no significant awareness among students towards usage of mobile applications for learning English language.

**HO.2**: There exists no significant difference in awareness among boy and girl students towards usage of mobile applications for learning English language.

**Delimitations of the Study**

The study was delimited to Government Senior Secondary School students of Union Territory of Chandigarh only.

**Tool used in the Study**

Mobile Applications Usage Awareness Questionnaire (MAUAQ), developed and validated by the investigators themselves, was used with the objective to know awareness among students towards the usage of mobile applications for learning English language. The questionnaire consists of 33 items with Yes/No options. The face validity and content validity of the questionnaire were ensured by taking opinion of subject experts of English and Computer Science of different colleges of Chandigarh and Panjab University, Chandigarh. The response of each respondent was scored as per the response options available - Yes/No. For every correct response (i.e. 'Yes'), the score point was 'one' while for every wrong response (i.e. 'No'), the score point was 'zero'. Reliability of the questionnaire was ensured by computing Point-Biserial Correlation of all items. The computed value of Point-Biserial Correlation of each item of the questionnaire was above 0.25 and so considered them to be 'good' items. Thus, the investigators presumed the questionnaire to be reliable for the present study after its validation process.

**Sample and Design of the Study**

The sample and design of the study has been presented in the following Figure-2:

![Sample and Design of the Study](image-url)
Out of 39 Government Senior Secondary Schools in Union Territory of Chandigarh, four schools were selected randomly by using Simple Random Sampling Technique i.e. Lottery System. Out of the selected four schools, the list of 2865 students was taken as population. To get a sample of 200 students out of these 2865 students, all students' roll numbers were entered into spreadsheet and a random number was assigned to each student and then the list was sorted by random number. Thus, sample of 200 students was drawn randomly, selected from selected four schools. The students were compared with regard to the criteria that they were studying in Senior Secondary classes irrespective of the streams they have opted like Arts, Science, and Humanities. The study was conducted in the year 2015-16.

**Procedure of Data Collection**

The data was collected from the students by getting them fill the questionnaire. Then, the questionnaires were scored according to the prescribed scoring keys and the data, thus obtained, was subjected to statistical analysis.

**Statistical Techniques**

The descriptive statistical techniques like mean, standard deviation and inferential statistical techniques like chi-square, t-test were used.

**Analysis and Interpretation of the Data**

1. Mean Scores: The Mean and Standard Deviation of the scores of students for usage of mobile applications for learning English language were computed and have been recorded in the Table 2:

<table>
<thead>
<tr>
<th>Serial No.</th>
<th>Sample</th>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-value</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>All Students</td>
<td>200</td>
<td>25.79</td>
<td>3.780</td>
<td>-</td>
</tr>
<tr>
<td>2</td>
<td>Boys</td>
<td>100</td>
<td>26.18</td>
<td>3.935</td>
<td>1.463</td>
</tr>
<tr>
<td>3</td>
<td>Girls</td>
<td>100</td>
<td>25.40</td>
<td>3.596</td>
<td></td>
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</table>

Table-2 reveals that although the mean scores of boy students were found to be higher than the mean scores of girl students yet the difference among them was not much.

2. Chi-Square Value: The chi square value for N=200 was computed. The calculated value of chi square of all students was 2092.00 and was significant at 0.01 level. Thus, $H_o$ that there exists no significant awareness among students towards usage of mobile applications for learning English language was rejected at the specified level of significance.
• t-value : Table-2 reveals that the calculated value of $t = \pm 1.463$ for boy and girl students towards usage of mobile applications for learning English language was not found to be significant even at 0.05 level of confidence. Thus, $H_o^2$ that there exists no significant difference in awareness among boy and girl students towards usage of mobile applications for learning English language was accepted at the specified level of significance.

Discussions of the Results

• The result based on $H_o^1$ that there exists significant awareness among Government Senior Secondary School students towards usage of mobile applications for learning English language seemed to be consistent with the findings of the study conducted by Rana (2012) that mobile phones are used for teaching and learning purposes among both teaching staff and the students. The results also seemed to support the findings of the study conducted by Rachel et al. (2013) that the usefulness of mobile devices has increased greatly in recent years allowing users to perform more tasks in a mobile context. Khanghah and Hallii (2015) also stated that the rapid development of technology has touched almost all aspects of life such as education and new development of the Internet and mobile devices has impact on education.

Thus, in the present study, it meant that the students used mobile phones for learning purposes only because they had sufficient awareness towards them.

• The result based on $H_o^2$ that there exists no significant difference in awareness among Government Senior Secondary School boy and girl students towards usage of mobile applications for learning English language seemed to support the findings of the study conducted by Cavus and Ibrahim (2009) that the students, irrespective of their sex, enjoy and learn new words with the help of their mobile phones. The result of the study seemed to be consistent with the findings of the study conducted by Godwin-Jones (2011) that today, new iPhone or Android phone users face the quandary of which of the hundreds of thousands of apps (applications) they should choose where it seems that everyone-male or female from federal government agencies to your local bakery has an app available. This phenomenon, not surprisingly has led to tremendous interest among educators. Mobile learning (often 'm-learning') is in itself not new, but new devices with enhanced capabilities have dramatically increased the interest level, including among language educators.

Thus, it meant that both boy and girl students learnt English language with the help of their mobile phones almost equally only because both had almost equal awareness about them.
Educational Implications of the Study

Though the present study was done on Government Senior Secondary School students yet, on the basis of the results obtained from this study, we can sensitize the English teachers, administrators, educational institutions, students and parents towards the usage of mobile applications for learning English language on the following counts:

- The usage of mobile applications for learning English language can be used effectively not only to learn English language but also to learn many other languages like Hindi, Punjabi, etc.
- Students should be made more aware about the English language learning mobile applications by the teachers, administrators and parents so that they may excel in English language.
- Teachers can guide their students to use mobile phones for educational learning purposes.
- A mechanism should be build up by the teachers and administrators with Do's and Don'ts where the students can have access to mobile applications during teaching-learning process of English language in school campuses.

References


STUDY HABITS OF SENIOR SECONDARY SCHOOL STUDENTS IN RELATION TO THEIR ACADEMIC ACHIEVEMENT IN SCIENCE

Dr. Vandana Aggarwal* & Ms. Jaspreet Kaur**

Abstract

The present study was conducted to examine the study habits of senior secondary school students in relation to their academic achievement in science. The sample comprised of 80 students studying in private senior secondary schools of Chandigarh. The data was collected by using Study Habits Inventory (SHI) by Mukhopadhyay and Sansanwal (2005) and marks in science obtained in the previous class were taken as academic achievement scores. The findings revealed that significant difference was found in study habits of senior secondary girl and boy students whereas no difference was found in the academic achievement in science in relation to gender. Significant correlation between academic achievement in science and study habits was found.

Keywords : Study habits, Academic Achievement, Science

Introduction

Habits play a pre-dominant role in determining the quality of one's life. The habits of the individuals shape their personality and character, which in turn shape their destiny. Inculcation of good habits have been emphasized by all cultures and societies of the world so that individuals lead a happy and successful life. Habits are surely crucial factors in paving path in one’s life. Every human being aspires to be successful. Out of many factors contributing for a successful life, academic achievement is considered to be a pivotal one. In today's highly competitive world, excelling in academic achievement has become a major drive among students to ensure their successful professional future. Study habits seem to play an important role in achieving desired level of academic performance.

In simple terms, a study habit is, buying out a dedicated scheduled and uninterrupted time to apply one's self for the task of learning. These learning tendencies enable students to work privately. So, it is a well-planned and deliberate pattern of study which has attained a form of consistency on the part of the students towards understanding academic subjects and passing at examination (Chowdhury and Ghose, 2014). Study habits are mainly external factors that facilitate the study process such as sound study routines that include how often a student engage in studying sessions, review the material, self-evaluate, rehears explaining the material, and studying in a conducive environment. Study habits refer to the tendency of

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A student to use his/her uninterrupted attention to acquire knowledge via systematic routines (Credé and Kuncel, 2008 and Khurshid, Tanveer, and Qasmi, 2012). Several studies have reported a significant difference between the study habits of girls and boys wherein study habits of girls have been found better than boys (Kumari and Cahmudeshwari, 2015 and Singh, 2011), on the other hand, study habits of boys have been found better than girls (Gudaganavar and Halayannavar, 2014 and Khurana, 2014). Contrary to this, some studies revealed no significant difference in study habit of girls and boys (Hassan and Apparao, 2102; Barwal, 2013 and Nuthana and Yenagi, 2009).

Academic achievement refers to what a student has to achieve in different subjects of studies during the course of academic years. It encompasses many aspects of student's accomplishments in school including progress in core academic subjects—maths, science, language, arts and social studies as well as in subjects that are emphasized less frequently in the contemporary curriculum such as athletics, music, arts and commerce (Kaur and Sharma, 2016). Academic achievement is a multidimensional and multifaceted phenomenon. There are innumerable factors which affect academic achievement viz. intelligence, personality, motivation, school environment, heredity, home environment, learning, experience of school, interests, aptitudes, family background, socio-economic status of the parents, and many more. Significant differences in achievement of boys and girls have been reported in several studies wherein boys have been found to outscore girls (Garikai and Bonga, 2010 and Umunadi, 2009) and girls outperforming boys (Asthana, 2012; Kumari and Chamudeshwari, 2015 and Singh, 2011). Some studies revealed that boys and girls did not differ significantly in academic achievement (Nuthana, 2007; Singh and Parveen, 2010).

A number of research findings concluded that study habits and academic achievement are significantly co-related (Ergene, 2011; Mashyekhi et. al, 2014; Sutherman and Vasanthi, 2011 and Vanita, 2011). Sutherman and Vasanthi (2011) also found that girls are better in study habits and academic achievement than boys. On the other hand, there are studies which reveal that study habits of pupils do not have any significant influence on their academic achievement (Lawrence, 2014).

Academic achievement of students in science at senior secondary level is of great importance as it is one of the deciding factors for their admission in various courses in higher education. Along with other factors such as interest, intelligence quotient, aptitude, home and school environment etc., study habits that encompass comprehension, focused attention and following schedules are considered to be crucial for students to achieve high academic scores. Researches carried out in this area do not arrive to conclusive results as the findings of several studies are contradictory. Significant relationship between study habits and academic achievement has been reported by some studies whereas others point towards no significant relationship. These contrary reports aroused investigator's interest and led her to further investigate the relationship between study habits and academic achievement.
Objectives

- To study the differences in the study habits of senior secondary girl and boy students.
- To study the differences in the academic achievement in science of senior secondary girl and boy students.
- To study the correlation in the study habits and academic achievement in science of senior secondary girl and boy students.

Hypotheses

- There exist no significant differences in the study habits of senior secondary girl and boy students.
- There exist no significant differences in the academic achievement in science of senior secondary girl and boy students.
- There exists no significant correlation in the study habits and academic achievement in science of senior secondary girl and boy students.

Delimitation of the Study

The study was delimited to class XI science students studying in three private schools of the Union Territory of Chandigarh only.

Methodology

Research Method

Descriptive survey method was used in the present study.

Tools Used

In the present study, following tools were used:


[2] For academic achievement in science, marks scored in previous years were taken from the school records.

Sample

The study was conducted over a sample of 80 science students (40 boys and 40 girls) senior secondary school students studying in three private schools of Chandigarh. Schools were taken randomly through lottery method and students of science sections were taken in clusters.
Statistical Techniques Used

Data was analysed by employing descriptive statistics such as Mean, Median and Standard Deviation, Skewness, Kurtosis. t-test was applied to determine the significance of the differences between the means of study habits and academic achievement of girl and boy students studying in the schools of Chandigarh. Pearson's Product Moment Correlation was computed to determine the relationship between the study habits and academic achievement in science of girl and boy students studying in the schools of Chandigarh.

Results & Discussion

Table 1: Difference in the study habits of senior secondary girl and boy students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Students</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-Ratio</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study</td>
<td>Boys</td>
<td>40</td>
<td>81.25</td>
<td>27.95</td>
<td>2.40764</td>
<td>05</td>
</tr>
<tr>
<td>Habits</td>
<td>Girls</td>
<td>40</td>
<td>77.7</td>
<td>46.79</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows the calculated t-value between the mean scores of study habits of the senior secondary boy and girl students is 2.40764 which is significant at 0.05 level only. Thus, the hypothesis that there exist no significant differences in the study habits of senior secondary girl and boy students is not retained and alternate hypothesis is accepted. Some studies have reported a significant difference between the study habits of girls and boys wherein study habits of boys have been found better than girls (Gudaganavar and Halayannavar, 2014 and Khurana, 2014). On the other hand study habits of girls have been found better than boys (Kumari and Cahnudeshwari, 2015 and Singh, 2011). Contrary to this, some studies revealed no significant difference in study habit of girls and boys (Hassan and Apparao, 2102; Barwal, 2013 and Nuthana and Yenagi, 2009).

Table 2: Difference in the academic achievement of senior secondary girl and boy students

<table>
<thead>
<tr>
<th>Variable</th>
<th>Students</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-Ratio</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic</td>
<td>Boys</td>
<td>40</td>
<td>172.3</td>
<td>11.56</td>
<td>1.07571</td>
<td>NS</td>
</tr>
<tr>
<td>Achievement</td>
<td>Girls</td>
<td>40</td>
<td>151.55</td>
<td>17.37</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 shows the calculated t-value between the mean scores of academic achievement of the senior secondary boy and girl students is 1.07571 which is not significant at both 0.05 and 0.01 levels. Thus, the hypothesis that there exists no significant difference in the study habits of senior secondary girl and boy students is retained. These findings are suggestive of the narrowing gender gap as in cities like Chandigarh, both girls and boys irrespective of their gender compete equally in their academics. Supporting studies also report similar findings (Nuthana, 2007; Singh and Parveen, 2010). Significant differences in achievement of boys and girls have been reported in several studies. Boys have been found to outscore girls (Garikai, 2010 and Umunadi, 2009) and girls out performing boys (Asthana, 2012; Kumari and Chamudeshwari, 2015 and Singh, 2011).

Table 3: Coefficient of correlation between study habits and academic achievement total students

<table>
<thead>
<tr>
<th>Variables</th>
<th>Study Habits</th>
<th>Academic Achievement</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study Habits</td>
<td>1</td>
<td>0.8476</td>
<td></td>
</tr>
<tr>
<td>Academic Achievement in</td>
<td>0.8476</td>
<td>1</td>
<td>0.01</td>
</tr>
<tr>
<td>science</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows the value of coefficient of correlation between the study habits and academic achievement score in science is 0.8476 (df=78, N=80), indicating that there is a significant relationship between the variables at both 0.05 and 0.01 levels. Thus, the hypothesis that there exists no significant difference in the study habits of senior secondary girl and boy students is not retained and alternate hypothesis is accepted. This finding is in consonance with the inferences drawn by some earlier research studies (Ergene, 2011; Mashyekhi et. al, 2014; Sutherman and Vasanthi, 2011 and Vanita, 2011). Sutherman and Vasanthi (2011) also found that girls are better in study habits as well as academic achievement than boys. Contrary finding by Lawrence (2014) indicated no significant correlation between study habits of pupils and their academic achievement.

Conclusions

On the basis of the findings, we may conclude that:

- There exist significant differences in the study habits of senior secondary girl and boy students. Boys have been found to have better study habits than girls.
- There exist no significant differences in the academic achievement in science of senior secondary girl and boy students.
- There exists significant correlation in the study habits and academic achievement in science of senior secondary girl and boy students which infers that better the study habits, higher in the academic achievement in science.
Educational Implications

Findings of the study reveal that there is significant positive relationship between the study habits and academic achievement in science. It implies that study habits are important factors in significantly influencing academic achievement of science students at senior secondary level. Good study habits should be emphasized from the formative years of school education. These habits should be inculcated among the students to learn and understand complex concepts and phenomena of science effectively that will in turn enhance their academic performance. It is, therefore, recommended that teachers, parents, school counsellors and administrators should join hands in providing such environment to students that is stimulating for improving their study habits.

References


ADJUSTMENT AS PREDICTOR OF EMOTIONAL MATURITY OF PROSPECTIVE TEACHERS

Harmandeep Kaur* & Dr (Mrs.) Harsh Batra**

ABSTRACT

The present investigation was primarily conducted to find the correlation between emotional maturity and adjustment of prospective teachers and to find whether adjustment is significant predictor of emotional maturity of prospective teachers. A sample of 60 prospective teachers from Government College of Education, Sector 20-D, Chandigarh was selected by using random sampling. The Emotional Maturity Scale by Singh and Bhargva (1990) and Adjustment Inventory for College Students by Sinha and Singh (2002) was used to measure emotional maturity and adjustment of prospective teachers respectively. The analysis and interpretation of the data was done by calculating Pearson’s coefficient of correlation and Quadratic regression. The findings of the study revealed that there was no significant relationship between emotional maturity of prospective teachers and their home adjustment and educational adjustment. But there was positive and significant correlation between emotional maturity of prospective teachers and their health adjustment, social adjustment and emotional adjustment. Adjustment was significant predictor of emotional maturity of prospective teachers.

Keywords: Adjustment, emotional maturity and Prospective teachers

Introduction

Prospective teachers are the secondary school teacher trainees undergoing pre-service training from education departments in universities and colleges of education. Prospective teachers have to accomplish their training task effectively, remain socially active and act responsibly. Also students who attend colleges of education are generally youths, so they need social support from their parents, peers as well as college authorities. Due to such considerations prospective teachers require to adjust themselves and obtain a self control on their emotions to take right decisions. Kulshretha (1979) defined adjustment as the process in which the individual attempts to deal with stress, tension, conflicts and meet his or her needs. In this process the individual also makes efforts to maintain harmonious relationships with the environment. There are different areas of adjustment. Health Adjustment refers to the individual's physical development and ability in conformity with those of his age mates and absence of any difficulty in the process due to some defects of incapability in his physical organ. Emotional Adjustment involves expression of emotions in a proper way at a proper time by the individual. Social Adjustment requires the development of social quality
virtue in an individual. It also requires that one should be social enough to live in harmony with others and feel responsibility and obligation towards country. Home Adjustment includes feeling of greatest satisfaction and security to its members while residing together at their niche. Educational Adjustment involves satisfaction with school building, discipline, time table, co-curricular activities, methods of teaching, class and peers, teachers and Head of the institution. According to Chamberlain (1960) an emotionally matured person is one whose emotional life is well under control. In psychology, emotional maturity is the ability to respond to the environment in an appropriate manner. This response is generally learned rather than instinctive. Maturity also encompasses being aware of the correct time and place to behave and knowing when to act, according to the circumstances and the culture of the society one lives in (Shaheen, 2015). A person is emotionally mature if he inhibits direct expression of negative emotions, develops higher tolerance for disagreeable circumstances, increase satisfaction from socially approved responses, make choices, gets freedom from unreasonable fear, aware of ability and achievement of others, carry prestige with grace and enjoy activities of daily living (Bernard, 1954).

Review of Literature

Sumita and Jakhar (2016) in their study on 100 students studying in government and private colleges of education in Chandigarh found that private pre service teachers were more adjusted than government pre service teachers. But there was no significant difference in the emotional intelligence of government and private pre service teachers. Also there was significant correlation between adjustment and emotional intelligence of pre-service teachers.

Nehra (2014) examined the relationship between adjustment and emotional maturity on a sample comprised of 100 students (50 boys and 50 girls) of Class IX from 4 Government schools through descriptive survey method. Singh and Bhargav's Emotional Maturity Scale and Adjustment inventory by Sinha and Singh was used to assess the emotional maturity and adjustment of the students respectively. Data analysis was completed by calculating mean, standard deviation, correlation and t-value. Results revealed that there was no significant difference between the adjustment of boys and girls, there was no significant difference between the emotional maturity of boys and girls studying in class and there was no significant relationship between Adjustment and emotional maturity.

Rani and Kumari (2014) conducted a study to see the relationship between emotional maturity and adjustment of D.Ed. students and to see the impact of gender and types of institutions on emotional maturity and adjustment. Sample of the study consisted of 100 student of D.Ed. selected from different colleges of Sonipat. EMS by Singh and Bell adjustment inventory by Ojha was administered on sample to collect the data. Data analysis was done by calculating mean, standard deviation, correlation and t-value. The results of
the study revealed that the Girls students scored more on emotional maturity scale than boys students. The girls students were more adjusted with their environment than boys students and the government students were having more capabilities for adjustment than private students. This study also reveals that there exist a significant relationship between student's emotional maturity and adjustment level.

Panchavarnam (2012) conducted the study on relationship between emotional maturity and adjustment of B.Ed trainees and found significant relationship between emotional maturity and adjustment.

Sharma (2012) compared college adjustment processes and emotional maturity between first and final year female students enrolled in different undergraduate courses offered by colleges affiliated with University of Rajasthan in Jaipur city. Adjustment Inventory for College Students by Sinha and Singh (1995) and Emotional Maturity scale by Bhargava and Singh (1991) were used to collect the data. Results indicated that the first year undergraduate students were less emotionally mature and had difficulty in adjusting emotionally and socially to the changing demands of the environment and faced more academic difficulty as compared to final year students.

Hameed and Thahira (2010) examined emotional maturity and Social Adjustment of student teachers. Sample of the study consisted of 600 student teachers that were selected from different Teacher Training Institutes of Malappuram District of Kerala. The results indicated that male student teachers were more emotionally matured and socially adjusted than female student teachers. There was positive relationship between emotional maturity and social adjustment of student teachers.

On the basis of above review of literature it was seen that Rani and Kumari (2014), Panchavarnam (2012) and Hameed and Thahira (2010) found significant relationship between adjustment and emotional maturity whereas Nehra (2014) found no significant relationship between Adjustment and emotional maturity in their studies.

Need of the Study

Awareness about the emotional maturity of the prospective teachers is required keeping in mind the increasing number of dropouts from teacher training colleges, drug addicts, delinquents, maladjustment to social and academic life and underachievers. According to Arkoff (1968), there is nothing like satisfactory or complete adjustment which can be achieved once and for all times. When prospective teachers are under training to become a competent teacher, they have to face many problems, dilemma and follow different set of instructions. Unusual tensions, frustrations and conflicts are being developed in the process of fulfilling the new needs of life. So one has to seek adjustment
with oneself and with the environment in order to reduce stress and strains and remain mentally healthy. And there comes the need of making adjustments to deal effectively with emotionally maturity issues and problems. Hence the investigator undertook this study to study adjustment of prospective teachers as predictor of their emotional maturity.

**Objectives**

1) To study the correlation between emotional maturity and different areas of Adjustment of prospective teachers

2) To study the contribution of different areas of adjustment in predicting emotional maturity of prospective teachers.

**Hypotheses**

1) There is no significant correlation between emotional maturity and different areas of adjustment of prospective teachers

2) There is no significant contribution of different areas of adjustment in predicting emotional maturity of prospective teachers.

**Research Design**

Descriptive method was used and the variables included were emotional maturity and adjustment. Adjustment was the independent variable and emotional maturity was dependent variable.

**Sample**

Sample consisted of 60 prospective teachers from Government College of Education, Sector 20-D, Chandigarh. Sample was selected by using random sampling method.

**Tools**

The data was collected from prospective teachers using standardised tests. The Emotional Maturity Scale by Singh and Bhargva (1990) and Adjustment Inventory for College Students by Sinha and Singh (2002) were used.

**Statistical techniques used**

The data collected was analyzed by employing inferential statistics. Pearson’s coefficient of correlation between different areas of adjustment and emotional maturity was found to determine the relationship between them. Further quadratic regression analysis was done to study the contribution of different areas of adjustment on emotional maturity of prospective teachers.
Results and Discussion

Table 1 Correlation between the areas of adjustment and emotional maturity of prospective teachers

<table>
<thead>
<tr>
<th>Areas of adjustment</th>
<th>N</th>
<th>df</th>
<th>Correlation with emotional maturity</th>
<th>P</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>60</td>
<td>58</td>
<td>0.224</td>
<td>.085</td>
<td>Not significant</td>
</tr>
<tr>
<td>Health</td>
<td>60</td>
<td>58</td>
<td>0.465</td>
<td>.00018</td>
<td>0.01</td>
</tr>
<tr>
<td>Social</td>
<td>60</td>
<td>58</td>
<td>0.397</td>
<td>.0016</td>
<td>0.01</td>
</tr>
<tr>
<td>Emotional</td>
<td>60</td>
<td>58</td>
<td>0.407</td>
<td>.0012</td>
<td>0.01</td>
</tr>
<tr>
<td>Educational</td>
<td>60</td>
<td>58</td>
<td>0.114</td>
<td>.388</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

Table 1 showed that the calculated Pearson's coefficient of correlation between emotional maturity and different areas of adjustment i.e. Home, Health, Social, Emotional and Educational was found to be 0.224, 0.465, 0.397, 0.407 & 0.114 respectively. Thus emotional maturity of prospective teachers was positively but not significantly correlated with home adjustment (r=0.224, p=.085) and educational adjustment (r=0.114, p=.388). While there was positive and significant correlation between emotional maturity of prospective teachers and their health adjustment (r=0.465, p=.00018), social adjustment (r=0.397, p=.0016) and emotional adjustment (r=0.114, p=.0012). Hence the null hypothesis "There is no significant correlation between emotional maturity and different areas of Adjustment of prospective teachers" was rejected for health, social and emotional areas of adjustment and accepted for home and educational areas of adjustment.

Table 2. Quadratic Regression equation showing adjustment as predictor of emotional maturity of prospective teachers

<table>
<thead>
<tr>
<th>Variable / predictor (X)</th>
<th>$R^2$</th>
<th>df$^1$</th>
<th>df$^2$</th>
<th>F</th>
<th>p</th>
<th>Quadratic Regression equation (Y=emotional maturity)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adjustment</td>
<td>.254</td>
<td>2</td>
<td>47</td>
<td>9.702</td>
<td>.00002</td>
<td>Y = 124.315 - 2.217 X + 0.033 X$^2$</td>
</tr>
<tr>
<td>Home adjustment</td>
<td>.077</td>
<td>2</td>
<td>47</td>
<td>2.387</td>
<td>.101</td>
<td>Y = 159.439 - 17.471 X + 1.235 X$^2$</td>
</tr>
<tr>
<td>Health adjustment</td>
<td>.216</td>
<td>2</td>
<td>47</td>
<td>7.858</td>
<td>.001</td>
<td>Y = 64.414 + 6.103 X - 0.080 X$^2$</td>
</tr>
<tr>
<td>Social adjustment</td>
<td>.167</td>
<td>2</td>
<td>47</td>
<td>5.731</td>
<td>.005</td>
<td>Y = 100.403 - 3.643 X + 0.329 X$^2$</td>
</tr>
<tr>
<td>Emotional adjustment</td>
<td>.168</td>
<td>2</td>
<td>47</td>
<td>5.775</td>
<td>.005</td>
<td>Y = 70.182 + 0.762 X + 0.053 X$^2$</td>
</tr>
<tr>
<td>Educational adjustment</td>
<td>.052</td>
<td>2</td>
<td>47</td>
<td>1.579</td>
<td>.215</td>
<td>Y = 63.322 + 8.876 X - 0.434 X$^2$</td>
</tr>
</tbody>
</table>
Table 2 revealed that according to step down model of regression, Value of index of Discrimination ($R^2$) for adjustment as predictor of emotional maturity was .254, indicating that 25.4% of variance in emotional maturity of prospective teachers was predicted by their adjustment. Also the variance in emotional maturity of prospective teachers was explained significantly by adjustment at 0.01 level of significance (as $F= 9.702$, $p < .01$). In quadratic regression equation for predicting emotional maturity of prospective teachers, value of Quadratic effect parameter was 124.315 while linear effect parameters were - 2.217 and 0.033. The quadratic regression equation for predicting emotional maturity of prospective teachers on the basis of their adjustment was

$$
\text{Emotional maturity score} = 124.315 - 2.217 \times \text{(adjustment score)} + 0.033 \times \text{(adjustment score)}^2
$$

Table 2 also revealed that Value of index of Discrimination ($R^2$) for areas of adjustment as predictor of emotional maturity were .077, .216, .167, .168 and .052 respectively for home, health, social, emotional and educational adjustment. This indicated that that 7.7%, 21.6%, 16.7%, 16.8% and 5.2 % of variance in emotional maturity of prospective teachers was predicted by their home, health, social, emotional and educational adjustment respectively. Also the variance in emotional maturity of prospective teachers was explained significantly by health adjustment (as $F= 7.858$, $p < .01$), social adjustment (as $F=5.731$, $p < .01$), and emotional adjustment (as $F=5.775$, $p < .01$), at 0.01 level of significance and not significantly by home adjustment (as $F=2.387$, $p > .01$) and educational adjustment (as $F= 1.579$, $p > .01$), at 0.01 level of significance. Hence the null hypothesis "There is no significant contribution of different areas of adjustment on emotional maturity of prospective teachers" was rejected for health adjustment, social adjustment and emotional adjustment and accepted for home adjustment and educational adjustment.

Findings

1. There was no significant relationship between emotional maturity of prospective teachers and their home adjustment and educational adjustment. But there was positive and significant correlation between emotional maturity of prospective teachers and their health adjustment, social adjustment and emotional adjustment.

2. Adjustment was significant predictor of emotional maturity of prospective teachers. 25.4% of emotional maturity of prospective teachers was predicted by their adjustment.

3. Out of different areas of adjustment, Health adjustment, social adjustment and emotional adjustment were significant predictors of emotional maturity of prospective teachers.
References


TEACHER EFFECTIVENESS OF PROSPECTIVE TEACHERS IN RELATION TO THEIR EMOTIONAL INTELLIGENCE AND ATTITUDE TOWARDS TEACHING

Dr. Sheojee Singh* & Ravinder Kaur**

Abstract:
Teaching is situational, and effective teaching depends upon human qualities inherent in the teacher. Moreover, it is generally assumed that an effective teacher is emotionally more intelligent than a less effective teacher. At the same time, it is said that if a teacher is having positive attitude towards his or her profession, he or she will be more effective as a teacher than the one who has a neutral or negative attitude towards teaching profession. The present study was intended to find out the correlation of teaching effectiveness of pre-service trainee teachers (prospective teachers) in relation to their emotional intelligence and attitude towards teaching. A sample of 100 prospective teachers was taken for this study and using Kulsum Teacher Effectiveness (2010), Teacher's Emotional Intelligence Inventory (Mangal, 2008) and Attitude Scale towards Teaching Profession (Kulsum, 2008) relevant data were collected. After data analysis and interpretation, it was found that there is no correlation between teaching effectiveness and emotional intelligence of prospective teachers; and there was a significant positive correlation between teaching effectiveness and attitude towards teaching profession. This study has significant implications for training of teachers and policy makers in the sense that it will help mould the curriculum of teacher education towards more inputs for positive attitude development among the prospective teachers.

Keywords: Teacher Effectiveness, Emotional Intelligence, Attitude towards teaching

Introduction:
Education, as a great nation building activity, provides opportunities to all, old and young, rich and poor, men and women to develop their potentialities to the fullest and enable them to contribute their best to the welfare of society. The success of educational process to a great extent depends on the character, ability, quality, competence and personality of the teacher who is the corner stone of the arch of education. Teaching is the fundamental duty of a teacher and it has to be made effective in order to make a successful teacher. Morrison (1934) says, "Teaching is an intimate contact between a more mature personality and a less mature one which is a designed to further the education of the latter." Similarly Smith (1960), asserts "Teaching is a system of actions intended to produce learning." Green
(1971) opines, "Teaching is the task of teacher which is performed for the development of a child." Teaching effectiveness is important because effective teaching helps students learning. Effective teaching does not occur by chance. Effective teachers have become good at what they do because they evaluate their practice. Teacher effectiveness depends on a number of factors like intelligence, personality, communication skill and content knowledge etc of the teacher. An effective teacher is believed to be emotionally more intelligent than a less effective one. At the same time, it is said that if a teacher is having positive attitude towards his or her profession, he or she will be more effective as a teacher than the one who has a neutral or negative attitude towards teaching profession.

Emergence of the Problem

It is generally believed that be a successful teacher, one needs to be emotionally balanced and intelligent in addition to being only intelligence in the knowledge of the subject matter or general intelligence. It has also been supported by many studies (e.g. Kalhotra, 2014; Kauts & Saroj, 2012; Benjamin,2011; Ogrenir,2008; Hwang, 2007; Shukla, 2004; Bose, 1993; Shah,1991; Chaya,1974.) that most of the very effective teachers were those having relatively high level of Emotional Intelligence. They were able to create very good rapport with their students, which in turn kept inspiring their student to achieve more in their chosen areas. It is also observed that those teachers who have positive attitude towards teaching profession are able to teach more effectively as compared to those having not so positive or having negative attitude towards teaching profession. This led the investigator to further explore whether emotional intelligence influences teaching effectiveness or not; and whether positive attitude of teachers/ prospective teachers towards their profession contributed in any significant way to enhance the effectiveness of the teachers concerned. Also there are some studies like those of Bhat (2014), Joycipin Shermila and Valarmathi (2013), and Raina (1990) etc which point to negative or no correlation among these variable s in one way or the other. Hence, the investigator decided to study the above topic.

Objectives

1. To study the relationship between teaching effectiveness and emotional intelligence of the prospective teachers.
2. To study the relationship between teaching effectiveness and attitude towards teaching profession of the prospective teachers.

Hypotheses

1. There exists no significant correlation between teaching effectiveness and emotional intelligence of the prospective teachers.
2. There exists no significant correlation between teaching effectiveness and attitude towards teaching profession of the prospective teachers.
Sample

The present study was conducted on a sample of 100 prospective teachers from Chandigarh selected using the random sampling technique, consisting of 50 prospective teachers of Government College of Education, Sector-20D Chandigarh and 50 prospective teachers from Dev Samaj College of Education for Women, Sector-36 Chandigarh.

Design

It was a descriptive survey study wherein the respondent were approached and their cooperation was sought by explaining to them the objectives and utility of this study. The data was analysed statistically after administering the tests for the three variables namely Teacher Effectiveness, Emotional Intelligence and Attitude towards Teaching.

Tools used

Following standardized tools were used for conducting the present study:

1. Kulsum Teacher Effectiveness Scale by Dr. Umme Kulsum (2010).
2. Teacher’s Emotional Intelligence Inventory by Dr. Shubhra Mangal (2008).
3. Attitude Scale Towards Teaching Profession by Dr. Umme Kulsum (2008)

Collection of data

All the three tools employed in the study were administered to the sample according to the instruction given in the respective manuals by the designers of these tests. Investigator explained to the subjects that this was not an examination of their general knowledge. They were requested to give their true, frank and free responses. The tests were administered after establishing a good rapport with the students. The instructions for each test were clearly read out and explained.

Statistical techniques to be used & Interpretation of data:

Descriptive and inferential statistics were used to analyze the data. Co-efficient of correlation was calculated between the variables based on the data so obtained.

Table 1: Mean, Median, Standard Deviation, Skewness and Kurtosis of teaching effectiveness Scores:

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>425.35</td>
<td>429.50</td>
<td>-0.772</td>
<td>0.847</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows the values of mean, median, skewness and kurtosis of scores of teaching effectiveness of the total sample. The mean is 425.35 and median is 429.50, which are close to each other. This means that the scores are close to normal distribution.
Table 2: Mean, Median, Standard Deviation, Skewness and Kurtosis of Emotional Intelligence Scores:

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>196.83</td>
<td>197.83</td>
<td>21.799</td>
<td>.176</td>
<td>-.700</td>
</tr>
</tbody>
</table>

Table 2 shows the values of mean, median, skewness and kurtosis of scores of Emotional Intelligence of the total sample. The mean is 196.83 and median is 197.83, which are very close to each other. This means that the scores are close to normal distribution.

Table 3: Mean, Median, Standard Deviation, Skewness and Kurtosis of Attitude to towards Teaching Profession Scores:

<table>
<thead>
<tr>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>154.48</td>
<td>153.00</td>
<td>16.882</td>
<td>.267</td>
<td>-.967</td>
</tr>
</tbody>
</table>

Table 3 shows the values of mean, median, skewness and kurtosis of scores of Attitude to towards Teaching Profession of the total sample. The mean is 154.48 and median is 153.00, which are very close to each other. This means that the scores are very close to normal distribution.

Discussion on the basis of Inferential Statistics:

Table 4: Coefficient of Correlation of Teaching Effectiveness and Emotional Intelligence

<table>
<thead>
<tr>
<th>Variable</th>
<th>Co-efficient of correlation (r)</th>
<th>Significance at 0.01 level</th>
<th>Significance at 0.05 level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Effectiveness and Emotional Intelligence</td>
<td>.108*</td>
<td>Not significant</td>
<td>Not significant</td>
</tr>
</tbody>
</table>

The value of co-efficient of correlation (0.108*) as given above is statistically not significant at 0.01 or 0.05 level, which shows that there is no significant correlation between teaching effectiveness and emotional intelligence of prospective teachers. This means that teaching effectiveness of prospective teacher is not influenced by their emotional intelligence. They are independent from each other. It is observed that there exists no significant relationship between teaching effectiveness and emotional intelligence of prospective teachers. Thus our first hypothesis is accepted.
The value of coefficient of correlation (.247**) is statistically significant at 0.05 level which shows that teaching effectiveness is positively correlated with attitude towards teaching profession. So it shows that there exists a positive correlation. Thus our second hypothesis is rejected.

Findings and Conclusion

There is no correlation between teaching effectiveness and emotional intelligence of prospective teachers. This means that teaching effectiveness of prospective teachers is not influenced by their emotional intelligence. Thus our first hypothesis i.e. there exists no significant correlation between teaching effectiveness and emotional intelligence of the prospective teachers is accepted.

There is a significant positive correlation between teaching effectiveness and attitude towards teaching profession. This means that teaching effectiveness of prospective teachers is influenced by their attitude towards teaching profession. Thus our second hypothesis i.e. there exists no significant correlation between teaching effectiveness and attitude towards teaching profession of the prospective teachers is rejected.

Educational Implication

The present study reveals that scores of all the three variables are normally distributed among the prospective teachers, but two of the variables, namely teacher effectiveness and emotional intelligence are not significantly correlated. At the same time this study depicts significant positive correlation of teaching effectiveness with attitude towards teaching profession. This implies that in teacher education curricula and programs, more emphasis on development of positive attitude towards teaching profession can result into more effective teacher graduates. And, although emotional intelligence is important but not a very significant contributor to effective teacher preparation, accordingly policy planning and programme implementation can be materialized by giving proportionate priorities to these variables.

References:


ABSTRACT
The purpose of this study is to identify the sixth class students who have poor academic performance in English and analyse their problems and subsequently assess the effectiveness of remedial instruction program in English on academic performance of such students in Government Model School of Chandigarh (India). The sample comprised of eleven students out of a class of forty-two students who were diagnosed as poor performers in English on the basis of achievement scores in unit tests and observations made by interns and school English teachers of the practicing school. These students were given six weeks intensive remedial instruction program in English for six weeks. Data were collected on the basis of pre- and post remediation program academic performance in English tests (two tests: 1. vocabulary and comprehension; 2. grammar and composition). Paired t-tests were conducted to analyze these tests' results. The results of the paired t-tests indicate significant differences between the pre- and post remediation tests. Qualitative data about the problems faced by struggling students and effectiveness of remediation program were also gathered through Classroom observations, student reflections and informal interviews with school teachers.

Keywords: Effectiveness, English, Remedial Programme

INTRODUCTION
The place of English language has been elevated to its highest in the global India. It is considered as key to 'quality education' and 'window to world and opportunities'. Therefore parents' aspirations for their school going wards to be proficient in English language are quite high but our schools are not able to provide learning teaching situations to attain desirable level of English competence and there is dearth of competent teachers. A typical Indian classroom has larger size with students at varied levels of achievement in English. Many students are performing quite low as against the expected level for the class. The lower performing students require individualized remedial instruction according to their specific needs to catch up to a desired level. Basically, remedial instruction is a type of clinical teaching. It is a "spiral process of assessment-instruction-re-assessment" (Tseng, 2008). Remedial classes act as a safety valve for struggling students allowing them to work at more appropriate level rather than failing because they are not at same level as the rest of class. English remedial instruction has been found effective and beneficial to low English
achievers as students made a significant progress in grammar and vocabulary learning and they self-perceived improvement in their overall English competence (Huang, 2010; Chao and Tseng 2013). Khan and Akter (2011) found that students commit more Word and Sentence level mistakes thereby making it imperative to use innovative means of teaching to improve current state of student writing in English at their primary and secondary level. This study was undertaken to identify the problems of low performing students and assess the effectiveness of English remedial instruction program on the academic performance of such students. To realise the objectives, the research questions proposed are: 1) What are the problems faced by sixth class students who have poor academic performance in English? 2) How does remedial instruction program in English affect the academic performance of sixth class students? 3) What are students’ perspectives towards effectiveness of remedial instruction program in English?

METHODOLOGY

Participants

The participants in this study were 11 (7 girls, 4 boys) students of class VI of Government Model Senior Secondary School, Sector 33, Chandigarh. They were identified as poor performers in English on the basis of achievement scores in unit tests and observations made by interns and school English teachers of the practicing school.

Instruments

a) Two Pre-tests and post tests: 1. Vocabulary and comprehension; 2. grammar and composition. b) Semi structured interview schedule with open ended questions.

Procedure of data collection and analysis

Researchers (teacher educator and intern) identified students who faced problems in speaking and writing English during the first week of internship program. Interaction with school teachers and close analysis of the second unit test also helped in identifying students who were performing low in English. Eleven students who were placed in grades varying from E2 to C2 were selected to attend remedial instruction program which lasted for 6 weeks. First, English proficiency level of students was checked in the two pre-tests 1. Vocabulary and comprehension; 2. grammar and composition (of twenty marks each). After remedial instruction, the same tests were conducted as post tests to investigate effectiveness of remedial instruction program. Data thus collected were analyzed with the help of paired t-tests. Qualitative data about the problems faced by struggling students and effectiveness of remediation program in this case study were also gathered through Classroom observations and discussions, student reflections and informal interviews with school teachers.
Implementation of remedial instruction program

For reading program, prose lessons and poetry selected from prescribed text book for class VI were 1. The Quarrel (poem) 2. Where do all the teachers go? (poem) 3. The fair play (prose) 4. Who did Patrick's homework? (prose). Guided reading was practiced to improve comprehension skills and reinforce grammar knowledge and increase fluency of students. Students repeated after teacher modeling. Instructional strategies like questioning, brainstorming, summarizing and outlining helped students improve their comprehension. Bilingual method was used for providing background information. For vocabulary, activities like fill in blanks, quiz etc was conducted. Grammar lessons (verbs, adverbs, nouns) included basic grammar rules. For writing grammatically correct sentences students were told to write sentences in their notebooks. Communicative drill practice was undertaken to avoid rote memory.

RESULTS AND DISCUSSION

Research Question No.1) What are the problems faced by sixth class students who have poor academic performance in English? This question was answered through researchers' observations of low performing students by checking their homework, analysing class test and unit test, giving opportunities for reading during internship as well as by interacting with their English teacher in school. Students faced the following problems prior to implementation of English remedial instruction program:

a) Problem in reading and writing simple sentences
b) Difficulty informing logical structure of sentence
c) Frequent grammatical errors
d) More spelling mistakes
e) Use of inappropriate grammatical structures
f) Vocabulary limited
g) Inadequate understanding of the topic
h) Incapable of self-expression
i) Difficulty in reciting poetry
j) Difficulty in speaking English
k) Poor punctuation
l) Poor and untidy handwriting
m) Lack of interest in learning English
Research Question 2) How does remedial instruction program in English affect the academic performance of sixth class students? Research question 2 was answered through the results of the vocabulary and comprehension; grammar and composition pre-/post-tests, Interview with their School English teacher and result of summative test of these students.

Results of the vocabulary and comprehension; grammar and composition pre-/post-tests

Table 1 shows that the mean score of vocabulary and comprehension post-test (8.09) after remedial instruction program is higher than the mean score of pre-test (4.27) i.e., before remedial instruction program. The mean score of grammar and composition post-test after remedial instruction program is also higher (9.18) than that of pre-test (5.18) before remedial instruction program.

To examine whether students' scores before and after the remedial instruction program were statistically significant, paired t test was conducted to analyze the test results. The results of the paired t-test (shown in Table 2) indicate significant differences between the vocabulary and comprehension pre-test and post-test (p=0.000) and between the grammar and composition pre-test and post-test (p=0.000).

Table 1. Mean Scores and Standard Deviations of vocabulary and comprehension; grammar and composition Tests before and after the Remedial Instruction (N=11)

<table>
<thead>
<tr>
<th></th>
<th>Mean score</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary and comprehension</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Pre-Test)</td>
<td>4.27</td>
<td>1.618</td>
<td>.487</td>
</tr>
<tr>
<td>Vocabulary and comprehension</td>
<td>8.09</td>
<td>1.972</td>
<td>.594</td>
</tr>
<tr>
<td>(Post-Test)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grammar and composition</td>
<td>5.18</td>
<td>2.600</td>
<td>.784</td>
</tr>
<tr>
<td>(Pre-Test)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grammar and composition</td>
<td>9.18</td>
<td>1.940</td>
<td>.584</td>
</tr>
<tr>
<td>(Post-Test)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2. Paired Samples t-test

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean</th>
<th>t-value</th>
<th>df</th>
<th>Sign(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocabulary and comprehension pre-test/post-test</td>
<td>3.81</td>
<td>1.470</td>
<td>.443</td>
<td>8.609</td>
<td>10</td>
<td>.000 ***</td>
</tr>
<tr>
<td>Grammar and composition pre-test/post-test</td>
<td>4.00</td>
<td>2.097</td>
<td>.632</td>
<td>6.325</td>
<td>10</td>
<td>.000 ***</td>
</tr>
</tbody>
</table>

*** p<0.001

Interview with their School English teacher: English teacher also expressed her satisfaction and responded positively about the effectiveness of this remedial program in improving English competence of students who had performed poor in unit tests.

Result of summative test: It was also found that there was a good level of improvement in terms of marks in English of these students at the end of the term in SA1 examination.

Research Question 3) What are students' perspectives towards effectiveness of remedial instruction program in English?

This question was answered through interviews with students. After the completion of the program students were interviewed with the help of open-ended questions about the effectiveness of the remedial instruction program. Out of eleven, nine students agreed that their overall basic English skills have improved; eight students agreed that they have understood grammar rules for sentence formation; seven students agreed that their vocabulary has increased to certain extent; six students found that their reading fluency has increased and all of them were more confident and motivated to put more efforts in learning English after this remedial program.

CONCLUSION

English language has attained a prominent status in world arena as it is most widely used as communication language and opens up plethora of opportunities for all of us. Students' overall competence in English has to be improved as most of the them are struggling to reach at desirable level of proficiency. In such a scenario remedial instruction programs hold potential for improving English proficiency of such students. This case study has examined the potential benefits of remedial instruction program in improving the academic performance in English of poor performing students. The benefits of the program in overcoming fear for English and enhancing self-motivation of students for learning English have also come to fore in this study.
REFERENCES


ACHIEVEMENT IN MATHEMATICS OF NINTH CLASS PRIVATE SCHOOL STUDENTS IN RELATION TO THEIR CLASSROOM ENVIRONMENT

Dr. Kiranjit Kaur*

ABSTRACT

The present study examines the achievement in mathematics of ninth class private school students in relation to their classroom environment. The findings were based on the responses of 472 private school adolescents (231 males and 241 females) selected from ten private schools of Chandigarh. Classroom environment Scale developed by Moos and Trickett (1987) and Mathematics Achievement test developed and standardized by the investigator were used for data collection. Results show that achievement in mathematics of adolescents studying in private schools has a significant and positive relationship with various dimensions of classroom environment i.e. involvement, affiliation, teacher support, competition, order and organization, rule clarity, innovation, and classroom environment (total) except task orientation and teacher control dimensions of classroom environment. The study concluded that there is significant difference in achievement in mathematics of ninth class private school students in relation to their perception of classroom environment except teacher control dimension of classroom environment.

Keywords: Achievement, Mathematics, Classroom Environment

Introduction

As mathematics is the gatekeeper of many careers, good performance in mathematics is needed at all levels of school education. In spite of all this importance given to mathematics in the society, there exist low levels of mathematics attainment of students at every level of the education. This has given many educators/stakeholders a high level of concern (Ajayi, Lawani, & Adeyanju, 2011). Its knowledge is essential for the understanding of various other subjects and living life better. Mathematics being an important and compulsory subject in the school curriculum remains a potential area of research work.

Classroom Environment

A positive classroom environment is an essential component of teaching and learning. Classroom is a place for teaching and learning activities in the formal education system. The ambience of the classroom influences the learning process. A classroom is a warm, pleasant and cordial interactive place not only with the teachers but also with peers. It is a place where the learners can feel welcomed, valued, useful, challenged, respected and physically and psychologically safe. It is a structured, organized and efficient place for creating learning environment (Ramalingam, 2013).

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The basic purpose of any educational institution should be to provide an environment favorable to learning as reflected in its milieu or ethos or tone or culture. The environment is both physical and mental. The Secondary Education Commission (1952-53) states that the first concern of the school should be to provide for its pupils a rich, pleasant and stimulating environment which will evoke their manifold interests and make life a joyful experience. A positive learning environment can shape students’ outcomes in cognitive, motivational, affective, and behavioral domains (Fraser & Fisher, 1982).

**Dimensions of classroom environment**

Fraser, Fisher and McRobbie (1996) have given the following psychosomatic aspects of classroom environment:

1) **Student cohesiveness**: It is the amount to which students recognize, help and provide support to one another.

2) **Involvement**: It is the extent of student's interest in classroom activities, including participation in discussion, doing extra work and enjoying the group.

3) **Teacher support**: It is the teacher's support level that helps students, relates to how much the teacher interacts with students, trusts them and is interested in them.

4) **Task orientation**: It is the amount to which it is important to complete planned activities and to stay on the subject.

5) **Investigation**: It is the extent to which there is prominence on the skills and their use in problem solving.

6) **Cooperation**: It is the extent to which students cooperate rather than compete with one another on all the learning tasks.

7) **Equity**: It is the extent to which the teachers take care of students equally.

The classroom environment is considered by Haladnya, Shaughnessy and Shaughnessy (1983) to be among the most powerful indicators of student outcomes. If this is so then what happens within the classroom environment is crucial to pupil accomplishment. The classroom environment comprises a number of elements and dimensions (Mackay, 2006). Fraser (1994) describes these as a subtle concept, not only including participants' perceptions and experiences within that environment but also their relationships with each other. In fact, the classroom environment effects were considered by O'Reilly (1975) to be a stronger influence on attainment than on pupils’ personal and social characteristics. Effective mathematics education requires strategies that engage and motivate learners, that help students develop positive attitude about themselves and about mathematics and that encourage learners to make positive contributions to the learning environment (Ontario Principals' Council, 2009).
According to Standards for Teaching Mathematics (NCTM, 1991), "Creating an environment that sustains and promotes mathematical reasoning and cultivates all students' competence with, and outlook towards mathematics should be one of the teacher's main concerns. The nature of this type of environment is formed by the kinds of mathematical tasks and discussion in which students participate."

NCTM (1991) further suggests that the teacher of mathematics should create a learning environment that encourages the development of each student's mathematical reasoning power by:

- Providing and constituting the time necessary to explore mathematics and tackle with significant ideas and problems.
- Using the space and resources in ways that facilitate students' mathematics learning.
- Providing a framework that encourages the development of mathematical skill and ability.
- Respecting and giving worth to pupils' ideas, ways of thinking, and mathematical outlook,
- By constantly encouraging pupils to work independently or in collaboration to make sense of mathematics.
- Take intellectual risks by raising questions and formulating inferences, and
- Exhibit a sense of mathematical ability by authenticating and supporting ideas with mathematical argument.

**Review of related studies**

Chionh, Fraser and Berry (2009) investigated the relationship between classroom environment and students outcome and reported that better examination scores were found in classrooms with more student cohesiveness whereas self-esteem and attitudes were more favorable in classrooms with more teacher support, task orientation and equity. Differences between the classroom environment of Geography and Mathematics classes were small relative to the large differences between student's actual and preferred classroom environment.

Michelle (2009) studied the influence of classroom climate on student's mathematics self-efficacy and achievement and found significant correlations among classroom climate, mathematics self-efficacy, and mathematics achievement. Unlike the single-level analysis, the HLM results did not conclude that classroom climate had a direct effect on mathematics achievement. In addition, results indicated that classroom climate, accounting for mathematics self-efficacy, explained 11.3% of the between-classroom level variance in mathematics achievement.
McKay (2012) examined the relationship between classroom climate and student mathematics achievement and concluded that school type was significantly correlated to student mathematics achievement scores but gender was not found to be significantly correlated to student mathematics performance and the other climate variables contributed very little to influence students' math scores.

Murugan and Rajoo (2013) studied perceptions of students' studying in Sipitang, Sabah, Malaysia with regard to mathematics classroom environment and mathematics achievement. Findings showed the students had a moderate perception of their mathematics classroom environment. Mathematics achievement was low, with female students achieving better than males in their mathematics assessment. There was no significant difference in perception of mathematic learning environment based on gender. No significant correlations were found between mathematics classroom learning environment and mathematics achievement.

Objectives
1. To find out the relationship of achievement in mathematics of ninth class private school adolescents with classroom environment.
2. To study achievement in mathematics of ninth class private school adolescents in relation to classroom environment.

Hypotheses
1. There exists significant positive relationship of achievement in mathematics with classroom environment of ninth class adolescents studying in private schools.
2. There exists significant difference in achievement in mathematics of ninth class private school adolescents in relation to classroom environment.

Design of Study
A systematic procedure to collect data, which helps to test hypotheses of the study under investigation, was adopted. The method was essentially descriptive survey method.

Sample
In the present study, 472 private school adolescents (241 males and 231 females) were selected from ten private schools of Chandigarh. The ninth class students were taken. Two-stage random sampling technique was employed.

Tools Used
The following tools were used to collect data:
2. Mathematics Achievement test developed by the investigator.
Statistical techniques

To analyze the data statistically Mean, Standard Deviation, t-ratio and coefficient of correlation were computed and the results were interpreted accordingly.

Table 1: Correlation of Achievement in Mathematics with Different Dimensions of Classroom Environment of Ninth Class Adolescents Studying in Private Schools (N=472)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Achievement in Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Classroom Environment</strong></td>
<td></td>
</tr>
<tr>
<td>Involvement</td>
<td>0.179**</td>
</tr>
<tr>
<td>Affiliation</td>
<td>0.185**</td>
</tr>
<tr>
<td>Teacher support</td>
<td>0.198**</td>
</tr>
<tr>
<td>Task orientation</td>
<td>0.085</td>
</tr>
<tr>
<td>Competition</td>
<td>0.176**</td>
</tr>
<tr>
<td>Order and organization</td>
<td>0.160**</td>
</tr>
<tr>
<td>Rule clarity</td>
<td>0.118*</td>
</tr>
<tr>
<td>Teacher control</td>
<td>0.044</td>
</tr>
<tr>
<td>Innovation</td>
<td>0.117*</td>
</tr>
<tr>
<td>Classroom environment(total)</td>
<td>0.269**</td>
</tr>
</tbody>
</table>

** Significant at 0.01 level  * Significant at 0.05 level

Table 1 shows that achievement in mathematics of adolescents studying in private schools has a significant and positive relationship with various dimensions of classroom environment i.e. involvement, affiliation, teacher support, competition, order and organization, rule clarity, innovation, and classroom environment (total). Whereas there is no significant relationship of achievement in mathematics with task orientation and teacher control dimensions of classroom environment.

As there is a positive and significant correlation between achievement in mathematics and involvement dimension of classroom environment, this suggests that adolescents scoring high in involvement dimension of classroom environment also score high in mathematics achievement. This implies that the more the adolescents are interested and attentive in classroom activities and participate in class discussions, the higher is their
achievement in mathematics. Also, significant and positive relationship of affiliation dimension of classroom environment with mathematics achievement suggests that the more the students feel friendly for each other, and help each other in homework, the higher is their achievement in mathematics.

A positive and significant correlation between teacher support dimension of classroom environment and mathematics achievement of adolescents studying in private schools indicates that those adolescents, who are supported and trusted by teacher, score higher in mathematics. Also, there is a positive and significant relationship of competition dimension of classroom environment with mathematics achievement of adolescents. This suggests that the more the students compete with each other for grades and recognition and work hard to achieve good grades, the higher mathematics achievement they have. In other words, the higher the competitive spirit among adolescents, the higher is their achievement in mathematics. A positive and significant correlation of achievement in mathematics and order and organization dimension of classroom environment of adolescents studying in private schools indicates that those adolescents who behave in an orderly and polite manner and organize assignments in an effective way, achieve high in mathematics.

A positive correlation between rule clarity dimension of classroom environment and mathematics achievement of adolescents studying in private schools suggests that those adolescents who follow a clear set of rules in the classroom, have high achievement in mathematics. Similarly, a positive and significant correlation between innovation dimension of classroom environment and mathematics achievement of adolescents indicates that adolescents of those classes where more innovative techniques are used by teachers to encourage creative thinking, among adolescents, score higher in mathematics.

The results entered in Table 1 further show a positive and significant relationship between total classroom environment and mathematics achievement. This suggests that favorable classroom environment facilitates the pupil’s progress in mathematics. As there is no significant relationship of achievement in mathematics with task orientation and teacher control dimensions of classroom environment, it suggests that emphasis laid on completing planned activities and strict teacher control in the classroom do not effect mathematics achievement of private school students. On the basis of above discussion of results, it can be concluded that mathematics achievement of adolescents studying in private schools is significantly related with various dimensions of classroom environment i.e. involvement, affiliation, teacher support, competition, order and organization, rule clarity, innovation and total classroom environment except task orientation and teacher control dimensions of classroom environment. Hence, the Hypothesis 1 namely, “There exists significant positive relationship of achievement in mathematics with perception of classroom environment of ninth class adolescents studying in private schools,” has been accepted to a great extent.
Table 2: Mean Differentials in Achievement in Mathematics of Ninth Class Private School Adolescents with Low and High Scores in Different Dimensions of Classroom Environment

<table>
<thead>
<tr>
<th>Dimensions of Classroom Environment</th>
<th>M₁ (N=127)</th>
<th>M₂ (N=127)</th>
<th>SD₁</th>
<th>SD₂</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Involvement</td>
<td>35.69</td>
<td>43.66</td>
<td>12.68</td>
<td>12.07</td>
<td>5.12</td>
<td>0.01</td>
</tr>
<tr>
<td>Affiliation</td>
<td>35.09</td>
<td>43.22</td>
<td>13.23</td>
<td>11.60</td>
<td>5.20</td>
<td>0.01</td>
</tr>
<tr>
<td>Teacher support</td>
<td>35.33</td>
<td>43.02</td>
<td>12.81</td>
<td>11.21</td>
<td>5.08</td>
<td>0.01</td>
</tr>
<tr>
<td>Task orientation</td>
<td>35.39</td>
<td>41.06</td>
<td>13.37</td>
<td>12.58</td>
<td>3.47</td>
<td>0.01</td>
</tr>
<tr>
<td>Competition</td>
<td>35.68</td>
<td>41.86</td>
<td>13.66</td>
<td>12.58</td>
<td>3.75</td>
<td>0.01</td>
</tr>
<tr>
<td>Order and organization</td>
<td>34.98</td>
<td>42.58</td>
<td>12.88</td>
<td>11.71</td>
<td>4.91</td>
<td>0.01</td>
</tr>
<tr>
<td>Rule clarity</td>
<td>36.36</td>
<td>41.00</td>
<td>13.31</td>
<td>12.07</td>
<td>2.90</td>
<td>0.01</td>
</tr>
<tr>
<td>Teacher control</td>
<td>38.00</td>
<td>39.57</td>
<td>13.07</td>
<td>13.19</td>
<td>.955</td>
<td>NS</td>
</tr>
<tr>
<td>Innovation</td>
<td>36.20</td>
<td>39.84</td>
<td>13.71</td>
<td>13.07</td>
<td>2.16</td>
<td>0.05</td>
</tr>
<tr>
<td>Classroom environment (total)</td>
<td>33.31</td>
<td>42.98</td>
<td>12.98</td>
<td>12.07</td>
<td>6.14</td>
<td>0.01</td>
</tr>
</tbody>
</table>

M₁ = Mean mathematics achievement scores of private school adolescents with low scores in different dimensions of classroom environment.

M₂ = Mean mathematics achievement scores of private school adolescents with high scores in different dimensions of classroom environment.

SD₁ = Standard deviation of mathematics achievement scores of private school adolescents with low scores in different dimensions of classroom environment.

SD₂ = Standard deviation of mathematics achievement scores of private school adolescents with high scores in different dimensions of classroom environment.

Results entered in Table 2 show that the mean differentials calculated between the mean scores of achievement in mathematics of private school adolescents with low and high scores in different dimensions of classroom environment, i.e. involvement, affiliation, teacher support, task orientation, competition, order and organization, rule clarity, and classroom environment (total) were significant at .01 level of significance and mean differential with respect to innovation dimension of classroom environment was significant at .05 level of significance. However, the calculated t-value between the two groups with regard to teacher control dimension was not significant.
The mean score of mathematics achievement of adolescents with high scores in involvement dimension of class room environment is higher than those with low scores in this dimension. This suggests that the adolescents who are more interested and attentive in classroom activities score higher in mathematics than their counterparts with low scores in this dimension.

Further, the mean score of achievement in mathematics of adolescents with high scores in affiliation dimension of class room environment is higher than those with low scores in this dimension. This suggests that achievement in mathematics of the adolescents, who are more friendly with each other, help each other in home work, and enjoy working together, is higher than their counterparts who are less friendly and do not enjoy working together.

Results reported in Table 2 further show that the mean mathematics achievement score of adolescents with high scores in teacher support dimension of class room environment is higher than those with low scores in this dimension. This suggests that those adolescents, who are supported and trusted by the teacher more, score higher in mathematics than their counterparts with low scores in this dimension.

The mean score of mathematics achievement of adolescents with high scores in task orientation dimension of class room environment is higher than adolescents with low scores in this dimension. This suggests that mathematics achievement of the adolescents of private schools where more emphasis is laid on completing planned activities in the classroom, is better than those of with low scores in this dimension. The higher mean score of achievement in mathematics of private school adolescents with high scores in competition dimension of class room environment than those with low scores in this dimension suggests that achievement in mathematics of the adolescents who compete more with each other for grades and recognition, and work harder to achieve good grades, is better than their counterparts i.e. those who lack competitive spirit.

Table 2 further shows that the mean score of achievement in mathematics of adolescents with high scores in order and organization dimension of class room environment is higher than those with low scores in this dimension. This suggests that achievement in mathematics of those adolescents who are more orderly and organized and organize the classroom assignments more effectively, is higher than their counterparts. Further, the mean score of achievement in mathematics of private school adolescents with high scores in rule clarity dimension of class room environment is higher than adolescents with low scores in this dimension. This suggests that achievement in mathematics of the adolescents who follow a clear set of rules in the classroom is higher than those who lack it.
The mean score of achievement in mathematics of adolescents with high scores in innovation dimension of class room environment is higher than those with low scores in this dimension. This suggests that achievement in mathematics of adolescents, where more innovative techniques are used by teachers to encourage creative thinking among adolescents and plan classroom activities, is higher than their counterparts.

In addition, the mean scores of achievement in mathematics of private school adolescents with high scores in total classroom environment is higher than the mean scores of adolescents with low scores in total classroom environment. This suggests that achievement in mathematics of the adolescents who perceive classroom environment more positively is better than their counterparts. However, the mean differentials with regard to teacher control dimension of classroom environment was not significant at any level of significance. This implies that strict teacher control does not affect mathematics achievement of private school adolescents.

On the basis of above discussion of results, it can be concluded that achievement in mathematics of private school adolescents, who show more interest and attention in classroom activities, enjoy working together, are supported and trusted by teacher, complete planned activities, compete with each other for grades and recognition, work hard to achieve good grades, organize assignments and classroom activities, follow a clear set of rules, and contribute in planning classroom activities, is better as compared to their counterparts. Hence, Hypothesis 2, namely, "There exists significant difference in achievement in mathematics of ninth class private school adolescents in relation to their perception of classroom environment." has been accepted to a great extent.

Conclusion

To conclude it must be said that mathematics achievement of adolescents has a significant and positive relationship with classroom environment, therefore for effective learning of mathematics there must be proper physical as well as psychological arrangements. To facilitate students' achievement, teacher should create productive learning environment by focusing on things that can be altered such as increasing students' motivation and encouraging group development and participation.

References


SELF CONFIDENCE AND STUDY HABITS IN RELATION TO THE ACHIEVEMENT IN MATHEMATICS

Dr. Sanjeev Kumar* & Ms. Sukhjeet Kaur**

ABSTRACT

Mathematics is the study of relationships among quantities, magnitudes and properties and also of the logical operations, so, it is a very important subject area of education. Due to some misconceptions students fear this subject. Investigator tried to study the relationship among self-confidence, study habits and achievement in mathematics of grade 8 students. Using Pearson's correlation technique, it was found that, self-confidence is in inverse proportion with achievement in mathematics, study habits are in direct proportion with achievement in mathematics, self-confidence is in inverse proportion with study habits.

Keywords : Self Confidence, Study habits, Achievement

Introduction

Mathematics may be defined as, "the study of relationships among quantities, magnitudes and properties and also of the logical operations by which unknown quantities, magnitudes and properties may be deduced" (Microsoft Encarta Encyclopedia). It helps in developing logical reasoning and analytical power of the students. It marks the basis of all the sciences.

Mathematics forms the basis of all the science and technical subjects. It is necessary that the students opting for atleast science subjects must have hold on mathematics. But NCERT in the Position paper on Teaching of Mathematics identified that majority of children have the fear and failure regarding mathematics. This fear for mathematics has resulted to mathematics anxiety and mathematics phobia. Hannula et al. (2004) in his study indicated that the learning of mathematics is influenced by a pupil's mathematics-related beliefs, especially self-confidence.

Students widely share the common misconception that they are no good at doing math. For many reasons, simple mathematics transform into some scary dragon-headed monster that paralyzes its victims by its horrible look. However, once students realize that the story they get used to telling themselves about their math performance is a myth, the horrible monster that has been gatekeeping their future away, vanishes, leaving only a shadow of its former horror.

Fewings (2011) found that success in doing mathematics will relieve students from constant pressure and anxiety potentially affecting other non-math courses, for the greater the number of times you have achieved success, the greater your confidence is likely to be.

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**Alumnus, Govt. College of Education, Sector 20/D, Chandigarh

Government College of Education, Chandigarh
Significance of the Study

In the modern world the mathematics is being used in all the fields such as science, technology, banking, computers and industries. Even each part of our body is in some proportion or dimension, in the same way we use mathematics for constructing our houses, for making various designs etc. We also use mathematics during shopping. As a result of this mathematics is very useful in daily life. Mathematics helps in the development of intellectual power like power of imagination, observation and systematic thinking and reasoning.

In India although mathematics occupies the status of a compulsory subject in the school curriculum, yet the rate of failure in this subject is alarming. Therefore it is necessary to know about the causes of failure in this subject. There are many factors such as problem solving ability, reasoning ability, motivation, self-confidence, interest and study habits etc that influence the achievement in mathematics. So it appeals the investigator to study the relationship between self-confidence and study habits with achievement in mathematics.

Objectives of the Study

• To study the relationship between self-confidence and achievement in mathematics of class 8th students.
• To study the relationship between study habits and achievement in mathematics of class 8th students.
• To study the relationship between self-confidence and study habits of class 8th students.

Hypotheses

1. There is no significant correlation between Self Confidence and Achievement in Mathematics of class 8th students.
2. There is no significant correlation between Study Habits and Achievement in Mathematics of class 8th students.
3. There is no significant correlation between self-confidence and study habits of class 8th students.

Sample of the study

The population of the study was all the class VIII students studying in Government senior secondary schools of Chandigarh. Two schools were selected randomly. The sample of 100 students was taken from the said schools.
Tools Used

In the present study the following standardized tools were used:

- Study Habit Inventory by Mukhopadhyay & Sansanwal, 2005.
- Self Confidence Inventory by Gupta, 2013.
- Mathematics Achievement Test by Dubey, 1996.

Statistical Techniques Used

Pearson’s Correlations were computed to determine the relationship among the three variables.

Analysis of Data and Interpretation of Results

Interpretation and Discussion on the Basis of Correlation

The first objective of the study was to study the relationship between the Self Confidence and Achievement in Mathematics of class 8th students. The hypothesis was tested by employing Pearson correlation.

Table 1 Showing Correlation between Self Confidence and Achievement in Mathematics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient of correlation</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Confidence-Achievement in Maths</td>
<td>-0.542</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 1 reveals that the correlation between self-confidence and achievement in mathematics for class 8th students is -0.542 which is significant at 0.01 level. The negative value of correlation shows that self-confidence is in inverse proportion with achievement in mathematics which means that as the value of self-confidence increases the value of achievement in mathematics decreases. Hence first hypothesis stating “There will be no significant correlation between self-confidence and achievement in mathematics of class 8th students” may not be accepted.

Thus, as the self-confidence increases, the achievement in Mathematics of class 8th students decreases.

The second objective of the study was to study the relationship between the Study Habits and Achievement in mathematics of class 8th students. The hypothesis was tested by employing Pearson correlation.
Table 2 showing Correlation between Study Habits and Achievement in Mathematics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient of correlation</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Study habits - Achievement in Maths</td>
<td>0.355</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 2 reveals that the correlation between study habits and achievement in mathematics is 0.355 which is significant at 0.01 level. The positive value of correlation shows that study habits are in direct proportion with achievement in mathematics which means that as the value of study habits increases the value of achievement in mathematics also increases. Hence, second hypothesis stating, "There will be no significant correlation between study habits and achievement in mathematics of class 8th students" may not be accepted.

Thus, as the study habits improve, the achievement in Mathematics of class 8th students also increases.

The third objective of the study is to study the relationship between the Self Confidence and Study habits of class 8th students. The hypothesis was tested by employing Pearson correlation.

Table 3 showing Correlation between Self Confidence and Study Habits

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient of correlation</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self Confidence - Study habits</td>
<td>-0.485</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Table 3 reveals that the correlation between self-confidence and study habits is -0.485 which is significant at 0.01 level. The negative value of correlation shows that self-confidence is in inverse proportion with study habits which mean that as the value of self-confidence increases the value of study habits decreases and vice-versa. Hence third hypothesis stating "There will be no significant correlation between self-confidence and study habits of class 8th students" may not be accepted.

This suggests that more self-confidence leads to poor study habits.

Findings and Conclusions

On the basis of analysis of the data and interpretation of the results the present study obtained through various statistical means, the following conclusions have been drawn-

- Self-confidence is in inverse proportion with achievement in mathematics which means that as self-confidence increases the achievement in mathematics of students studying in class 8 decreases.
• Study habits are in direct proportion with achievement in mathematics which means that as the study habits improve the achievement in mathematics of students studying in class 8 also increases.

• Self-confidence is in inverse proportion with study habits which means that as more self-confidence leads to poor study habits.

References

Hannula et.al. (2004). Development of Understanding and Self Confidence in Mathematics; Grades 5-8, Markku S. Hannula, Hanna Maijala & Erkki Pehkonen. Department of Teacher Education, University of Turku, Finland.

A STUDY OF ATTITUDE TOWARDS E-COMMERCE

Dr. Vijay Phogat* & Mr. Girish Kumar Sahni**

ABSTRACT

The present paper attempts to study the attitude of 300 Government Senior Secondary School students of Chandigarh towards E-commerce. The major findings of the study were (i) There exists no significant difference in attitude of commerce and science students towards E-commerce. (ii) There exists significant difference in attitude of commerce, science and arts students towards E-commerce. (iii) There exists no significant difference in attitude of students towards E-commerce with respect to sex (male and female) and area (urban and rural).

Keywords : Attitude, E-commerce, Electronic Commerce

Introduction

In present scenario, the fast-spreading internet technology has pushed India to the cusp of digital revolution. It is set to overhaul digital economy of the country as, today, it is observed that, on the one hand, there are numerous small petty shops upgrading themselves to do roaring business and, on the other hand, there is E-commerce spreading its wings to fly into newer horizons. Now, Indians are busy in breathing life into E-commerce ventures in their country, encouraging the growth of this new economy that's powered by internet. Now-a-days, people prefer internet for E-commerce not only for shopping books, clothes, and furniture but also for procuring simpler things such as groceries. Whether it is the increased penetration of internet, or the efficient supply chain management followed by E-commerce companies, more and more people have been switching over to internet for E-commerce than going to the nearby shops. Once, there was a time, when people had to stand in long queues for many hours for booking their rail tickets but, now, the scenario has changed so much that, today, people can book their rail tickets within a few minutes, sitting at home just by using railway ticketing website of Indian Government (IRCTC.COM) which is the biggest E-commerce portal in the country today. Reaping benefits of E-commerce, many coaching classes and computer training institutes have also developed on-line platforms for students who no longer need to travel to bigger cities for education or training. Not only the general public or the corporate world but also Narendra Modi Cabinet is embracing E-commerce with open hands and, thus, accelerating its growth by approving the ambitious Digital India Programme on 20th August, 2014 that aims to connect all Gram Panchayats by broadband internet to promote e-governance and to transform India into a connected knowledge economy. Thus, these days, people are truly living in a digital world which has significantly changed their attitude towards e-commerce.

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**Research Scholar (M.Phil)
Today, it is important to study the phenomena of E-commerce and of attitude of students towards E-commerce as E-commerce is an ever-growing emerging trend and is an eco-friendly system. It is also economical in terms of time, energy and money. More importantly, change is the law of nature. Students should change their mind-set accordingly to adapt the ongoing change in the form of E-commerce in dealing with the environment which is ever-changing and ever-evolving like never before. In the present era of digital economy, it is necessary to develop the correct attitude of students to adapt, act and learn the latest changing business environment in the form of E-commerce so that they may give their best to themselves and to their nation. If the proper attitude is developed in students towards E-commerce, it will be very easy to give the world the best kind of economic system. Thus, keeping in view the importance of the accurate attitude of students towards E-commerce, the present study is needed to be conducted to know and to check attitude (positive or negative) of students towards E-commerce so that adequate efforts may be made by educationalists specially by teachers to mould it according to the need of time to make students to be able to compete efficiently and successfully worldwide without being legging behind.

Review of Related Literature

Swatman and Chan (2001) found that E-commerce/E-business programs are normally offered by Information Systems Schools/ Departments, Business Schools, or Computer Science Departments. In fact, E-commerce is/should be a cross-discipline area (since it combines materials from Information Technology, Information Systems, Law, Computer Science, Business, Marketing, Management, Accounting, Logistics, Finance, Economics, and many other disciplines). Sherif and Maha (2002) found that E-commerce represents an opportunity for the developing country to keep pace with the developed world. Kamarulzaman (2011) found that E-shoppers are becoming more price sensitive, while, trust and strong brand name are gaining more attention from E-shoppers.

Emergence of the Problem

It came to the observation of the investigators that E-commerce has already shown a lot of growth in different fields in different countries of the world but it is still in evolutionary stage in India, catering few fields and moreover very few studies have been conducted exploring its impact on education especially on students who are the future users of E-commerce because of living in the digital era. Therefore, there is an urgent need for students to peep into and to understand this amazing industry of E-commerce and for the educationalists to discuss it with students what they feel about it and how they take it. That is why, the investigators have focused the present study to know the attitude of Senior Secondary School students towards E-commerce.
Objectives of the Study

- To compare attitude of commerce students, science students and arts students towards E-commerce.
- To compare attitude of male and female students towards E-commerce.
- To compare attitude of urban and rural students towards E-commerce.

Hypotheses of the Study

- $H_0.1$: There exists no significant difference in attitude of commerce students, science students and arts students towards E-commerce.
- $H_0.2$: There exists no significant difference in attitude of male and female students towards E-commerce.
- $H_0.3$: There exists no significant difference in attitude of urban and rural students towards E-commerce.

Delimitation of the Study

The study was delimited to Government Senior Secondary students of U.T. of Chandigarh only.

Tool used in the Study

E-commerce Attitude Scale (ECAS), developed and validated by the investigators themselves, was used.

Sample & Design of the Study

Out of 39 Government Senior Secondary Schools of Chandigarh, nine schools were selected randomly by using Simple Random Sampling Technique. Out of the selected nine schools, the list of 2865 students was taken as population. To get a sample of 300 students out of these 2865 students, all students’ roll numbers were entered into spreadsheet and a random number was assigned to each student and then the list was sorted by random number. Thus, sample of 300 students was drawn randomly, selected from selected nine schools. 100 students were selected from each of the three main streams of senior secondary classes i.e. commerce, science and art. The schematic layout of the sample and design of the study has been given in the following Figure 1:
Procedure of Data Collection

The data was collected from the students by getting them fill the questionnaire. Then, the questionnaires were scored according to the prescribed scoring keys and the data, thus obtained, was subjected to statistical analysis.

Statistical Techniques used in the Study

The descriptive statistical techniques like mean, standard deviation and inferential statistical techniques like chi-square, t-test were used to test the hypotheses based on the objectives of the study.

Analysis and Interpretation of the Data

Data collected from tests and experiments may have little meaning to the investigator until they have been arranged or classified in some systematic way (Garrett and Woodworth, 1996). The following Table 1 shows that the computed value of $t$ (-.395) was lower than the table values of $t$ at 0.01 level of significance (2.60) and at 0.05 level of significance (1.97) at 198 degree of freedom. It means that there was no significant difference in the attitude of commerce and science students towards E-commerce. Thus, the null hypothesis i.e. “There exists no significant difference in attitude of commerce and science students towards E-commerce.” was accepted at both 0.01 and 0.05 levels of significance.
Table 1: Descriptive and Inferential Statistics with reference to Commerce & Science Students

<table>
<thead>
<tr>
<th>Stream</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean of</th>
<th>Computed t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce</td>
<td>100</td>
<td>67.32</td>
<td>4.882</td>
<td>.488</td>
<td>-.395</td>
<td>198</td>
</tr>
<tr>
<td>Science</td>
<td>100</td>
<td>67.65</td>
<td>6.772</td>
<td>.677</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following Table 2 shows that the computed value of t (2.992) was higher than the table values of t at 0.01 level of significance (2.60) and at 0.05 level of significance (1.97) at 198 degree of freedom. It means that there was significant difference in the attitude of commerce and arts students towards E-commerce. Thus, the null hypothesis i.e. "There exists no significant difference in attitude of commerce and arts students towards E-commerce." was not retained at both 0.01 and 0.05 levels of significance.

Table 2: Descriptive and Inferential Statistics with reference to Commerce & Arts Students

<table>
<thead>
<tr>
<th>Stream</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean of</th>
<th>Computed t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commerce</td>
<td>100</td>
<td>67.32</td>
<td>4.882</td>
<td>.488</td>
<td>2.992</td>
<td>198</td>
</tr>
<tr>
<td>Arts</td>
<td>100</td>
<td>65.29</td>
<td>4.710</td>
<td>.471</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following Table 3 shows that the computed value of t (2.861) was higher than the table values of t at 0.01 level of significance (2.60) and at 0.05 level of significance (1.97) at 198 degree of freedom. It means that there was significant difference in the attitude of arts and science students towards E-commerce. Thus, the null hypothesis i.e. "There exists no significant difference in attitude of arts and science students towards E-commerce." was not retained at both 0.01 and 0.05 levels of significance.

Table 3: Descriptive and Inferential Statistics with reference to Arts & Science Students

<table>
<thead>
<tr>
<th>Stream</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean of</th>
<th>Computed t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arts</td>
<td>100</td>
<td>65.29</td>
<td>4.710</td>
<td>.471</td>
<td>2.861</td>
<td>198</td>
</tr>
<tr>
<td>Science</td>
<td>100</td>
<td>67.65</td>
<td>6.772</td>
<td>.677</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following Table 4 shows that the computed value of t (.946) was lower than the table values of t at 0.01 level of significance (2.59) and at 0.05 level of significance (1.97) at 298 degree of freedom. It means that there was no significant difference in the attitude of male
and female students towards E-commerce. Thus, the null hypothesis i.e. "There exists no significant difference in attitude of male and female students towards E-commerce." was accepted at both 0.01 and 0.05 levels of significance.

Table 4: Descriptive and Inferential Statistics with reference to Male & Female Students

<table>
<thead>
<tr>
<th>Sex</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Std. Error of Mean</th>
<th>Computed t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>150</td>
<td>66.45</td>
<td>5.631</td>
<td>.460</td>
<td>-.946</td>
<td>298</td>
</tr>
<tr>
<td>Female</td>
<td>150</td>
<td>67.06</td>
<td>5.599</td>
<td>.457</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The following Table 5 shows that the computed value of t (.740) was lower than the table values of t at 0.01 level of significance (2.59) and at 0.05 level of significance (1.97) at 298 degree of freedom. It means that there was no significant difference in the attitude of urban and rural students towards E-commerce. Thus, the null hypothesis i.e. "There exists no significant difference in attitude of urban and rural students towards E-commerce." was accepted at both 0.01 and 0.05 levels of significance.

Table 5: Descriptive and Inferential Statistics with reference to Urban & Rural Students

<table>
<thead>
<tr>
<th>Stream</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Std. Error Mean of</th>
<th>Computed t-value</th>
<th>df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban</td>
<td>150</td>
<td>66.99</td>
<td>5.924</td>
<td>.484</td>
<td>.740</td>
<td>298</td>
</tr>
<tr>
<td>Rural</td>
<td>150</td>
<td>66.51</td>
<td>5.295</td>
<td>.432</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Conclusions and Educational Implications of the Study

- The results of the study showed that Arts students were found to have lower attitude towards E-commerce. It suggests that it is time to educate them about the significance of E-commerce in today's digital world to enable them to face the future challenges related to E-commerce.

- The results of the study showed that commerce students were found to have higher positive attitude towards E-commerce than arts students. This difference in attitude might be because commerce students study E-commerce as one of the topics of their syllabus. It suggests that it is time to take commerce students to the next level of E-commerce i.e. hands on experience of E-commerce.

- The results of the study showed that science students were found to be at higher side in the attitude parameter even they were not taught E-commerce as part of their curriculum. It might be because of their technological and scientific blend of their minds.
It was quite surprising, but true. The high attitude score indicated their high positive attitude towards E-commerce. It suggests that it is time to take science students also to the next level of E-commerce i.e. hands on experience of E-commerce.

- The results of the study showed that there is a no significant difference in attitude of male and female students of U.T. of Chandigarh towards E-commerce. This proves that high level of education like that of Chandigarh eliminates the discrimination on the basis of sex. It supports the credibility of education system and promotes that female education to be at par level of their male counterparts.

- The results of the study also showed that there is a no significant difference in attitude of urban and rural students of U.T. of Chandigarh towards E-commerce. This proves that by providing equal education opportunity to urban and rural students, there will be no difference in their attitude towards E-commerce. It suggests that both urban and rural students should be given equal opportunity for their growth and development.

References


PSYCHOLOGICAL HARDINESS AND VALUES
AMONG TEACHERS

Dr. Anjali Puri*

ABSTRACT

To study the relationship of Psychological Hardiness of teachers with values, a sample consisted of 200 teachers randomly taken from Govt. schools of Chandigarh was studied through descriptive survey method. Product moment co-efficient of correlation was used to analyze the data. It was found that (i) Positive and significant correlation exists between Psychological Hardiness and religious value, social value, democratic value, knowledge value, health value and aesthetic value. (ii) No significant correlation exists between Psychological Hardiness and economic value, hedonistic value, power value and family prestige value. This trend may account for the reason that these values help a teacher to continuously develop understanding of self and others, which in turn develops the ability to establish and nurture loving relationships with the students.

Keywords : Psychological Hardiness, Values, Teachers

Introduction

Psychological Hardiness refers to an individual's capacity to withstand stresses and not manifest psychological dysfunction such as mental illness or persistent negative mood.

"Hardiness isn't just about surviving trauma", says Maddi (1990), "It's about having a good life." He defined three components of hardiness as commitment, control and challenge. Gentry and Kobasa (1984) suggested persons low in hardiness may prefer to use regressive coping strategies such as cognitive and behavioral withdrawal and denial, which neither transform the situation nor solve the problem.

According to Kobasa (1979), the effects of hardiness are mediated by appraisal and coping mechanisms shown in fig. 1

KOBASA'S MEDITATIONAL MODEL

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The concept of psychological hardiness is not to be misunderstood, let's remember that it is not considered as callousness, insensitivity or lack of concern for others. It refers to being tolerant and accepting for others, effectively handling stress, good in management of moods, even tempered, self sufficient, self reliant and feeling good about oneself.

Psychological Hardiness is not a single unified variable but rather a conglomeration of a number of variables. However in the present study psychological hardiness of teachers is studied in relation to values.

West's Encyclopedia of American law (1998) states, "Value in use is the utility of an object in satisfying, directly, or indirectly the needs or desires of human beings." According to Thomson's American Heritage Dictionary (2000), "Value is the worth in usefulness or importance to the possessor, utility of merit."

Some studies have been done to find the relationship between Psychological Hardiness and Values as given below:

Harrison and Brower (2011) concluded that through their sojourns, students develop, among other traits, global competency, defined as a tolerance for ambiguity, intellectual flexibility, and an ease of conducting affairs in multicultural contexts. A study has identified 'motivational' predictors including Psychological Hardiness of US Army Special Forces' performance, intellectual performance and success (Kilcullen, Mael, Goodwin, & Zazanis, 1999). Firestone (2012) stated that there are three traits that make up hardiness: challenge, control, and commitment. An individual needs strong values upholding tendencies in order to achieve hardiness in his personal life. Nguyen et al (2012) in their study stated that Vietnam's continuing economic transformation has sharply increased the demand for highly-qualified business graduates. Vietnamese universities have responded to this increase in demand by improving the quality of their programs and raising their performance standards. The degree to which high-quality competitive programs increase students' satisfaction with their educational experience is determined by their psychological hardiness in learning, their learning motivation, and their assessments of the functional value of business education.

Review of related studies indicates that fewer attempts have been made to study the relationships of the given variables and not even a single study could be located studying this relation on teachers. In lieu of these reasons, there emerges a need of further probing into the problem.
Objective

1. To study the relationship of Psychological Hardiness of teachers with religious, social, democratic, aesthetic, economic, knowledge, hedonistic, power, family prestige and health values.

Hypothesis

1. There will be no significant relationship between Psychological Hardiness and religious, social, democratic, aesthetic, economic, knowledge, hedonistic, power, family prestige and health values of teachers.

Method

Descriptive survey method was used to conduct the present study.

Population

All the teachers working on regular basis in different Government schools of Chandigarh formed the population for the sample.

Sample

A sample of 200 teachers was taken randomly from the population. Out of 106 Government schools of Chandigarh, ten schools were randomly selected and out of these selected schools, 200 teachers were randomly selected as sample of the study.

Tools Used

The following tools were used to collect the data:

1. Psychological hardiness scale developed and validated by Arun Kumar Singh (2003) was used to measure Psychological hardiness of teachers.

2. Personal value Questionnaire (PVQ) (1997) by Sherry and Verma was used for value determination of teachers.

Results and Discussion

Product moment method of correlation was used to analyze the data. Results are shown in the following table:
Table showing co-efficient of correlation between variables such as personal values: religious value, social value, democratic value, aesthetic value, economic value, knowledge value, hedonistic value, power value, family prestige value and health value with Psychological Hardiness:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient of Correlation of different types of Values with Psychological Hardiness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychological Hardiness</td>
<td>1.000</td>
</tr>
<tr>
<td>Religious value</td>
<td>0.516*</td>
</tr>
<tr>
<td>Social Value</td>
<td>0.417*</td>
</tr>
<tr>
<td>Democratic value</td>
<td>0.378*</td>
</tr>
<tr>
<td>Aesthetic Value</td>
<td>0.142**</td>
</tr>
<tr>
<td>Economic Value</td>
<td>0.092</td>
</tr>
<tr>
<td>Knowledge Value</td>
<td>0.752*</td>
</tr>
<tr>
<td>Hedonistic Value</td>
<td>0.091</td>
</tr>
<tr>
<td>Power Value</td>
<td>0.043</td>
</tr>
<tr>
<td>Family Prestige Value</td>
<td>0.083</td>
</tr>
<tr>
<td>Health Value</td>
<td>0.348*</td>
</tr>
</tbody>
</table>

NOTE: *implies significant at .01 level  
**implies significant at .05 level

There is a significant and positive correlation of religious, social, democratic, knowledge and health values with Psychological Hardiness as the corresponding correlation coefficients are 0.516, 0.417, 0.378, 0.752 and 0.348 respectively at 0.01 level of significance. Correlation coefficient of Aesthetic Value with Psychological Hardiness is 0.142 which is significant at 0.05 level of significance. This trend may account for the reason that these values help a teacher to continuously develop understanding of self and others, which in turn develops the ability to establish and nurture loving relationships with the students. As aesthetic value is characterized by harmony, it helps to develop capacity him to maintain harmony in relationships also. Health of mind keeps the body in a fit state and healthy mind rests in a fit body. All this contributes towards better Psychological Hardiness.
The economic, hedonistic, power and family prestige values were not found to have significant correlation with Psychological Hardiness as their corresponding correlation coefficients are 0.092, 0.091, 0.043 and 0.083 respectively. The result implied that economic, hedonistic, power and family prestige values do not affect the Psychological Hardiness. A man with high economic value is guided by consideration of money and material gains. Power value is conceptualized as desirability of ruling over others and family prestige value is the conception of desirability of such relationships as would become one's family status. Person with high economic value, high power value, and high family prestige value may not initiate and maintain mutually rewarding relationships.

Psychological Hardiness refers to an individual's capacity to withstand stresses and not manifest psychological dysfunction such as mental illness or persistent negative mood. On the basis of findings of the present study it can be concluded that teachers who are in possession of religious, social, democratic, knowledge, health and aesthetic values have sound Psychological Hardiness. We always emphasize the importance of values for students and inculcation of these is always a major consideration but we often forget that only a teacher who himself possesses a strong value system can impart these among students. The study might pave the way for the importance of values for teachers and invites the attention of policy makers and other stakeholders.

References


SCIENTIFIC ATTITUDE IN RELATION TO THE SELF-CONCEPT OF THE SCHOOL STUDENTS

Mr. Lilu Ram Jakhar*

ABSTRACT

The present study examines the scientific attitude of the school students in relation to their self-concept. Scientific attitude is open mindedness, a desire for accurate knowledge, confidence in procedures of seeking knowledge and the expectations that the solution of the problem will come through the use of verified knowledge. Self-concept is the totally of a complex, organized, and dynamic system of learned beliefs, attitudes and opinions that each person holds to be sure about his or her personal existence. The sample in the present study comprised of 100 students studying in government schools in Chandigarh. Descriptive survey method was employed to collect the data. The major finding of the study revealed that there is a positive correlation between the scientific attitude and self-concept of the school students.

Keywords: Scientific Attitude, Self-Concept, School students

Introduction

Science is a way of gaining knowledge and understanding of our natural world. The things, we can feel, see, hear, smell, and taste to the smallest detail are based on observation, identification, description, experimental investigation, theoretical explanation of the natural phenomenon. In terms of education, science helps students to develop the understanding and also develop good habits of using the mind. The students need to become compassionate human beings who are able to think for themselves and to face the life ahead. Science also equip them to participate thoughtfully with the fellow citizens in building and protecting a society that is open, decent and vital. Scientific attitude is the combination of many qualities and virtues, which is reflected through the behavior and action of the person. The persons are open minded, experiment oriented, systematic in approach, possess love for knowledge, intellectuality honest, unbiased and truthful and possess scientific temper (Kulshreshtha, 2008).

The period of adolescence is extremely important in the life of an individual because at this stage, one moves from childhood to stages of maturity, where in the individual takes active part in life process. Self-concept is one of the most influential factors. Successes and other pleasurable events in life lead to the enhancement of self-concept whereas the failure and other denigrating experiences tend to lower the self-concept of the adolescents. Self-concept is best conceived as a system of attitudes towards oneself. Self-concept consists of all the perceptions, feelings, attitudes, aspirations and values of oneself. Self-concept of adolescents is more affected by personality, school and family

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environment. Attitude plays an important role in developing understanding among individuals and scientific attitude provides realistic edifice to the development of the personality of the adolescents during the period of growth and adjustment. Self-concept is your impression or concept of your-self. It includes your own listing of personal trials that you deem important and your evaluation of how you rate according to these trials. It has much to do with whether you like yourself and how much (Rathus&Nevid, 2003).

In the present study the two variables of scientific attitude and self-concept were explored to assess whether there is any relationship between these for the school students.

Emergence of the Problem

The world today is moving fast and we are heading towards becoming more advanced. In this present situation everyone is busy in his or her own life. But in this race people sometimes forget and neglect a lot of things which are important for them. Society aspire that our children to be more intelligent and successful in life and for this reason we emphasize more on the studies of our children. In the process we neglect the emotional level as well as the personal growth of children to a great extent. Sometimes children are unable to cope up with these fast changes happening in the society and as a result they start feeling lonely and develop their self-concept which is sometimes harmful for them. The self-concept of the child plays a significant role in the development of personality and formation of the attitudes. Scientific attitude develop open mindedness, skepticisms and makes the child self-confident. Scientific attitude also affects the academic achievement and have influence on the personality of the students. Thus the Scientific attitude & self-concept are significant factors that can predispose young children to immediate and long term negative consequences. So the need of the hour is to check what these adolescents feel and think. Investigator felt a need to conduct research on the variables of scientific attitude and self-concept and to explore the relation between them.

Objectives of The Study

The main objectives of the study are:

1. To study and compare the scientific attitude of adolescent boys and girls.
2. To study and compare the self-concept of adolescent boys and girls.
3. To study the relationship between scientific attitude & Self-concept of adolescents.

Hypotheses of the Study

The study was designed to test the following null hypothesis:

1. There exists no significant difference in scientific attitude of adolescent boys and girls.
2. There exists no significant difference in self-concept of adolescent boys and girls.

3. There exists no significant correlation between scientific attitude & self-concept of adolescents.

**Procedure and Tools of the Study**

The descriptive survey method was used to collect data by employing the tools namely; Scientific Attitude Scale (SAS-BM) developed and standardized by Bajwa and Mahajan (2012) and Self-concept inventory by developed and standardized by Saraswat (2011). Data related to both the variables were collected by following the proper procedures mentioned in the respective manuals from two government schools viz. Govt. Model senior Secondary School, Sector- 20D Chandigarh and Govt. Model senior Secondary School, Sector-19 C, Chandigarh. The Sample consists of 100 students out of which 70 were boys and 30 were girls. The student were assured of the confidentially of the data. The data was scored and analyzed and interpreted by employing different statistical techniques.

**Analysis and Interpretation of the Data**

The data collected was analyzed by employing descriptive and inferential statistics and the results were interpreted. The analysis of the data revealed that the distribution of Scientific Attitude and Self-concept scores were approximately normal.

**Table 1: Difference in the Scientific Attitude of Boys and Girls**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Total Students</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific</td>
<td>Boys</td>
<td>70</td>
<td>151.47</td>
<td>12.09</td>
<td>1.554</td>
<td>Not Significant</td>
</tr>
<tr>
<td>Attitude</td>
<td>Girls</td>
<td>30</td>
<td>147.43</td>
<td>11.45</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom = 98; Table value of t at 0.05 level of significance = 1.98; Table value of t at 0.01 level of significance = 2.63.

Table 1 shows that the calculated value of t-ratio for scientific attitude of boys and girls. It comes out to be 1.554 which is even less than the table value of 1.98 at 0.05 level of significance. It shows that the calculated value of t is not significant at 0.05 level of significance. So it can be said that there exists no significant difference in the scientific attitude of boys and girls at 0.05 level of significance. Hence, the hypothesis that there exists no significant difference in scientific attitude of adolescent boys and girls is retained. Hence there is no significant difference in scientific attitude of boys and girls.
The figure 1 clearly indicates that there is not much difference in mean scores of Scientific Attitude of the boys and girls.

**Table 2: Difference in Self-concept of boys and girls students**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Groups</th>
<th>Total Students</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Concept</td>
<td>Boys</td>
<td>70</td>
<td>91.69</td>
<td>28.21</td>
<td>0.668</td>
<td>Not Significant</td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td>30</td>
<td>87.53</td>
<td>29.17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom = 98; Table value of t at 0.05 level of significance = 1.98; Table value of t at 0.01 level of significance = 2.63.

Table 2 shows the calculated value of t-ratio for self-concept of boys and girls students. It comes out to be 0.668 which is even less than the table value 1.98 at 0.05 level of significance. It shows that the calculated value of t is not significant at 0.05 level of significance. So it can be said that there exists no significant difference in the self-concept of boys and girls at 0.05 level of significance. Hence, the hypothesis that there exists no significant difference in self-concept of adolescent boys and girls is retained at 0.05 level of significance. Thus there is no significant difference in Self-concept of the boys and girls.
The figure 2 clearly indicates that there is not much difference in mean scores of self-concept of boys and girls.

The coefficient of correlation was calculated to find out relation between Scientific Attitude & Self-Concept of the students as shown in table 3.

**Table 3: Coefficient of Correlation between Scientific Attitude and Self-Concept of the students**

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Coefficient of correlation</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scientific attitude</td>
<td>100</td>
<td>0.963</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Self-concept</td>
<td>100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Degree of freedom = 98; Table value at 0.05 level = 0.195; Table value at 0.01 level = 0.254

Table 3 reveals that the coefficient of correlation between scientific attitude & self-concept of the students is 0.963 which is higher than the table value 0.195 at 0.05 and 0.254 at 0.01 level of significance respectively. It shows that there is a very high positive correlation between scientific attitude and self-concept of adolescents. It further means that students having high level of scientific attitude will have high level of self-concept. Hence, the hypothesis there exist no significant correlation between scientific attitude and self-concept of adolescents is rejected at 0.05 level of significance as well as at 0.01 level of significance. Therefore, there exist significant correlation between scientific attitude & self-concept of the students.
Findings and Conclusions

On the basis of data analysis and interpretation of the results obtained through various statistical techniques in the present study, following conclusions were drawn:

1. The study shows that there is no significance difference in scientific attitude of boys and girls.

2. The study also shows that there exist significance difference in the Self-Concept of the boys and girls.

3. The study shows that there is a positive correlation between the scientific attitude and self-concept of school students.

References


PSYCHOLOGICAL WELL BEING AMONG UNIVERSITY STUDENTS

Ms. Vanika* & Dr. Anurag Sankhian**

Abstract

This study was conducted to study and compare the level of Psychological Well Being among day scholars and hostellers of Panjab University. A sample of 80 students (40 day scholars and 40 hostellers) was selected by using simple random proportionate sampling method from Panjab University, Chandigarh. Psychological well being Scale by Sisodia and Choudhary (2012) was used to access Psychological well being of students. The analysis and interpretation of the data was done by using t-test. The result of the study show that there is no significant difference in level of Psychological well being among day scholars and hostellers (t=-.749, p=.456).

Keywords : Psychological well being, Day scholars and hostellers.

Introduction

Psychological Well Being has gained much popularity in the field of Psychology as it is an important component of one's life. According to The fourteenth Dalai Lama, "The purpose of life is to be happy. From the moment of birth, every human being wants happiness and does not want suffering. Neither social conditioning nor education nor ideology affects this. From the very core of our being, we simply desire contentment. I don't know whether the universe, with its countless galaxies, stars and planets, has a deeper meaning or not, but at the very least, it is clear that we humans who live on this earth face the task of making a happy life for ourselves. Therefore, it is important to discover what will bring about the greatest degree of happiness" (Tenzin, 2016).

Well being is one of the most important goals which individuals as well as societies strive for. The term donates that something is in a good state. It doesn't specify what that 'something' is and what is meant by 'good'. Well being can be specified in two ways: first by the specifying the 'what' and secondly by spelling out the criteria of wellness. Psychological well-being is the subjective feeling of contentment, happiness, satisfaction with life's experiences and of one's role in the world of work, sense of achievement, utility, belongingness and no distress, dissatisfaction or worry, etc. (Sisodia & Choudhary, 2012). Psychological well-being is conceptualised as some combination of positive affective states such as happiness (the hedonic perspective) and functioning with optimal effectiveness in individual and social life (the eudemonic perspective) (Deci & Ryan ,2008). Whereas, Huppert (2009) summarised that, "Psychological well-being is about lives going well".

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Psychological well-being has several connotations and scholars interpreted it differently:

Ryff (1989) in her seminal paper attempted to combine different conceptions of well-being from the ancient Greek to the modern psychological such as theories of Individuation from Carl Jung, Self-actualization from Abraham Maslow and others. The Ryff Scales of Psychological Well-Being is a theoretically grounded instrument that specifically focuses on measuring multiple facets of psychological well-being. These facets include self-acceptance, the establishment of quality ties to other, a sense of autonomy in thought and action, the ability to manage complex environments to suit personal needs and values, the pursuit of meaningful goals and a sense of purpose in life, continued growth and development as a person (Seifert, 2005). According to Diener et al. (1999) Psychological Well Being includes pleasant or positive well-being, unpleasant affect or psychological distress, Life satisfaction and domain or situation satisfaction. Whereas According to Bhogle and Prakash (1995) PWB includes meaning in life, absence of suicidal ideas, personal control, social support, absence of tension, and general efficiency.

Kraut et al. (1998) conducted a study entitled, 'A social technology that reduces social involvement and psychological well-being?' and found that greater use of the Internet was associated with declines in participants' communication with family members in the household, declines in the size of their social circle, and increases in their depression and loneliness. Mabekoje (2003) concluded in his study that self-esteem, social support and agreeableness were the significant predictors of teachers' psychological well-being among Nigerian Teachers. Baer et al. (2012) in his study found that mindfulness and self-compassion skills may play important roles in the improved wellbeing associated with mindfulness training. Gencoz & Ozlale (2004) conducted a study on the impact of social support on psychological well-being at university level and come out with results that social support associated with appreciation showed direct impact on psychological wellbeing. Akhtar (2015) examined the psychological well-being of gender differences. Findings of the study revealed significant differences in the levels on psychological well-being among students. Hasan(2016) conducted a study named Psychological Well-being and Gender Difference among Science and Social Science students and found that there is no significant difference among the under-graduate students of science and social science with respect to Gender and Choice of streams.

Young adulthood is a very crucial part of life. It encompasses the stage between ages 18-25 years, where the young are in a transformative stage. Generally if a person continues with his/her studies in general stream; he/she would be the student of postgraduate stream like M.A./ M.Sc. / M.Com and by the time they will reach their 22 years of age (following our 10+2+3+2 educational system). Many researchers have found maladaptive behaviour among post graduate students and indicated that emotions played a very crucial role in
that. University is a period of responsibility for choices and lifestyle practices, where students are exposed to the challenges of young adulthood and also tackle the mental and social issues of students' life. It is the time when young adults want to be independent. They often come out with an important decision which undergoes a significant stage by choosing where to stay or live during their entire university life. They can either choose to stay in hostel or live at home. Many students confront changes in living conditions and (health promoting/damaging) adjustments to lifestyle and environment. They also face the stresses of achieving success in their academic goals, and are expected to be competitive, adding to the demands and burdens and possibly leading to more stress. Students may also deal with issues around financial constraints, financial support, social interaction and loneliness (Bhattacharjee, 2016). So, all these factors affect their psychological well-being. There is plethora of researches on psychological well-being but not directly with the hostellers and day scholars. Home environment and life of a hostel are very different. The present study was conducted with an objective to know about the difference between postgraduate students of the Panjab University, Chandigarh residing in the hostels and day scholars with respect to their Psychological Well-Being.

**Statement of the problem**

"Psychological Well-Being among University students"

**Objectives of the study**

• To study the psychological well being of students of Panjab university.
• To compare the Psychological Well-being of Day scholars and Hostellers.

**Hypothesis of the study**

There will be no significant difference in Psychological Well-being of day scholars and hostellers.

**Delimitations of the study**

The study was delimited to a sample of 80 postgraduate students of Panjab University campus, Chandigarh.

**Methodology & Design:**

Present study is a descriptive research study and survey design was employed to carry out the present research study.

**Sample**

The present study was conducted by using simple random proportionate sampling method and selecting a sample of 80 postgraduate students (40 day scholars and 40 hostellers) of Panjab University, Chandigarh.
Tool used

Scale for Psychological well-being developed by Sisodia & Choudhary (2012) was used for the present study. The scale comprised of 50 statements with a view to measure several aspects of well-being like Satisfaction, Efficiency, Sociability, Mental Health and Interpersonal Relations was administered on the Post-graduate students of Panjab University, Chandigarh. The test-retest reliability of the scale is 0.87 & validity is 0.94.

Data analysis

For data analysis, descriptive statistics i.e., mean and SD were used and for testing the hypothesis inferential statistics i.e., t -test was employed.

Analysis and Interpretation of the data

The analysis of the data show that the majority of students of Panjab university campus, Chandigarh had moderate level of Psychological well being (90 %), while only 10 % of students had high level of Psychological well being. No student was found having very low, low and very high psychological well being.

Table 1: Mean Differentials and t-ratio for Psychological Well Being among Day Scholars and Hostellers

<table>
<thead>
<tr>
<th>Post graduate students</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>t-value</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Scholars</td>
<td>40</td>
<td>186.88</td>
<td>16.59</td>
<td>-.749</td>
<td>0.456</td>
</tr>
<tr>
<td>Hostellers</td>
<td>40</td>
<td>190.25</td>
<td>23.16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 show that the mean score of Psychological Well Being among Day Scholars and Hostellers. In the case of Day scholars the mean score of Psychological Well Being is 186.88 and in the case of the Hostellers the mean score of Psychological Well Being is 190.25. The calculated t-value between Psychological Well Being among Day Scholars and Hostellers is -0.749, which is found to be non significant. Hence the null hypothesis, "There is no significant difference between Psychological Well Being among Day Scholars and Hostellers" is accepted.

Findings

• Majority of students had moderate level of Psychological well being (90 %), while only 10 per cent of students had high level of Psychological well being. No student was found having very low, low and very high psychological well being.

• There is no significant difference between hostellers and day scholar students with respect to their psychological well-being.
Conclusions

On the basis of the present study it can be concluded that the mean scores of the Post graduate students of Panjab university campus, Chandigarh residing in the hostels are better than the day scholars in the case of Psychological well-being. As we have discussed earlier also that post graduate students have many responsibilities and they have to think about their career also. So, emotional upheavals are inevitable at this age. Hosteller's students live their life independently as compared to day scholars. But the day scholars have to live under some kind of constraints. The results of the present study were favoured by the research study conducted by the Mishra (1987) which found that hostellers were emotionally more mature as compared to non-hostellers. Bhattacharjee (2016) also found that the hosteller students were more emotionally matured in comparison to day scholar students. The results contradicts to the study conducted by the Shakeel(2015) which concluded that the day scholar student are more satisfied with life (Psychological well-being) and had improved quality of life in contrast to hostellers.

References


CAREER PREFERENCES IN RELATION TO LOGICAL THINKING OF SENIOR SECONDARY STUDENTS

Dr. Harsh Batra* & Dr. Sapna Nanda**

ABSTRACT

The present study was designed to study the career preferences in relation to logical thinking of senior secondary students of Chandigarh. Random sampling method was used to select two schools out of all the government schools of Chandigarh. Total sample of 100 students was selected by this method, selecting 50 from each school, comprising of 25 male and 25 female students. Career Preference Record by Vivek Bhargava and Rajshree Bhargava (2009) and Logical Thinking Test by Dr. Sujeet Kumar and Dr. Shikha Tiwari (2012) were used for collection of data. Results revealed no significant difference in mean scores of career preferences of male and female students in all streams, except for Science and Technology and Defence, which were preferred significantly more by male students as compared to their female counterparts. Logical thinking scores of male and female students also revealed no significant difference. Coefficient of correlation between the two variables revealed significant correlation, indicating better choice of career preference with higher logical thinking. The study will be helpful in improving the logical thinking skills that are lagging in the students, thereby help the students to have a better understanding of their career orientations.

Keywords: Career preference, Logical thinking and Senior Secondary students.

Introduction

The aim of education is multi-fold but the primary aim is to make an individual understand oneself and be able to decide upon the choice of vocation. Successful career development often involves setting realistic, deliberate goals, simultaneously searching for cohesiveness between employee and employer. Understanding how career preferences are identified based on knowledge of self and work can be instrumental in positive career development and satisfying occupational placement. Greater the maturity, greater is the probability that the individual is able to make wise, sincere and satisfactory decisions with regard to career choices. It enables an individual to cope with developmental tasks at different stages of vocational development (Dandekar & Makheeja, 2002).

Choosing a right career option is the most vital decision in everyone’s life. Students may go through a dilemma of choosing a career after completing their 10th, 12th or graduation. Apart from the top paying and common career options such as Medical,
Engineering, Management, Chartered Accountancy etc., numerous other options are available in the field of Health Care, Travel and Tourism, Media and so on. The choice of a career depends on the job prospects of the field and most certainly the interest of the students. When one thinks about a career choice, several things immediately come to the mind i.e. job description, training and education required, career outlook, salary etc. but there are a number of other factors that may influence the decisions like skills and abilities, interest and personality type, life roles, previous experiences, culture, social and economic conditions, childhood fantasies etc. (Venable, 2011).

Logical thinking is simply a matter of organizing and manipulating information. Problems or situations that involve logical thinking call for structure, for relationships between facts, and for chains of reasoning that "make sense." Research into practical thinking processes has shown that there are two contrasting types of reactions that many people have, with relatively few folks falling in the middle. On one hand, there is the challenge reaction. One person sees the situation as an opportunity for a bit of mental exercise, in addition to a problem in need of resolution. On the other extreme, there is the avoidance reaction. This person sees the situation as threatening, uncomfortable, involving an unpleasant and defeating experience. He or she experiences what might be called the failure reflex, a snap reaction feeling of dread, which originates in ancient experiences of having been defeated by situations similar to the one presenting itself. By various means, the logical thinker has opportunities to master certain basic mental procedures that work well in a broad variety of situations and has been rewarded in different ways for using these mental processes successfully. The person with an aversion to logical thinking has found this kind of experience consistently unsuccessful, defeating and unpleasant. Because no one will repeatedly seek out experiences that threaten his or her self-esteem, this person falls into a self-reinforcing pattern of avoiding experiences that would help to develop these skills. It has been proven that specific training in logical thinking processes can make people "smarter" (Aggarwal, 2001).

Kim (2011) studied the Relationship between thinking style differences and career choices for high-achieving students. The findings of this study demonstrated that the effect of program on the different thinking styles was statistically significant. The findings showed that external thinking style was a good predictor for choosing social science areas as future careers. However, students with higher external thinking styles chose computer and math areas 73% less often than students with lower external thinking styles. In addition, the findings demonstrated that high-school students attending a program with an academic focus on liberal arts tended to be more people oriented and outgoing and valued sharing ideas with others as opposed to students in a program with an academic focus on science and
technology. Finally, students attending a program with an academic focus on liberal arts tended to be more systematic and set priorities more often than students in a program with an academic focus on science and technology.

It is a common observation that the students of senior secondary classes are confused over selecting their streams for further studies. It has been found that most of the students choose a particular stream either due to the pressure they get from their parents or the influence they have from their peers. So many students, due to lack of proper guidance and lack of understanding of their own abilities and interest, select wrong streams which lead to failures and disappointments. This further leads them into a dilemma of what career to choose and what job to do for their survival. So keeping this situation in view, the present study was undertaken.

**Objectives of the study**

- To study the career preferences of male and female students of senior secondary schools of Chandigarh.
- To study the level of logical thinking of male and female students of senior secondary schools of Chandigarh.
- To study the relationship between career preferences and logical thinking of male and female students of senior secondary schools of Chandigarh.

**Hypotheses of the study**

- There exists no significant difference in career preferences of male and female students of senior secondary schools of Chandigarh.
- There exists no significant difference in the logical thinking of male and female students of senior secondary schools of Chandigarh.
- There exists no significant relationship between career preference and logical thinking of students of senior secondary schools of Chandigarh.

**Selection of Sample**

In this study, a representative sample of 100 students of class XI from two Government Schools, namely Government Senior Secondary school, Sector -27 C, Chandigarh and Government Senior Secondary school Sector -46 C, Chandigarh were selected using random sampling method. There were two sections in each school with 50 students in each section. Sample was selected randomly from each section again by lottery system. Total number of sample selected by this method from each school was 50 (25 boys and 25 girls).
Tools Used

In the present study, following standardised tools were employed:

- Career Preference Record by VivekBhargava and RajshreeBhargava (2009)
- Logical Thinking Test by Dr.Sujeet Kumar and Dr.ShikhaTiwari (2012)

Statistical Analysis

In this study, descriptive and inferential statistics were used to calculate the Mean, Median, Mode and Standard Deviations of the data to study the general nature of data. Skewness and kurtosis were worked out to see the general trend of departure of the sample distribution from normal distribution curve. After this, t-values were calculated to find the significance of difference between the mean scores of male and female students. Then, the Pearson's coefficient of correlation was calculated to study the relationship between Career Preferences and Logical Thinking of senior secondary students.

Results and Discussion

Table 1
Showing Descriptive Statistics of Different Streams for Career Preferences among Students

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Standard deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Media &amp; Journalism (MMJ)</td>
<td>100</td>
<td>6.85</td>
<td>7.0</td>
<td>4.74</td>
<td>0.108</td>
<td>-.815</td>
</tr>
<tr>
<td>Artistic &amp; Designing (AD)</td>
<td>100</td>
<td>7.69</td>
<td>8.0</td>
<td>4.43</td>
<td>0.010</td>
<td>-.595</td>
</tr>
<tr>
<td>Science &amp; Technology (ScT)</td>
<td>100</td>
<td>7.10</td>
<td>8.0</td>
<td>4.48</td>
<td>-0.081</td>
<td>-.787</td>
</tr>
<tr>
<td>Agriculture (AG)</td>
<td>100</td>
<td>5.65</td>
<td>6.5</td>
<td>4.06</td>
<td>0.199</td>
<td>-.520</td>
</tr>
<tr>
<td>Commerce &amp; Management (CM)</td>
<td>100</td>
<td>6.90</td>
<td>7.0</td>
<td>4.69</td>
<td>0.394</td>
<td>-.423</td>
</tr>
<tr>
<td>Medical (M)</td>
<td>100</td>
<td>5.27</td>
<td>6.0</td>
<td>3.98</td>
<td>0.191</td>
<td>-.975</td>
</tr>
<tr>
<td>Defence (D)</td>
<td>100</td>
<td>6.07</td>
<td>6.0</td>
<td>4.27</td>
<td>0.050</td>
<td>-.342</td>
</tr>
<tr>
<td>Tourism &amp; Hospitality (TH)</td>
<td>100</td>
<td>5.96</td>
<td>7.0</td>
<td>4.18</td>
<td>0.039</td>
<td>-.094</td>
</tr>
<tr>
<td>Law &amp; Order (LO)</td>
<td>100</td>
<td>7.13</td>
<td>7.0</td>
<td>4.29</td>
<td>0.172</td>
<td>-.062</td>
</tr>
<tr>
<td>Education (E)</td>
<td>100</td>
<td>7.67</td>
<td>8.0</td>
<td>4.77</td>
<td>-0.055</td>
<td>-.999</td>
</tr>
</tbody>
</table>
As seen in Table 1, the mean as well as median values of all the streams of career preferences are close to each other, showing normal distribution of the population. However, the skewness values of all the streams of career preferences are positive, except for Science and Technology and Education, indicating that distribution is slightly positively skewed. The values of Kurtosis of all the streams of career preferences are less than the table value of 0.263, indicating leptokurtic nature of curve.

Table 2
Showing Significance of Difference between career preference of male and female students

<table>
<thead>
<tr>
<th>Group</th>
<th>Mean (Males)</th>
<th>Mean (Females)</th>
<th>SD (Males)</th>
<th>SD (Females)</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Media &amp; Journalism (MMJ)</td>
<td>7.76</td>
<td>5.94</td>
<td>4.60</td>
<td>4.77</td>
<td>1.943</td>
<td>N.S.</td>
</tr>
<tr>
<td>Artistic &amp; Designing (AD)</td>
<td>7.78</td>
<td>7.60</td>
<td>4.64</td>
<td>4.27</td>
<td>0.202</td>
<td>N.S.</td>
</tr>
<tr>
<td>Science &amp; Technology (ScT)</td>
<td>8.14</td>
<td>6.06</td>
<td>4.71</td>
<td>4.03</td>
<td>2.374</td>
<td>0.05</td>
</tr>
<tr>
<td>Agriculture (AG)</td>
<td>6.34</td>
<td>4.96</td>
<td>4.19</td>
<td>3.86</td>
<td>1.712</td>
<td>N.S.</td>
</tr>
<tr>
<td>Commerce &amp; Management (CM)</td>
<td>7.64</td>
<td>6.16</td>
<td>5.05</td>
<td>4.23</td>
<td>1.589</td>
<td>N.S.</td>
</tr>
<tr>
<td>Medical (M)</td>
<td>5.76</td>
<td>4.78</td>
<td>4.04</td>
<td>3.90</td>
<td>1.233</td>
<td>N.S.</td>
</tr>
<tr>
<td>Defense (D)</td>
<td>7.26</td>
<td>4.88</td>
<td>4.34</td>
<td>3.89</td>
<td>2.885</td>
<td>0.01</td>
</tr>
<tr>
<td>Tourism &amp; Hospitality (TH)</td>
<td>6.56</td>
<td>5.36</td>
<td>4.25</td>
<td>4.06</td>
<td>1.443</td>
<td>N.S.</td>
</tr>
<tr>
<td>Law &amp; Order (LO)</td>
<td>7.32</td>
<td>6.94</td>
<td>4.13</td>
<td>4.49</td>
<td>0.440</td>
<td>N.S.</td>
</tr>
<tr>
<td>Education (E)</td>
<td>8.20</td>
<td>7.14</td>
<td>4.83</td>
<td>4.72</td>
<td>1.111</td>
<td>N.S.</td>
</tr>
</tbody>
</table>

Table 2 represents means, standard deviations and t-values of scores of various streams of career preferences of male and female students. As seen in this table, there is no significant difference in mean scores of all streams of career preferences of male and female students, except for Science and Technology and Defence, which were preferred significantly more by male students as compared to their female counterparts.
Table 3

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>Standard Deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Logical Thinking</td>
<td>100</td>
<td>24.13</td>
<td>24</td>
<td>4.30</td>
<td>.097</td>
<td>-.828</td>
</tr>
</tbody>
</table>

Table 3 shows the mean, median, standard deviation, skewness and kurtosis of Logical thinking scores of 100 students. The mean as well as median values of logical thinking scores are close to each other, showing normal distribution of the population. However, the skewness value of logical thinking score is positive, indicating that distribution is slightly positively skewed. The value of Kurtosis is less than the table value of 0.263, indicating leptokurtic nature of curve.

Table 4

<table>
<thead>
<tr>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50</td>
<td>24.00</td>
<td>5.12</td>
<td>0.301</td>
<td>Not significant</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>24.26</td>
<td>3.34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4 represents means, standard deviations and t-values of scores of logical thinking of male and female students, showing no significant difference between logical thinking scores of male and female students.

Table 5

<table>
<thead>
<tr>
<th>Career Preference</th>
<th>Logical Thinking</th>
<th>Level of significance</th>
<th>N</th>
<th>Df</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mass Media &amp; Journalism (MMJ)</td>
<td>.221*</td>
<td>0.05</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Artistic &amp; Designing (AD)</td>
<td>.336**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Science &amp; Technology (ScT)</td>
<td>.323**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Agriculture (AG)</td>
<td>.230*</td>
<td>0.05</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Commerce &amp; Management (CM)</td>
<td>.337**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Medical (M)</td>
<td>.276**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Defense (D)</td>
<td>.211*</td>
<td>0.05</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Tourism &amp; Hospitality (TH)</td>
<td>.295**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Law &amp; Order (LO)</td>
<td>.208*</td>
<td>0.05</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td>Education (E)</td>
<td>.260**</td>
<td>0.01</td>
<td>100</td>
<td>98</td>
</tr>
</tbody>
</table>

Note: * . Significant at the 0.05 level ($r = 0.195$). **. Significant at the 0.01 level ($r = 0.254$).
Table 5 shows that coefficient of correlation ($r$) between various career preferences and logical thinking of students. The values coefficient of correlation ($r$) in the areas of Artistic & Designing (AD), Science & Technology (ScT), Commerce & Management (CM), Medical (M), Tourism & Hospitality (TH), & Education (E) with logical thinking are greater than the table value of 0.254, hence significant at 0.01 level. However, the coefficient of correlation ($r$) values in the areas i.e. Mass Media & Journalism (MMJ), Agriculture (AG), Defence (D), Law & Order (LO) and logical thinking are greater than the table value of 0.195 but less than 0.254, hence significant at 0.05 level. Hence, there exists significant correlation between the two variables, indicating better choice of career preference with higher logical thinking. Similar findings have been suggested in a study conducted by Kim (2011).

The present study is helpful in understanding the career options for girls and boys. It can help a teacher to make students more aware towards their career and goals and prepare them likewise. The study can help in providing better guidance programmes in schools. It can also help in improving the logical thinking skills that are lagging in the students. This will help the students to have a better understanding of their career orientations.

References


MOBILE PHONE ADDICTION AMONG HIGHER SECONDARY STUDENTS IN RELATION TO THEIR PERCEIVED LONLINESS

Dr. Neelam Paul* & Ms. Ruchika Vashisht**

Abstract

With the changing trends in technology, our society is leaning more towards adoption of every change in communication technology. The use of mobile phones has become a very important and integral part of society. Young people are becoming more and more dependent upon mobiles and consider these to be an integral part for their survival. They are busy mostly in continuous texting, playing games, listening to music and calling friends. Though mobile phones are very helpful for parents in the sense of their security issues regarding their children and getting instantaneous information from internet, yet there are certain demerits of mobile usage. Modern mobile phones currently include all the features of a laptop, including web browsing, Wi-Fi, and many apps etc., but excessive use of these have led to problems related to stress, decreased privacy, attention deficits, aggression and constant connection to virtual world. The Study revealed that there is no significant difference between mobile phone addiction between male and female students, there is no significant difference between perceived loneliness among male and female students. Further, this study is aimed at finding out the relationship between mobile phone addiction and perceived loneliness among the higher secondary students. It has been found in this study that coefficient of correlation is significant at 0.01 level which shows that mobile addiction is correlated with the perceived loneliness.

Introduction

Mobile phone is considered as an important communication tool and has become not only a communication device but also a necessary social accessory. People are more inclined towards the use of mobile phones. Mostly they are found indulged in messaging, chatting, exploring internet and watching videos. This type of indulgence has led to addiction. Addiction means dependence, continuous use of something for the sake of comfort or stimulation which often causes cravings when the thing is absent. Mobile phone addiction is one of the forms of compulsive use of mobile phone. Our youth, the major chunk of which are the students, are also affected by the excessive engagement in mobiles, because in adolescence stage they are more susceptible to changing trends in society which in turn is affecting their interpersonal relationships setting a stage for loneliness. Loneliness is

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**Lecturer, PML S.D. Public school, Chandigarh
believed to emerge when the people indulge into materialistic and individualistic way of life. According to Peplau and Periman (1981), "Loneliness is the unpleasant experience that occurs when a person's network of social relations is deficient in some way". The problem like loneliness is emerging faster with the increasing rate of industrial, scientific and technological growth. Thus mobile addiction has also come out as predisposition to loneliness.

**Emergence of the Problem**

The Revolution in communication technology has made all the communication so easy that we can easily correspond to a person sitting far away. Each and every invention has brought comforts as well as some threatening effects with it. Same is the case with mobile phone technology. This is a medium that allows youngsters to communicate and interact with others without any monitoring from parents and teachers. They do not want any interference in their personal issues and problems which is resulting in to stress, anxiety, depression and loneliness among the youngsters. so it aroused interest on the part of invigilator to find the relationship between mobile addiction and perceived loneliness among the students.

**Objectives**

1. To study the difference between mobile phone addiction among male and female students of higher secondary classes.
2. To study the difference between perceived loneliness among male and female students of higher secondary students.
3. To study the relationship between mobile phone addiction and perceived loneliness among higher secondary students.

**Hypotheses**

1. There is no significant difference between mobile phone addiction among male and female students of higher secondary classes.
2. There is no significant difference between perceived loneliness among male and female students of higher secondary students.
3. There is no significant relationship between mobile phone addiction and perceived loneliness among higher secondary students.

**Sample of the Study**

The Sample of the present study comprised of 200 (100 boys and 100 girls) of class IX between the age group of 14-16 years were selected through random sampling from different schools of Chandigarh.
Design of the Study

Descriptive method of research was employed for the study.

Tools Used

1. Mobile phone addiction scale by Velayudhan and Srividya (2012)
2. Perceived Loneliness scale by Parveen Kumar Jha (1993)

Results and Discussions

Table 1: Comparison of Mean scores and difference between means of mobile phone addiction scores of male and female student

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of students (N)</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>100</td>
<td>113.88</td>
<td>27.76</td>
<td>0.774</td>
<td>Not significant at 0.01 level</td>
</tr>
<tr>
<td>Female</td>
<td>100</td>
<td>114.59</td>
<td>22.67</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows the mean, standard deviation and t-value for mobile phone addiction scores. The Mean value scores of male students is 113.88 and female students is 114.589, thus mean value scores of female students is bit higher than that of male students. The calculated t-value is 0.774 which is less than the table value at both 0.05 and 0.01 levels of significance, which implies that there is no significant difference between mobile phone addiction of males and females.

Therefore, the hypothesis that there is no significant difference between mobile phone addiction of males and female students of higher secondary classes is accepted.

Table 2: Comparison of Mean scores and difference between means of perceived loneliness scores of male and female students

<table>
<thead>
<tr>
<th>Variables</th>
<th>No. of students (N)</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-Value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>100</td>
<td>110.53</td>
<td>20.947</td>
<td>0.4244</td>
<td>Not significant at 0.01 level</td>
</tr>
<tr>
<td>Female</td>
<td>100</td>
<td>112.13</td>
<td>23.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 2 shows the mean, standard deviation and t-value for perceived loneliness scores. The Mean value scores of male students is 110.53 and female students is 112.13. The calculated t-value is 0.42444 which is less than the table value at both 0.05 and 0.01 levels of significance, which implies that there is no significant difference between perceived loneliness of males and females.

Therefore, the hypothesis that there is no significant difference between perceived loneliness of males and female students of higher secondary classes is accepted.

Table 3: Showing mean, median, standard deviation, skewness and kurtosis of mobile phone addiction scores

| TABLE 3 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| N | Mean  | Median | S.D. | Skewness | Kurtosis |
| 200 | 114.24 | 111.5 | 25.28 | 0.333 | -0.3204 |

The values of mean and median are closely related in the table, skewness is 0.333 and kurtosis is -0.3204, which shows that distribution is normal.

Table 4: Showing mean, median, standard deviation, skewness and kurtosis of perceived loneliness scores

| TABLE 4 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| N | Mean  | Median | S.D. | Skewness | Kurtosis |
| 200 | 111.33 | 105 | 22.092 | 0.539 | -0.2103 |

The values of mean and median are closely related in the table, skewness is 0.539 and kurtosis is -0.2103, which shows that distribution is normal.

Table 5: Correlation between Mobile phone addiction and perceived loneliness

| TABLE 5 |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Variables | 'r' Value | Level of significance |
| Mobile Phone addiction | | |
| Perceived Loneliness | 0.265 | 0.01 |

Table 5 shows the coefficient of correlation between Mobile phone addiction and perceived loneliness of higher secondary students is 0.265 which is slightly higher than the value at both 0.05 and 0.01 levels of significance.
Therefore the null hypothesis that "There exists no correlation between mobile phone addiction and perceived loneliness among higher secondary students" is not accepted.

Findings and Conclusions

The Study revealed that the mean of mobile phone addiction of female students is slightly higher than that of male students. Also mean of perceived loneliness among female students is slightly higher than male students, which is well in agreement with Turner (2008) who proposed that phone-related behaviours are differentially associated with user's personality and individual attributes (age, gender etc.). Further, there is slightly positive relationship between mobile phone addiction and perceived loneliness among higher secondary students, which implies that besides some other factors, addiction to mobile phones is also influencing students to some extent in terms of their perceived loneliness. Addiction to mobile phones is leading to lesser family interaction and problems among students which is paving their path towards loneliness. This dependence upon mobile phones has divided the family sitting under the same roof into mere individuals busy in their virtual worlds. Thus, use of mobiles is also reflecting upon the perceived loneliness among individuals which may become hazardously leading to depression and other health issues. However, some other factors may also be influencing the students leading to perceived loneliness.

Educational Implications

Thus, from above findings and conclusions, it is quite evident that not only the excessive use of mobile phones but some other factors are also increasing the probability of perceived loneliness. There may be other aspects like the issues of have and have not's, competition around, loss of compassion, busy schedules for perceived loneliness and wreckage of spiritual and moral values etc. for loneliness. So, parents and teachers should emphasize more on family and social ties. They should seek out ample time for their children, so that the children may depend upon them for their problems rather than be a part of their own virtual world. In schools, the students should be trained and occupied with mental and physical activities. There should be some interactions and seminars on abuses and hazards of mobile addiction, so that they may become focussed on studies and sports as well.

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RELATIONSHIP OF HEIGHT AND WEIGHT WITH AGILITY AND LEG EXPLOSIVE STRENGTH OF INTER COLLEGE LEVEL WOMEN BASKET BALL PLAYERS

Dr Rakesh Malik* & Dr Neeru Malik**

ABSTRACT

The performance of basketball player very much depends upon heredity of the players such as their height, genotype etc and their training age especially refers to their agility and explosive strength. In the present study scholars studied the relationship of height and weight with agility and leg explosive strength of women basketball players. The study was conducted on forty eight women basketball players of Khalsa college for Women, Civil Lines Ludhiana, Government college for Girls Ludhiana, Guru Gobind Singh khalsa college for girls Sector -26 and Post Graduate Government College for Girls Sector-11, Chandigarh who has qualify for inter college league tournament during Panjab University inter college basketball competition for the session 2016-17 held at Panjab University campus Chandigarh. The obtained data was analyzed through descriptive analysis and Pearson Product Moment Coefficient of Correlation statistical technique. The result of the present study indicate significant relationship between height with agility and weight with agility and leg explosive strength both among women basketball players.

Keywords: Agility, Leg explosive Strength & Basket ball players.

Introduction

High performance is recently coined terminology popular in sport science. It refers to performance in athletics, which is top class and at the level of the accepted international standards. The expression high performance may be misleading as it may conveys the sense of top class performance at different levels of participation; it may be so in regard to competitive sports within specific age group such as sub-junior, junior and senior for girl and boys both. Acquisition of high performance requires lot of efforts and constant training and practice. It require lot of efforts and constant training and practice which may be improve the performance level of the athletes, there are many factors which need concentration and exploration with changing dimensions of competitive sports. These factors may include physical fitness, psychological preparation, sociological aspects, physiology, anatomical and kinesiology fitness along with application enough mechanical principles of the physics. Though all these factors are equally important for the excellence of sports performance, yet, physical fitness has the dominance over others. Therefore all the coaches and trainers

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**Assistant Professor, Dev Samaj College of Education, Sector-36 B, Chandigath
try their best to improve the fitness level of their athletes. Specifically the game of basketball which is the concerns of the researcher has become highly scientific and needs top class fitness of the players to show better performance in the competitions. Physical fitness is a very wide term which needs different things to different people. According to Clark (1976), physical fitness is the ability to carry out daily tasks with vigour and alertness without undue fatigue and with ample energy to enjoy leisure time pursuits and to meet enforcing emergencies. He further explains physical fitness as the ability to bear up to withstand stress and to preserve under difficult circumstance, where an unfit person would quit. Physical fitness is more than "being well" or "not being sick" and extends on a scale from "abundant life" to death.

Apart from the physical proves of the basketball players, anatomical and kinesiological matching of the player is equally important to take full advantage of the physical fitness potentials of the basketball players. It is universally accepted that taller players have an edge over short height players in basketball. Therefore, taller players with better physical fitness will decidedly show better performance in case of factors being equal.

As leg explosive strength and agility are two vital components in the game of basketball which motivated the researcher to determine the relationship of height and weight with leg explosive strength and agility. Therefore he present study was entitled as "Relationship of height and weight with agility and leg explosive strength of inter college level basketball players"

**Objective of the study**

1. To find out the relationship between height with agility and leg explosive strength among inter college level women basketball players
2. To find out the relationship between weight with agility and leg explosive strength among inter college level women basketball players

**Hypotheses of the study**

1. There will be significant relationship between height with agility and leg explosive strength among inter college level women basketball players
2. There will be significant relationship between weight with agility and leg explosive strength among inter college level women basketball players

**Methodology and procedure**

The study was conducted on forty eight women basketball players of Khalsa college for Women, Civil Lines Ludhiana, Government college for Girls Ludhiana, Guru Gobind Singh khalsa college for girls Sector -26 and Post Graduate Government College for Girls Sector-11, Chandigarh who has qualify for inter college league tournament during Panjab
University inter college basketball competition for the session 2016-17 held at Panjab University campus Chandigarh. The obtained data was analyzed through descriptive analysis and Pearson Product Moment Coefficient of Correlation statistical technique.

The required data was collected on following variables:

1. Height: Through Stadiometer in inches
2. Weight: Through electronic Weighing machine in kilograms
3. Agility: Shuttle run
4. Leg Explosive strength: Sargent Jump (Vertical Jump)

**Results and Discussion**

The obtained data was statistically analyzed on coefficient of Correlation with the help of Pearson Product Coefficient of Correlation Statistical Technique to find out the relationship of height and weight with agility and explosive strength of Panjab University inter college level women basketball players.

**Table -1 : Coefficient of correlation between height and agility among inter college women basketball players**

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Height (Mt.)</td>
<td>1.582</td>
<td>0.167</td>
<td>-0.36*</td>
</tr>
<tr>
<td>2.</td>
<td>Agility( Sec.)</td>
<td>12.22</td>
<td>0.73</td>
<td></td>
</tr>
</tbody>
</table>

Significant at 5% level of confidence .228 (df=46)

Table -1 show the correlation between height and agility of inter college level women basketball players. The mean and Standard Deviation of height and agility was 12.22 and 0.167 in case of height and 12.22 and 0.73 in case of agility, whereas coefficient of correlation between height and agility was -0.36 which was found significant at 5% level of confidence, because obtained 'r' (0.36) value was greater than the required 'r' table value i.e. 0.288 with 46 degree of freedom.

**Discussion**

There are various evidence in the literature which indicates that people with shorter height are more agile than the tall person. In case of inter college level women basketball players of various colleges of Panjab university a negative correlation was found between height and agility, which show that tall players are less agile than short height players. Mechanically speaking the bony leverage of short height people has short leverage resulting greater
angular velocity around the joints which helps them in performing quick movements of bending, stretching and changing directions. On the other hand tall players comparatively find less angular velocity around the joints to perform the movements. The principle apply in the present case of women basketball player also which is supported by the negative correlation between height and agility studied in the present study.

Table -2 : Coefficient of correlation between height and leg explosive strength among inter college women basketball players

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Height (Mts.)</td>
<td>1.582</td>
<td>0.167</td>
<td>0.15</td>
</tr>
<tr>
<td>2.</td>
<td>Leg Explosive Strength ( Mts.)</td>
<td>0.332</td>
<td>0.046</td>
<td></td>
</tr>
</tbody>
</table>

Significant at 5% level of confidence .228 (df=46)

Table -2 show the correlation between height and leg explosive strength of inter college level women basketball players. The mean and standard deviation of height was 1.582 and 0.167 respectively. The mean and standard deviation of leg explosive was 0.332 and 0.046 respectively, the coefficient of correlation between height and leg explosive strength was 0.15 which was not significant at 5% level of confidence, because obtained 'r' (0.15) value was lesser than the required 'r' table value i.e. 0.288 with a 46 degree of freedom

Discussion

In the present system of basketball game all the players have to be equally matured to play from all the places in the game. In well balanced basketball team every player is expected to be good in defense, rebounding and shooting. Therefore, the leg muscles of all the players are involved in uniform type of movements. Under the circumstance, the leg muscles of all the players get uniform type of exercise and develop uniformly irrespective of their height. That is why the result also does not show any significant correlation between height and leg explosive strength.

Table -3 : Coefficient of correlation between weight and agility among inter college women basketball players

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Weight (Kgs.)</td>
<td>46.52</td>
<td>11.99</td>
<td>-0.49*</td>
</tr>
<tr>
<td>2.</td>
<td>Agility( Sec.)</td>
<td>12.22</td>
<td>0.73</td>
<td></td>
</tr>
</tbody>
</table>

Significant at 5% level of confidence .228 (df=46)
Table -3 shows the correlation between weight and agility of inter college level women basketball players. The mean and Standard Deviation of weight was 46.52 and 11.99 respectively. The mean and standard deviation of agility was 12.22 and 0.73 respectively. The coefficient of correlation between weight and agility was -0.49 which was to be statistically significant at 5% level of confidence, because obtained 'r' (-0.49) value was greater than the required 'r' table value i.e. 0.288 with a 46 degree of freedom

Discussion

It is accepted fact that heavy people are sluggish and find difficult. The same is good with the women inter college level basketball player of Panjab university. As the result have shown statistically significant negative correlation between the two variable, which prove beyond any doubt that the players with more weight give poor time on the agility test whereas the players with lightly weight give better time in the athletic language. Ordinarily in the laymen language the player with more weight consumed more time on the agility test as compared to the light weight basketball players.

Table -4: Coefficient of correlation between Weight and leg explosive Strength among inter college women basketball players

<table>
<thead>
<tr>
<th>Sr. No</th>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>'r'</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Weight (Kgs.)</td>
<td>46.52</td>
<td>11.99</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Leg Explosive Strength ( inch.)</td>
<td>.332</td>
<td>0.046</td>
<td>-0.5*</td>
</tr>
</tbody>
</table>

Significant at 5% level of confidence .228 (df=46)

Table -3 shows the correlation between weight and leg explosive strength of inter college level women basketball players. The mean and Standard Deviation of weight was 46.52 and 11.99 respectively. The mean and standard deviation of leg explosive strength was .332 and 0.046 respectively. The coefficient of correlation between weight and agility was -0.5 which was to be statistically significant at 5% level of confidence, because obtained 'r' (-0.5) value was greater than the required 'r' table value i.e. 0.288 with a 46 degree of freedom

Discussion

The results of relationship between weight and leg explosive strength of inter college level women basketball players of Panjab university have been found to be statistically significant at 5% level of confidence but this correlation is reflecting negative relation between the weight and leg explosive strength. Physiologically speaking is ratio proportionally required.
for the equal proportion of the weight or resistance. That means if the resistance is more the more and more strength is required to overcome the resistance as against the lesser resistance is overcome by lesser strength. The result also proves that the players having more weight find it difficult have better jumping height as compared to the light weight basketball players. So far, by explosive strength of basketball players is concerned, they have been less variation as proved in table No-2. Only weight is the causative factor which resulting poor jumping height on the strength jump test, resulting into the negative correlation between the two variables.

**Implication of the Study**

The finding of the study shows that coaches and trainer must concentrate on appropriate training methodology to achieved appropriate weight of their trainee because heavier the player body lesser will be the agility and explosive strength and vice versa.

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ATTITUDE TOWARDS SEX EDUCATION AND EVE TEASING IN RELATION TO FAMILY ENVIRONMENT OF ADOLESCENT GIRLS

Dr. Balwinder Kaur* & Ms. Sakshi Sood**

ABSTRACT

The beginning of imparting of sex education should ideally begin at home. It shouldn’t be considered as a taboo but an ultimate reality. The way girls respond to the eve teasing depends a great deal upon her family environment. So the main objective of study was to study the correlation between attitude towards sex education and family environment of adolescent girls and between attitude towards eve teasing and family environment of adolescent girls. To achieve this objective, the sample of 200 adolescent female students from government schools of Chandigarh was selected. Descriptive analysis like mean, median, mode and coefficient of correlation were calculated. Significant relationship was found between the attitude of adolescent girls towards sex education and family environment and between the attitude towards eve teasing and family environment.

Keywords: Attitude, Sex Education, Eve Teasing, Family environment & Adolescents.

Introduction

Despite early inroads of school-based sex education, most of the information on sexual matters in the mid-20th century was obtained informally from friends and the media, and much of this information was deficient or doubtful value, especially during the period following puberty when curiosity of sexual matters was the most acute.

For many years, researchers studied the psychological and social characteristics of adolescents who engaged in premarital sex, assuming that sexually active teenagers were more troubled than their peers. This view has been replaced as sexual activity has become more prevalent. Indeed, several recent studies show that sexual activity during adolescence is decidedly not associated with psychological disturbance.

Sex Education

Sex education is instruction on issues relating to human sexuality, including human sexual anatomy, sexual reproduction, sexual activity, reproductive health, emotional relations reproductive rights and responsibilities, sexual abstinence and birth control. Common avenues for sex education are parents or caregivers, formal school programs, and public health campaigns.

Sex education begins at home. Parents and caregivers are-and ought to be-the primary sex educators of their children. Teachable moments-opportunities to discuss sexuality issues with children-occur on a daily basis.

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** Alumnus, Govt. College of Education, Sec 20 D, Chd.
Eve - Teasing

According to Oxford Dictionary, "Eve teasing refers to the making of unwanted sexual remarks or advances by a man to a woman in a public place."

According to Cambridge Dictionary, "Eve teasing is the act of annoying a woman or women in a public place, for example, by making sexual comments."

Eve-teasing is a euphemism used in India (and sometimes other parts of South Asia, including Nepal and Bangladesh) for public sexual harassment or molestation (often known as "street harassment") of women by men, where Eve alludes to the very first woman, according to the Biblical creation story. Considered a problem related to delinquency in youth, it is a form of sexual aggression that ranges in severity from sexually suggestive remarks, brushing in public places and catcalls to groping. Some non-governmental organizations have suggested that the expression be replaced by a more appropriate term. According to them, considering the semantic roots of the term in Indian English, Eve teasing refers to the temptress nature of Eve, placing responsibility on the woman as a tease.

Family Environment

According to Duhaime's Law Dictionary, "Family environment refers to the central, fundamental unit of society responsible for the primary development and socialization of children."

Family environment is the complex of social and cultural conditions, the combination of external or extrinsic physical conditions that affect and influence the growth and development of the members of the family, the most instinctive fundamental social group which includes parents and children.

Family environment is the factor which sets the pattern for the child's attitude towards people and society, aids intellectual growth in the child and supports his aspirations and achievements.

The family is basically a unit in which parents and children live together. Its key position rests on its multiple functions in relation to overall development of its members, their protection, and overall well-being.

Emergence of the problem

As we already know that adolescence is an age of stress and strain. For the female adolescents, it just gets worse as there are too many physical changes which really scare them and if a not scared, they surely get confused. In such a scenario, the adolescents need proper guidance and insight into the real problem so that they understand - whatever changes their bodies are going through are very normal. Parents and teachers often fear that putting too much in the child's mind, too early may be harmful. They feel that once
children are informed of the facts about sex, they may want to get involved in it. Studies show that by offering sex education, premature involvement of children in sexual matters has been delayed. This is because discussing the subject satiates curiosity and removes the compulsive motive to experiment.

Studies like Yama, Mark F.; Tovey, Stephanie L.; Fogas, Bruce S. (1993) and Jaccard J. Dittus P.J. and Gordon V.V. (2000) lend support to the fact that the majority of young students desire and seek authentic information of sex matters. They need an understanding of physiological, psychological and emotional changes they undergo during their adolescence period. Adolescents many times have misconceptions and these myths are carried over to their adulthood, creating serious problems for marital relationship. So the vitality of the problem can be clearly understood here and it may be said that the relation between the family environment of adolescent girls and their attitude towards sex education is very crucial.

Only a few studies like Akhtar Z. (2013) and Kuruvilla M., Suhara F.M. (2014) have been found regarding eve teasing in relation to family environment of adolescent girls. This roused the curiosity of the investigator as she herself had sensed a deep relationship between the two. If the parents are open minded and understanding, the adolescent girls feel free to discuss such problems with them and parents are always capable of finding apt solutions for the same. But if the parents treat it as a taboo, the girl would never be able to share her troubles with them and would always remain in stress. This in turn, would cause a set down in her academic achievements and she would become socially withdrawn in extreme cases. This made the investigator very curious as she herself, during her adolescence period had gone through such experiences, which were quite tough on her and so she found all the more reason to conduct research on this topic. This called in for the study to be conducted on the family environment of adolescent girls in relation to their attitude towards eve-teasing.

Objectives
• To study the correlation between attitude towards sex education and family environment of adolescent girls.
• To study the correlation between attitude towards eve-teasing and family environment of adolescent girls.

Hypotheses
• There is no significant correlation between attitude of adolescent girls towards sex education and family environment.
• There is no significant correlation between attitude of adolescent girls towards eve-teasing and family environment.
Delimitations of the study

- The study was delimited to the adolescent girls of Chandigarh only.
- Only the female adolescent students (18+ years old) of govt. senior secondary schools were taken.

Sample

In the present study the sample consisted of 200 adolescent girls of XI grade from Government Model Senior Secondary School of Sector 20D, Government Model Senior Secondary School of Sector 21B, Government Model Senior Secondary School of Sector 22D and Government Model Senior Secondary School of Sector 22B, Chandigarh, which were selected according to the convenience of the investigator.

Tools Used

For the present study following standardized tools were used. These are:
- Family Environment Scale, Dr. Harpreet Bhatia and Dr. N.K. Chadha, 2009
- Eve Teasing Scale for Girls, Dr. Deepa Ghosh, 2012
- Attitude Scale Towards Sex Education, Dr. Usha Mishra, 2008

Interpretation and Discussion

The correlation between the attitude towards family environment and sex education; attitude towards family environment and eve teasing was worked out through Pearson’s correlation method.

Hypotheses - 1

There is no significant correlation between attitude of adolescent girls towards sex education and family environment.

Table 1.1: table showing coefficient of correlation of attitude towards sex education and family environment of adolescent girls

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>S.d</th>
<th>R</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex education</td>
<td>200</td>
<td>127.98</td>
<td>129</td>
<td>12.20</td>
<td>.85</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Family environment</td>
<td>200</td>
<td>286.37</td>
<td>287</td>
<td>15.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Interpretation

Table 1.1 shows that the value of coefficient of correlation between attitude towards sex education and family environment of adolescent girls is .85 which is greater than the table values 0.18 at 0.01 level of significance, respectively. This shows that the value of calculated coefficient of correlation is significant at 0.01 level of significance. So it can be said that there is a significant and positive correlation between the sex education and family environment of adolescent girls. Hence the hypothesis that there is no significant correlation between attitude of adolescent girls towards sex education and family environment is not accepted.

Hypotheses - 2

There is no significant correlation between attitude of adolescent girls towards eve-teasing and family environment.

Table 1.2: table showing coefficient of correlation of attitude towards eve teasing and family environment of adolescent girls

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Median</th>
<th>S.d.</th>
<th>R</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eve Teasing</td>
<td>200</td>
<td>97.74</td>
<td>100</td>
<td>11.33</td>
<td>.97</td>
<td>Significant at 0.01 level</td>
</tr>
<tr>
<td>Family environment</td>
<td>200</td>
<td>286.37</td>
<td>287</td>
<td>15.68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Interpretation

Table 1.2 shows that the value of calculated coefficient of correlation between attitude towards eve teasing and family environment of adolescent girls is .97 which is greater than the table value 0.18 at 0.01 level of significance. It shows that the value of calculated coefficient of correlation is significant at 0.01 levels of significance. So it can be said that there is significant and positive correlation between attitude towards eve teasing and family environment of adolescent girls. Hence the hypothesis that there is no significant correlation between attitude of adolescent girls towards eve teasing and family environment is not accepted.

It can be concluded that there is a significant relationship between attitude of adolescent girls towards sex education and family environment as well as their attitude towards eve teasing and family environment.
Findings and Conclusions

After calculating the Pearson's correlation coefficient for the first two hypotheses, it is found that:

**Hypothesis - 1** which states that **there is no significant correlation between attitude of adolescent girls towards sex education and family environment** is not accepted. Hence, the present study shows that the attitude of adolescent girls towards sex education has a significant relationship with their family environment.

**Hypothesis - 2** which states that **there is no significant correlation between attitude of adolescent girls towards eve teasing and family environment** is not accepted. Hence, the present study shows that the attitude of adolescent girls towards eve teasing has a significant relationship with their family environment.

Hence, it can be concluded that there is a significant relationship between attitude of adolescent girls towards sex education and family environment as well as their attitude towards eve teasing and family environment. This means that family environment of adolescent girls plays a very important role in shaping their mindset for the acceptance of sex education as well as their exposure to eve teasing.

Educational Implications

- Teachers will need a wider perspective about sex education being provided at school so as to benefit the adolescents to get a better insight into the workings of their bodies and minds.
- This study will enlighten the male population about the effects of eve teasing upon the females and will discourage them from such acts of degradation.
- Benefits parents by making them realize their role and need of providing conducive family environment to adolescent girls.
- Enables society at large to be empathetic towards the problems of adolescent girls.

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ATTITUDE OF B.Ed. STUDENTS OPTING TEACHING OF PUNJABI TOWARDS PUNJABI LANGUAGE IN CHANDIGARH

Dr. Mukhtiar Singh* & Mr. Parminder Singh**

ABSTRACT

True education is the harmonious development of the physical, mental, moral, spiritual and social faculties, the four dimensions of life for a life of dedicated service. The present study was conducted to ascertain the attitude of the students opting Teaching of Punjabi in the B. Ed. Course in the colleges of Education in Chandigarh. On the basis of analysis of data and interpretation of results of the present study, obtained through statistical means, it was concluded that there exist positive attitude of B.Ed students opting teaching of Punjabi towards Punjabi Language and there is no significant difference between attitude of B.Ed. students opting teaching of Punjabi of Government and Private Colleges towards Punjabi language.

Keywords: Attitude, Punjabi language, Government & private college.

Introduction

Education is a system process through which a child or an adult acquires knowledge, experience, skill and sound attitude. It makes an individual civilized, refined, cultured and educated for a civilized and socialized society. True education is the harmonious development of the physical, mental, moral, spiritual and social faculties, the four dimensions of life for a life of dedicated service. The constitution of India emphasizes on mother tongue. In article 25 it is mentioned that the students of primary level should be taught in their mother language so that they are able to understand it well. Government has also passed 3 tier education formulas where 3 main language English, Hindi and regional language should be taught in schools but this is just in the papers.

Language is very important for human life. It is the language only, which distinguishes human being from animal population and the reason behind mans superiority over the rest of the animal kingdom. Through language human beings not only shares emotions, thoughts and experiences but also seeks the probability of his development through the same language has a major role in bringing the human civilization up to the present status. Raiburn says, Intellectual development, self expression and creativity is impossible without the knowledge of language.

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** M. Ed. Student, Govt. College of Education, Sector- 20D, Chandigarh
Whole of the world is divided into different regions. Each and every region has own language. Like mandarin is spoken in china, Punjabi in Punjab, Tamil in Tamilnadu, Dutch in Germany, Spanish in Spain. After birth, the first thing that a child learns is his mother tongue. So, we can say that mother tongue plays an important role in the growth of the child. It is the carrier of culture from one generation to the next serving as the transmitting of human ideas and forms of behavior.

It may be defined as perception and judgment that reflects the classification and evaluation of persons, objects, situations, with a like or dislike label.

Attitude according to psychology is a three component construct which is known as the abc ; A is the affective or emotional component that will influence our behavior, whether we feel good or bad or ambivalent.

B is the typical behavioral tendency of a person.

C is the cognitive evaluation or belief of a person, based on what that person learnt from experience of observation.

The word attitude has been derived from the Latin word "aptus" which means the adeptness or fitness. It is a tendency to react in a certain way towards a designated class of stimuli. These are ways in which an individual thinks feels and acts. Attitudes are not observable. They can only be inferred from overt behavior. We may therefore look upon attitudes as "hypothetical constructs" rather than objective entities. (Dandapani, 2000)

Significance of the problem

Due to the dominance of English language and its important in various fields the regional languages in fluency has been diminishing all over the country but preservation of culture and unique traditions the importance of mother tongue cannot be underestimated. A teacher can deliver his best if he is interested in the matter, which he is teaching not a very huge quantity of literature and research has been done on prospective teacher's attitude in teaching of Punjabi and the available research needs further validation. Hence, present research problem is important and significant one.

Statement of the problem

"ATTITUDE OF B. Ed STUDENTS OPTING TEACHING OF PUNJABI TOWARDS PUNJABI LANGUAGE IN CHANDIGARH"

Objectives of the study

1) To study the attitude of B.Ed students opting teaching of Punjabi towards Punjabi language.

2) To study the significant difference between attitude of B.Ed students opting teaching of Punjabi towards Punjabi language studying in Government college of Education and Dev Samaj College of Education.
Hypotheses of the study

1) There exists no positive attitude of B.Ed Students opting teaching of Punjabi towards Punjabi language.

2) There exist no significant difference between attitude of B.Ed students opting teaching of Punjabi in Government and Private colleges towards Punjabi language.

Tools Used

Self prepared questionnaire on Attitude of B. Ed. students opting teaching of Punjabi towards Punjabi language was used to collect the data from students.

Procedure and analysis of the study

Data was collected by investigators themselves by descriptive questionnaire survey method.

Descriptive Statistics of Attitude Scores of Government College of Education Table 1(a)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>100.72</td>
</tr>
<tr>
<td>Median</td>
<td>104</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>9.98</td>
</tr>
<tr>
<td>Skewness</td>
<td>-0.892</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.209</td>
</tr>
</tbody>
</table>

Table 1 (a) shows mean, median, standard deviation, skewness and kurtosis of attitude. The mean is 100.72, median is 104, Standard deviation is 9.98 that represent that scattered scores from mean position. Values of skewness is -0.892 which shows that distribution is negatively skewed, indicating that the scores are massed at the upper end of the scale and spread out gradually at the lower end. The value of kurtosis is 0.209 which is lower than the normal distribution i.e. is 0.263.

Descriptive Statistics of Attitude Scores of B.Ed students of Dev Samaj College of Education Table 1(b)

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>100.95</td>
</tr>
<tr>
<td>Median</td>
<td>102.50</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>8.74</td>
</tr>
<tr>
<td>Skewness</td>
<td>-1.217</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>2.173</td>
</tr>
</tbody>
</table>
Table 1(b) shows mean, median, standard deviation, skewness and kurtosis of attitude. The mean is 100.95, median is 102.50. Standard deviation is 8.74 that represent the scattered scores from mean position. The Value of skewness is -1.217 which shows that distribution is negatively skewed, indicating that the scores are massed at the upper end of the scale and spread out gradually at the lower end. The value of kurtosis is 2.173 which is higher than the normal distribution i.e. is 0.263.

Table 1(c) Comparison of Attitude of Percentage of Government College of Education and Dev Samaj College of Education

<table>
<thead>
<tr>
<th>Class Intervals</th>
<th>Dev Samaj College of Education</th>
<th>Government College of Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>99 and below (Low Attitude)</td>
<td>35</td>
<td>27.5</td>
</tr>
<tr>
<td>100-109 (Average Attitude)</td>
<td>55</td>
<td>57.5</td>
</tr>
<tr>
<td>110 and above (High Attitude)</td>
<td>10</td>
<td>15</td>
</tr>
</tbody>
</table>

Fig 1 Bar Graph Showing the Comparison of Attitude Percentage of Government College of Education and Dev Samaj College of Education.

Hypothesis 1: "There will be no positive attitude of B.Ed students opting teaching of Punjabi towards Punjabi Language."
The percentage of students falling under the category of low attitude of Government College of Education is 27.5 and Dev Samaj College of Education is 35. The percentage of students falling under the category of average attitude of Government College of Education is 57.5 and Dev Samaj College of Education is 55. The percentage of students falling under the category of good attitude of Government College of Education is 15 and Dev Samaj College of Education is 10.

So we can say that more than 60 percent of B.Ed. students opting teaching of Punjabi have positive attitude towards Punjabi language as they fall under the category of average attitude.

Hence our null hypothesis 1"There is no positive attitude of B.Ed students opting teaching of Punjabi towards Punjabi Language" is rejected.

**Hypothesis 2**: "There is no significant difference between attitude of B.Ed students opting teaching of Punjabi towards Punjabi language studying in Government College of Education Sector-20 D Chandigarh and Dev Samaj College of Education Sector-36 Chandigarh."

**Table 1 (d) Difference in attitude of B.Ed. Students opting Teaching of Punjabi towards Punjabi language**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Total Students</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>t-value</th>
<th>Level of significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government College</td>
<td>40</td>
<td>100.72</td>
<td>9.98</td>
<td>0.036</td>
<td>Not Significant at 0.05 Level</td>
</tr>
<tr>
<td>Private College</td>
<td>20</td>
<td>100.95</td>
<td>8.74</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Figure 2 Bar Diagram showing the Mean of Government College of Education and Dev Samaj College of Education.**
As the table 1 (d) reveals that the mean and standard deviation of attitude scores of B.Ed students opting teaching of Punjabi towards Punjabi language were calculated and also 't' value for mean difference was calculated. The table shows that mean scores of Government College of Education is 100.72 and standard deviation is 9.98. On other hand the mean score Dev Samaj College of education is 100.95 and standard deviation is 8.74. The 't' value calculated from mean scores is 0.036 which is not significant at 0.05 level. It means our calculated value is less than the table value at 0.05 which is 1.96 levels. This shows that there is no significant difference between attitude of B.Ed. students opting teaching of Punjabi towards Punjabi language studying in Government and private Colleges.

Thus, our null hypothesis 2 "There is no significant difference between attitude of B.Ed students opting teaching of Punjabi towards Punjabi language studying in Government College of education sector-20 D Chandigarh and Dev Samaj College of Education sector-36 Chandigarh (private college)" was accepted.

Conclusions of the study

On the basis of analysis of data and interpretation of results of the present study, obtained through statistical means, following conclusions have been drawn:

1) There exist positive attitude of B.Ed students opting teaching of Punjabi towards Punjabi Language.

2) There is no significant difference between attitudes of B.Ed. Students opting teaching of Punjabi of Government and Private Colleges towards Punjabi language.

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चण्डीगढ़ के राजकीय उच्चतर माध्यमिक स्तर के विद्यार्थियों की विज्ञान सम्बन्धी रूचि और उपलब्धि का अध्ययन

डॉ. कुमार

सारांश

मानव जीवन कला और विज्ञान का संगम है। इसकी ज़रूरत बालक के स्वभाव और प्रकृति में दिखायी देती है। अपने जीवन काल में व्यक्ति मौन होकर अनेकानेक अनुभवों का सामना करता है, जिससे वह अपनी स्थितियों का विकास करता है। स्थितियों में जमनजात न होकर उसके संग्रह का परिशोध होता है। बालक में ये स्थितियाँ व्यक्तित्व प्राप्त नहीं कर पाती, लेकिन समय के साथ-साथ ये विरोध हो जाती है। शिक्षा के क्षेत्र में इसका स्थान क्रमें में स्थित है। इसलिए पारंपरिक ही बालक की रूचि पर ध्यान दिया जाना चाहिए और उसको आकर्षित करना काफी महत्वपूर्ण है। अन्य स्रोत देखकर वे बालक की स्थिति का सम्बन्ध उसके कार्यक्षेत्रों पर पड़ जाती है। जिस कार्य का जानकारी उसकी रूचि होगी वह कार्य वह अधिक कार्यक्रम से करेगा, यद्यपि एक प्रवृत्ति उपलब्धि पर पड़ने वाली नहीं रह सकता। जिस कार्य का जानकारी उसकी रूचि होगी वह कार्य वह अधिक कार्यक्रम से करेगा, यद्यपि एक प्रवृत्ति उपलब्धि पर पड़ने वाली नहीं रह सकता। इसलिए इसका गहरा सम्बन्ध है।

पूर्वविश्वास:

शैक्षिक परिवेश में बालक का कदम में रख कर उसका निर्माण किया जा रहा है। रूचि प्रकृति एक भारी बालक तत्त्वांशिक परिवेश में जगती है जिसमें शिक्षा के साथ-साथ शिक्षणीय व वातावरण का भी उत्तर है। इसमें बालक की रूचि की ध्यान में रखते हुए उसके स्वभावमुक्त शिक्षण की व्यवस्था की जाती है, जिसमें यह चरमवर्तक का रूप में प्रवृत्ति गति से असर होता रहे। बालक की रूचि ज़ित और ओर, उसे उसी के लिए प्रेरित किया जाना चाहिए। ये इसी प्रकार है जैसे नींद के प्रवाह को विशेषेण दिशाय में ले जाने का प्रयास किया जाएगा, तब उसकी गति पर उसका प्रभाव पड़ा निश्चित है। रूचि के विरुद्ध किया गया प्रयास बालक की शैक्षिक उपलब्धि को प्रभावित करता है और यह स्वभावविश्वास भी।

रूचि का अर्थ:

किसी भी प्रकार की सफलता बालक उसके अभिवृत्ति अथवा अभिमुक्तता रखने से ही नहीं मिल सकती, जब तक उसके रूचि न हो। कि विद्यार्थी में वृद्धि, मानसिक बोधवत्ता तथा अभिवृत्ति कितनी ही क्यों न हो, रूचि सहायक प्रो॰- हिन्दी, राजकीय शिक्षा महाविद्यालय, सेक्टर 20 - डी, चण्डीगढ़।

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को अभाव में सब अभाव है। रूचि सीखने-सिखाने की प्रक्रिया को संचालित करने वाली देशीय शक्ति है। हमारे सभी प्रयासों का लक्ष्य विद्यार्थियों में ‘सीखने’ की रूचि को विकसित करना होता है। ‘रूचि’ बच्चों को केवल सीखने में ही सहायता प्रदान नहीं करती बल्कि उनके दृष्टिकोण, उनकी प्रवृत्तियों तथा अन्य व्यक्तित्व सम्बन्धी विशेषताओं के निर्माण में भी सहायक होती है। यह उनके व्यक्तित्व के निर्माण की दिशा निर्देशित करती है।

को एवं को के अनुसार: ‘रूचि वह अभिव्यक्ति शक्ति है जो हमें किसी व्यक्ति, वस्तु या क्रिया की ओर ध्यान देने के लिये मजबूर करती है अथवा यह एक प्रभावायुक्त अनुभूति है जो स्वयं क्रिया द्वारा अभिव्यक्ति होती है। दूसरे शब्दों में ‘रूचि’ किसी क्रिया का कारण भी हो सकती है और उस क्रिया में भाग लेने का परिणाम भी हो सकती है।’ (प्रथम ओवररय)

हमेशा, रहस्य तथा गेज़ के अनुसार: ‘रूचि मूल रूप से सुखान्त एवं सुखान्त भावनाओं, पसंद एवं प्रसन्न व्यवहार के आकर्षण एवं विकर्षण के रूप में दर्शन है।’ (एस.के. मंगल)

सुपर के शब्दों में: ‘रूचि कई प्रकार मनोवैज्ञानिक इकाई नहीं हैं, बल्कि, यह सम्पूर्ण मानव-व्यवहार का पहलू है।’ (एबी. भटनागर, भोपाल)

सुपर के अनुसार रूचि के चार प्रकार हैं, जो निम्नलिखित हैं:-

1. अभिव्यक्ति रूचि: इस प्रकार की रूचियों का निर्धारण व्यक्ति से किसी वस्तु, प्रक्रिया, व्यक्ति आदि के सम्बन्ध में पूछताछ करके किया जाता है।

2. प्रसर्षित रूचि: प्रसर्षित रूचि को व्यक्ति के व्यवहार का निरीक्षण करके जाना जाता है।

3. पहाते रूचि: इस प्रकार की रूचि की जानकारी परिषदों के किसी उपलब्धि परिषद् पर प्रति अंशों के आधार पर की जाती है।

4. प्रमर्श रूचि: इस प्रकार की रूचि को मानकरूप रूप से एवं साथ में परिषद्ूयों के द्वारा ज्ञात किया जाता है।

उपलब्धि का अर्थ: छात्र अथवा व्यक्ति अपने जीवन में अपने प्रकार को जानना तथा कौशल प्राप्त करता है। इस जान तथा कौशल में व्यक्ति ने कितनी दक्षता प्राप्त की है, इसका पता हम उपलब्धि परिषद् से लगाते हैं। विभागों में उपलब्धि परिषद् का अर्थ है कि वे परिषद् जिनकी सहायता से पढ़ाए जाते विचार तथा सिखायी जानेवाले कृषि कार्यों एवं कौशलों में छात्रों की सफलता और असफलता तथा कमजोरी का जान प्रकट होता है। उपलब्धि परिषद् बालक तथा वर्तमान योग्यता का किसी विशिष्ट विषय में और उसके जान तथा कौशल का मूल्यांकन करती है।
गैरेट के अनुसार : "‘उपलब्धि परीक्षण का प्रयोग छात्रों के सामान्य शैक्षिक स्तर या स्थिति और किसी विशेष विषय में उनके मान का निश्चय करने के लिये किया जाता है’" (एच.ई. गैरेट)

जोन्स के शब्दों में : "‘उपलब्धि परीक्षण यह निश्चय करने का महत्वपूर्ण स्थान है कि छात्र ने किसी वाहित लघु की ओर किसी रीति पर धर्म की है, यह अधिक प्रभाव करने के लिये उत्तम है यह नहीं और उसकी उपलब्धि उसके समूह के अन्य सदस्यों की तुलना में कितनी है।’" (जेसी. अय्वाल)

समस्या अभिविष्करणः चण्डीगढ़ के राजकीय उच्चतर माध्यमिक स्तर के विद्यार्थियों की रूचि और उपलब्धि का अध्ययन।

अध्ययन की आवश्यकता एवं महत्त्वः जिस तीव्रतासे समाज में परिवर्तन आ रहा है। वैश्विकीय कारण के द्वारा जनसाधारण के जीवनप्रदाय पर हम जो बदलाव आया है उस से कोई भी अदृश्य नहीं है। उसमें बाहर बालक के स्वभाव को लिया जाय या उसकी प्रतीक्षा को जाना जाय तब मात्र होता है कि पूर्व के बालक और वर्तमान के बालक में अनेकानेक विभिन्नतायें हैं। व्यक्ता से तलब की रुचि का सही आकार देने में उसके सहयोगी होते हैं। तब यह अनी सटीक उपलब्धि को जान करने में सफल हो जाएगा। सीधियां इस अध्ययन की आवश्यकता एवं महत्त्व है कि बालक की रुचि को ध्यान में रखते हुए उसको कार्य करने के लिये प्रोत्साहित किया जाना चाहिये। इस कार्य का पूर्ण प्रतिष्ठा से निर्भर करने के लिये माता-पिता और अध्यापक की सार्वत्रिक प्रयास करना चाहिये और उसकी उपलब्धि के भार्य प्रश्न किये जाने चाहिये क्योंकि रूचि दोपक के तेल के समान है जो प्रज्वलित होकर प्रकाश में आलोचित करती है।

अध्ययन के उद्देश्यः।

1. उच्चतर माध्यमिक स्तर के शहरी व ग्रामीण विद्यार्थियों की रूचि के मध्यमानों की तुलना करना।

2. उच्चतर माध्यमिक स्तर के छात्रों और छात्राओं की रूचि के मध्यमानों की तुलना करना।

3. उच्चतर माध्यमिक स्तर की शहरी तथा ग्रामीण विद्यार्थियों की रूचि और उपलब्धि का सह समक्ष मात्र ज्ञात करना।

अध्ययन की परिकल्पनायेंः।

1. उच्चतर माध्यमिक स्तर के शहरी व ग्रामीण विद्यार्थियों की रूचि के मध्यमानों में कोई सार्थक अन्तर नहीं है।

2. उच्चतर माध्यमिक स्तर के छात्रों और छात्राओं की रूचि के मध्यमानों में कोई सार्थक अन्तर नहीं है।
3. उच्चतर माध्यमिक स्तर के शाही तथा ग्रामीण विद्यालयों की सूचि और उपलब्धि में घनात्मक सह सम्बन्ध है।

अध्ययन का परिसर: 

न्यायधीश का चयन प्रदत्त ग्रोथ कार्य के लिए राजकीय मॉडल उच्चतर माध्यमिक विद्यालय, सैकड़े-27 सी, और राजकीय हाई स्कूल, टड़वा चण्डीगढ़ के शाही और ग्रामीण कक्षा नौवी के विद्यार्थियों का चयन किया गया है।

न्यायधीश विवरण: 

अनुसंधान हेतु प्रदत्त एकत्रित करने के लिए न्यायधीश का चुनाव चण्डीगढ़ के राजकीय उच्चतर माध्यमिक विद्यालयों से किया गया है। सभी राजकीय विद्यालयों से यात्रीहक प्रतिच्छय विधि के अन्तर्गत रॉटरी विधि के प्रयोग द्वारा शाही क्षेत्र से राजकीय मॉडल उच्चतर माध्यमिक विद्यालय, सैकड़े 27-सी, चण्डीगढ़ और ग्रामीण क्षेत्र से टड़वा का चयन किया गया है। चयनित विद्यालय से न्यायधीश के लिए कक्षा नौवी के समस्त विद्यार्थियों का चयन किया गया। जिनसे अध्ययन उपकरण का प्रयोग करके प्रदत्त एकत्रित किए गये है।

प्रयुक्त उपकरण: 

ग्रोथ अध्ययन के लिये विज्ञान सम्बन्धी सूचि परीक्षण हेतु एलएनटुबी शैक्षिक मनोविज्ञान और मार्केटइंग महाविद्यालय, जबलपुर और वृत्तार्थ अर्थन दुबे एमआरो गृहविज्ञान महाविद्यालय, जबलपुर (1986) द्वारा प्रभावण परीक्षण का प्रयोग किया गया। जिसमें 32 पस्तन और 32 न पस्तन के कुल 64 वाक्यांश हैं जिसमें सहमंत और असहमंत के लिये हां और नहीं तो 50% में विभाजन किया गया है। पस्तन के कथन में हां के लिये एक अंक और नहीं के लिये शून्य अंकीत किया गया है। 32 पस्तन के कथन में हां के लिये शून्य व नहीं के लिये एक अंक से शून्यांकित किया गया है।

अध्ययन विधि: 

वर्तमान ग्रोथ अध्ययन में विवर्णात्मक सर्वेक्षण विधि का प्रयोग किया गया है।

प्रयुक् साध्यकीय विधियों: 

प्रदत्त अध्ययन के प्रत्येक के विभाग, विश्लेषण और विवेचन के लिये माध्यमान, मानक वितान, टी परीक्षण और सह सम्बन्ध साध्यकीय प्रविष्टियों का प्रयोग किया गया है।
## तालिका संख्या - 1

उच्चतर माध्यमिक स्तर के विद्यार्थियों की विज्ञान सम्बन्धी रूढ़ि और उपलब्धि परीक्षण की विर्याँनांत्तर: व्याख्या

<table>
<thead>
<tr>
<th>सास्थ्यकारिय पत्रिकाएं</th>
<th>विज्ञान सम्बन्धी रूढ़ि</th>
<th>उपलब्धि परीक्षण</th>
</tr>
</thead>
<tbody>
<tr>
<td>मध्यम</td>
<td>40.87407</td>
<td>56.15555556</td>
</tr>
<tr>
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<td>41</td>
<td>54</td>
</tr>
<tr>
<td>बहुलंक</td>
<td>52</td>
<td>45</td>
</tr>
<tr>
<td>मानक विचलन</td>
<td>12.6003018</td>
<td>15.48174981</td>
</tr>
<tr>
<td>विभेदित</td>
<td>-0.8836104</td>
<td>-0.657632262</td>
</tr>
<tr>
<td>कुछतता</td>
<td>0.0457207</td>
<td>0.507798177</td>
</tr>
<tr>
<td>श्रेणी</td>
<td>51</td>
<td>56</td>
</tr>
<tr>
<td>न्यूनतता</td>
<td>13</td>
<td>33</td>
</tr>
<tr>
<td>अधिकतम</td>
<td>64</td>
<td>89</td>
</tr>
<tr>
<td>विशालतम</td>
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<td>89</td>
</tr>
<tr>
<td>लघुतम</td>
<td>13</td>
<td>33</td>
</tr>
</tbody>
</table>

## तालिका संख्या - 2

उच्चतर माध्यमिक स्तर के शहरी क्षेत्र और ग्रामीण क्षेत्र के विद्यार्थियों की विज्ञान सम्बन्धी रूढ़ि और उपलब्धि परीक्षण का मध्यम, मानक, विचलन, टी मान एवं सार्थकता स्तर

<table>
<thead>
<tr>
<th>न्यायकर्ता</th>
<th>शहरी क्षेत्र</th>
<th>ग्रामीण क्षेत्र</th>
<th>टी मान</th>
<th>सार्थकता स्तर</th>
</tr>
</thead>
<tbody>
<tr>
<td>मध्यम मानक विचलन</td>
<td>मध्यम मानक विचलन</td>
<td>मध्यम मानक विचलन</td>
<td></td>
<td></td>
</tr>
<tr>
<td>विज्ञान सम्बन्धी रूढ़ि</td>
<td>43.3000</td>
<td>14.777</td>
<td>39.8526</td>
<td>11.49650</td>
</tr>
<tr>
<td>उपलब्धि परीक्षण</td>
<td>53.6750</td>
<td>15.48430</td>
<td>57.2000</td>
<td>15.44283</td>
</tr>
</tbody>
</table>
उपरोक्त तालिका संख्या 2 से स्पष्ट है कि उच्चतर माध्यमिक स्तर के शाही क्षेत्र के विद्यार्थियों की विज्ञान सम्बन्धी रूचि का मध्यमान 43.3000 और उपलब्धि परीक्षण का मध्यमान 53.6750 है। उच्चतर माध्यमिक स्तर के ग्रामीण क्षेत्र के विद्यार्थियों की विज्ञान सम्बन्धी रूचि का मध्यमान 39.8526 और उपलब्धि परीक्षण का मध्यमान 57.2000 है। विज्ञान सम्बन्धी रूचि का टी मान .147 और उपलब्धि परीक्षण का टी मान .228 है। जिसमें कोई सार्थक अन्तर नहीं है।

तालिका संख्या - 3

उच्चतर माध्यमिक स्तर के छात्रों और छात्राओं की विज्ञान सम्बन्धी रूचि और उपलब्धि परीक्षण का मध्यमान, मानक विचलन, टी मान एवं सार्थकता स्तर:

<table>
<thead>
<tr>
<th>न्यायांश</th>
<th>छात्रों</th>
<th>छात्राओं</th>
<th>टी मान</th>
<th>सार्थकता स्तर</th>
</tr>
</thead>
<tbody>
<tr>
<td>मध्यमान मानक विचलन मध्यमान मानक विचलन</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>विज्ञान सम्बन्धी रूचि</td>
<td>41.8148</td>
<td>13.08788</td>
<td>37.1111</td>
<td>9.74416</td>
</tr>
<tr>
<td>उपलब्धि परीक्षण</td>
<td>55.5278</td>
<td>15.44024</td>
<td>58.6667</td>
<td>15.68439</td>
</tr>
</tbody>
</table>

उपरोक्त तालिका संख्या 3 से स्पष्ट है कि उच्चतर माध्यमिक स्तर के छात्रों की विज्ञान सम्बन्धी रूचि का मध्यमान 41.8148 और उपलब्धि परीक्षण का मध्यमान 55.5278 है। उच्चतर माध्यमिक स्तर की छात्राओं की विज्ञान सम्बन्धी रूचि का मध्यमान 37.1111 और उपलब्धि परीक्षण का मध्यमान 37.1111 है। विज्ञान सम्बन्धी रूचि का टी मान .083 और उपलब्धि परीक्षण का टी मान .348 है। जिसमें कोई सार्थक अन्तर नहीं है।

तालिका संख्या - 4

उच्चतर माध्यमिक विद्यालयों के विद्यार्थियों की विज्ञान सम्बन्धी रूचि और उपलब्धि परीक्षण में चनात्मक सह सम्बन्ध:

<table>
<thead>
<tr>
<th>न्यायांश</th>
<th>संख्या</th>
<th>आर - मान</th>
<th>टिप्पणियों</th>
</tr>
</thead>
<tbody>
<tr>
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<td>135</td>
<td>0.083</td>
<td>0.01 स्तर पर सार्थक</td>
</tr>
<tr>
<td>उपलब्धि परीक्षण</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

उपरोक्त तालिका उच्चतर माध्यमिक विद्यालयों के विद्यार्थियों की विज्ञान सम्बन्धी रूचि और उपलब्धि परीक्षण में चनात्मक सह सम्बन्ध दर्शाती है।

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0.01 स्तर पर सार्थक है इसलिये हम कह सकते हैं कि विज्ञान सम्बन्धी रूचि और उपलब्धि परीक्षण में घनाल्पक सह सम्बन्ध है।

निष्कर्ष : शोध की प्रक्रिया के दौरान पद्धति के संबंध, पद्धति के विकल्प और परिक्षणों के सत्यापन और परिणामों के स्वाभाविक परिणाम के द्वारा निम्नलिखित निष्कर्षों को निष्पुर्त किया गया है:

- उच्चतर भारतीय स्तर के छात्रों और छात्राओं में विज्ञान सम्बन्धी रूचि में समानता है।
- उच्चतर भारतीय स्तर के शाही और ग्रामीण क्षेत्र के विद्यार्थियों में विज्ञान सम्बन्धी रूचि में समानता है।
- उच्चतर भारतीय स्तर के विद्यार्थियों के विज्ञान सम्बन्धी रूचि और उपलब्धि परीक्षण में घनाल्पक सह सम्बन्ध है।

सुझाव:

- विज्ञान को दौरान की ही रीति से राह सुधार किया जाना चाहिये।
- विद्यार्थियों की रूचि पर ध्यान दिया जाना चाहिये और उनकी रूचि को विकसित करने के लिए विविध रूपों का उपयोग किया जाना चाहिये।
- विद्यार्थियों के लिए अनेक अन्य दृष्टिकोणों का आप्रवत्ति किया जाना चाहिये।
- रूचि और उपलब्धि का परिवर्तन सम्बन्ध है इसलिये रूचि के अनुकूल शैक्षिक कार्य करने जाने चाहिये।
- विद्यार्थियों की रूचि को जानने के लिए प्रेरित किया जाना चाहिये।
- विद्यार्थियों को जिस कार्य को करने में आनन्द जनित हो उनका निर्देश अभ्यास कराया जाना चाहिये और उसको आकार देने का प्रयास किया जाना चाहिये।

सन्दर्भ सूची:-
1. मंगल एस.वे., (2013) शिक्षा मनोविज्ञान, फी लाइफ प्रेसवेट सिंटेड, दिल्ली।
2. भटनाथ, ए. शी., भरतश्री, मनोविज्ञान और शिक्षा में ग्राम एवं मूल्याग्रह, आर लाल बुक दियो, नेटल।
3. अग्रवाल, ज.शी., (2009) शिक्षा मनोविज्ञान, शिक्षा प्रकाशन, दिल्ली।
4. ओवरराय, प्रेसिला, अधिगमकारी, अधिगम एवं जान का मनोविज्ञान, नथी बुक हिपो, भिवाणी, हरियाणा।
5. ओवरराय, एच.ई., (1947) शिक्षा और मनोविज्ञान में सातिय भरी, लॉसोन, सीन एंड को., न्यूयॉर्क।
The present study examines the level of challenge among adolescents in relation to their personality types. The sample of the study comprised of 100 eleventh class students (50 boys and 50 girls) studying in government and private schools of Chandigarh. The major findings of the study revealed that male adolescents and private school students have better level of challenge as compared to their counterparts. Further, there is significant difference in the personality of male and female adolescents. Challenge is not significantly correlated with any dimension of personality.

**Keywords**: Challenge, Personality, Psychological Hardiness, Adolescence.

**Introduction**

Challenge is the ability to view all the situations as potentially positive with successful outcomes. Individuals who experience low levels of challenge often perceive any given situation as a threat to their well-being. Hardy people see change in their lives as a challenge, not a threat. They enjoy facing challenges in their work and lives. Change is seen by them as an incentive for further growth and is responded to by accepting the unexpected, exploring the environment and discovering which resources to approach and use when needed.

Challenge is one of the major factors affecting gross psychological hardiness which represents a tendency to involve oneself in whatever one is doing or encounters. In gross psychological hardiness variable, there exist two more sub variables, viz. control and commitment. Control is described as a "Tendency to feel and act as if one is influential in the face of the varied contingencies of life". Commitment involves one's feelings towards work, family, social encounters, and self. Those with a sense of commitment experience a sense of purpose within themselves and in what they do; they perceive themselves to be a vital and active participant in their own lives. Hardiness operates as a stress buffer as well as has direct influence on health, so hardiness, is usually conceptualized as a cognitive personality variable consisting of a sense of commitment, control and challenge (Westman, 1990).

The main aim of human life is awareness of self and surroundings. This aim can be fulfilled only by proper understanding of the individual and his abilities and aptitudes. Knowledge of one's own personality is very important aspect in this endeavour. Personality is all that a

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person is. It is totally of his being and includes his physical, mental, imaginations, instincts; thoughts and sentiments constitute his personality. Psychologists are different from each other in terms of the meaning of personality. Most of them agree that the term personality is a relatively stable trait, tendencies or features that perpetuate individual's behaviour to some extent; or more specialized, personality is made up of traits and tendencies which is led to individual differences in behaviour, behaviour stability over time and behaviour continuity in various situations (Feist & Feist, 2002). Allport (1961) defined Personality as a dynamic organization within the individual of those psychology physical systems that determine his unique adjustment to the environment.

Personalities are formed in the early years, before the age of eleven, some say before the age of seven. During the formative years, one of the major factors influencing the formation of the children's personalities is parenting. The foundation of personality of the children lies in the womb of family. Family is regarded as nursery of socialization. In this age of heightened competition, adolescents are encircled with tension, stress and anxiety. Some can deal with this stressful situation easily while same cannot. It all depends upon their personality traits as well as on the level of psychological hardiness which help them in handling these situations. Sharma (1991) found in his study that the effect of frequencies of knowledge of results, level of challenge and achievement have positive impact on personality. Results showed that extrovert neurotic males performed better in challenging tasks than all other conditions of personality.

Jagpreet (2010) conducted a study to find the influence of gender and school climate on psychological hardiness among Indian adolescents. The results of the study revealed that the significant main effects of gender and school climate are dependent on each other to explain control, challenge and psychological hardiness among adolescents.

Kusum (2010) studied the effect of personality of 12th grade students on their achievement with the objective to find out whether high and low achievers differ significantly on extroversion-introversion, neuroticism, psychotocism by taking a sample of 200 students from ten randomly selected secondary schools located at Delhi and found that high achievers were more extrovert than the low achievers; there was significant difference between high and low achievers on neuroticism and high achievers were more neurotic than low achievers; both high and low achievers were psychotic averagely but low achievers were more psychotic than the high achievers.

Rajvir (2012) conducted a study on frustration tolerance among 200 adolescents in relation to their personality traits and found that there exists positive relationship between their personality traits and frustration tolerance.
Objectives
1. To compare the level of challenge of adolescents studying in government and private schools.
2. To compare the personality types of adolescents studying in government and private schools.
3. To compare the level of challenge of adolescents with regard to gender.
4. To compare the personality types of adolescents with regard to gender.
5. To study the relationship between challenge and personality types of adolescents.

Hypotheses
1. There will be no significant difference in the level of challenge of adolescents studying in government and private schools.
2. There will be no significant difference in the personality types of adolescents studying in government and private schools.
3. There will be no significant difference in the level of challenge of adolescents with regard to gender.
4. There will be no significant difference in the personality types of adolescents with regard to gender.
5. There will be no significant relationship between challenge and personality types of adolescents.

Design of the study
In the present study, descriptive survey method was employed to collect the data. Challenge was dependent variable and a personality type was an independent variable.

Sample of the study
Stratified random sampling technique was employed in the present study. The sample comprised of 100 students of class 11th of two senior secondary schools of Chandigarh. Out of these, 50 students were selected randomly from each government and private schools. Further 25 male and 25 female students were taken from each type of school i.e. government and private.

Tools of the study
Statistical technique

The obtained data was analysed by employing t-test and correlation.

Results and Discussion

Table-1: Mean Differentials with regard to the level of challenge and personality types of adolescents studying in Government and Private schools

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge</td>
<td>18.11</td>
<td>29.33</td>
<td>11.03</td>
<td>7.19</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>6.11</td>
<td>7.26</td>
<td>2.67</td>
<td>1.81</td>
</tr>
<tr>
<td>Extrovert</td>
<td>9.88</td>
<td>10.36</td>
<td>2.17</td>
<td>3.14</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>11.36</td>
<td>13.82</td>
<td>203</td>
<td>3.89</td>
</tr>
<tr>
<td>Personality (Total)</td>
<td>33.65</td>
<td>37.89</td>
<td>5.03</td>
<td>5.87</td>
</tr>
</tbody>
</table>

Table 1 shows that the 't' value for challenge between Government and Private schools was statistically significant at 0.01 level of significance (t=3.88). It further shows that level of challenge of private school students (M=29.33) is higher than the students of government school (M=18.11). Thus, hypotheses 1 stands rejected.

Calculated 't' values between Government and Private schools was not significant in all the dimensions of personality viz. Psychoticism (t=0.91). Extrovert (t=0.83) and Neuroticism (t=1.25). It indicates that there was no significant difference in the personality of adolescents studying in Government (M1=33.65) and Private (M2=37.89) schools. Thus, hypotheses 2 stands accepted.

Table-2: Mean Differentials with regard to the level of challenge and personality types of male and female students studying in Government and Private schools

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D</th>
<th>t-value</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Challenge</td>
<td>33.67</td>
<td>21.81</td>
<td>6.52</td>
<td>8.29</td>
</tr>
<tr>
<td>Psychoticism</td>
<td>8.23</td>
<td>5.32</td>
<td>2.02</td>
<td>1.42</td>
</tr>
<tr>
<td>Extrovert</td>
<td>12.36</td>
<td>10.58</td>
<td>3.56</td>
<td>2.91</td>
</tr>
<tr>
<td>Neuroticism</td>
<td>11.02</td>
<td>12.3</td>
<td>2.56</td>
<td>2.41</td>
</tr>
<tr>
<td>Personality (Total)</td>
<td>42.76</td>
<td>33.64</td>
<td>5.91</td>
<td>6.28</td>
</tr>
</tbody>
</table>
Table 2 shows the mean differential with regard to the level of challenge among male and female adolescents was significant at .01 level (t=4.32). It further indicates that the male adolescents (M=33.67) have higher level of challenge as compared to female adolescents (M=21.81). Thus, hypotheses 3 stands rejected.

't' values between male and female adolescents studying in Government and Private schools were found highly significant in the areas of Psychoticism (t=3.01) and Extrovert (t=3.96) while it was found to be non-significant in the area of Neuroticism (t=0.91). It indicates that there was significant difference in the Personality of male and female adolescents. Further, the higher mean scores of male adolescents with respect to personality indicate that they are more open about their personality as compared to female adolescents. Thus, hypotheses 4 also stands rejected.

Table 3: Correlation between challenge and personality types

<table>
<thead>
<tr>
<th>Variable</th>
<th>Psychoticism</th>
<th>Extrovert</th>
<th>Neuroticism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Challenge</td>
<td>-0.19</td>
<td>0.29</td>
<td>0.11</td>
</tr>
<tr>
<td>Level of Significance</td>
<td>Not Significant</td>
<td>Not Significant</td>
<td>Not Significant</td>
</tr>
</tbody>
</table>

Table 3 reveals that correlation between challenge and psychoticism is -0.19, which is negative but not significant. Whereas the correlation between challenge and extrovert and challenge and Neuroticism is 0.29 and 0.11 respectively, which is positive but not significant. Thus, hypotheses 5 stands accepted.

Educational Implications

The present study shows that private school students have better level of challenge as compared to govt. school students. So govt. school authorities should provide opportunities to their students to develop appropriate level of challenge among them. Male students are better in taking challenging tasks and are more open about their personality. Parents and teachers should create suitable atmosphere and provide them guidance for developing capacity to take challenge positively. Appropriate training should be given to the students so that they may indulge themselves in understanding their personality in a healthier way and thus handle level of challenge suitably. Parents should be impartial in giving opportunities to their children irrespective of their gender so that scope of development of wholesome personality is increased.

References


ATTITUDE OF POST GRADUATE COURSE STUDENTS TOWARDS CHOICE BASED CREDIT SYSTEM: A STUDY OF HIMACHAL PRADESH UNIVERSITY

Manoj Chauhan*

ABSTRACT

Choice Based Credit System (C.B.C.S.) is one of recent reforms in higher education by the University Grant Commission but still this system has not been implemented and understood in proper form. The students and teacher have different attitude regarding this new reform. This study assessed the post graduate level course student's attitude towards C.B.C.S. studying in affiliated colleges of H.P.U. in district Mandi of Himachal Pradesh. Descriptive survey method was used to conduct the study. The sample consisted of 60 post graduate course students comprising 30 females and 30 males selected using purposive sampling. Self-structured scale for measuring attitude towards C.B.C.S. was used. The major findings showed that the level of attitude towards C.B.C.S. shown by students was moderate and felt confused about its usage and benefits. There focus is not on choosing different subjects of their choice but is just on fulfilling the required credits to pass the examination. They also felt many restrictions by authorities while choosing subjects of their choice. Also female students were having higher positive attitude than male students towards choice based credit system.

Keywords: Choice Based Credit System (CBCS), Attitude, Higher Education, Himachal Pradesh University.

Introduction

Higher education in India is undergoing significant changes from the traditional education system of Teacher centric approach to student centered approach. From the recommendations of N.P.E., (1964-66) to recently N.K.C. (2008-09), many commissions had recommended to make teaching learning process more student centered. UGC is continuously working on speedy and substantive academic and administrative reforms in higher education for promotion of competence, quality and excellence. CBCS aims to redefine the curriculum keeping pace with the liberalization and globalisation (Suchitra, 2016). According to UGC, (2015) C.B.C.S. provides flexibility in designing curriculum and assigning credits based on the course content. It provides a cafeteria type approach in which the students can take courses of their choice, undergo additional courses and acquire more than the required credits and adopt an interdisciplinary approach to learning. UGC has made choice based credit system mandatory to be implemented in all the undergraduate
and postgraduate courses under the XI plan of Higher Education. Also People had shown different attitude towards choice based credit system. According to Deuri, (2015) science students and boys were having the highest level attitude towards CBCS in comparison to the Arts and girls students of Gauhati University. Its effective implementation however calls for organizational support, both human and physical, and total devotion and commitment of all the stakeholders. Quality is the major concern of the present education which could be assessed only by the universally acclaimed system of evaluation and this could be possible through the CBCS (Hasan & Parvez, 2015).

**Objectives:**

- To study the level of attitude of post graduate course students towards choice based credit system.
- To study the difference between the attitude of male and female students towards choice based credit system studying post graduate course in district Mandi.

**Hypothesis:**

There exists no significant difference between the attitude of male and female students towards choice based credit system studying post graduate course in district Mandi.

**Design of the Study:**

Descriptive survey method was employed for the present study.

**Sample:**

For the study sample of 60 students consisted of 30 male and 30 female students studying in post graduate course and completed their graduation under C.B.C.S. from affiliated colleges of H.P.U in district mandi of Himachal Pradesh were selected using purposive sampling method.

**Tools Used:** In the present study the following tool was used:

Self-structured attitude scale to measure the attitude of students towards choice based credit system.

**Procedure:**

For collection of data, the investigator first explained the instructions and then attitude scale was administered on the selected sample. Then after analyzing the results obtained using SPSS, level of attitude towards choice based credit system was studied and difference between attitude of male and female students was calculated.
Analysis and Interpretation of data:

FIGURE 1: Frequency of male and female student's attitude towards C.B.C.S.

Figure 1 shows attitude of male and female post graduate course students towards choice based credit system.

Table1: Showing difference between Attitude of male and female students towards C.B.C.S.

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>t value</th>
</tr>
</thead>
<tbody>
<tr>
<td>MALE</td>
<td>30</td>
<td>5.13</td>
<td>2.354</td>
<td>2.54*</td>
</tr>
<tr>
<td>FEMALE</td>
<td>30</td>
<td>6.9</td>
<td>3.002</td>
<td></td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance.

According to the table 1, t value between attitude of male and female students studying post graduate course in affiliated colleges of H.P.U. is 2.54 which is greater than table value 2.00 for df=59 at 0.05 level of significance. Therefore there exists a significant difference between attitude of male and female students towards C.B.C.S. This showed that more male students were having poor attitude towards CBCS than the female students. Hence hypothesis that "there exists no significant difference between attitude of male and female students towards choice based credit system studying post graduate course in district Mandi" is not accepted.
Conclusion:

Choice based credit system is a major reform brought by university grant commission to improve the quality of education. But it has always to be students oriented and student centered. The study showed that overall attitude of students towards choice based credit system is moderate. Also the attitude of male students towards CBCS is less favourable than the female students studying in post graduate course in affiliated colleges of H.P.U. in district Mandi of Himachal Pradesh.

References


HIGHER EDUCATION AS A TOOL FOR MULTIFACETED EMPOWERMENT OF WOMEN

Richa Vermani*

Abstract

India is a society which is undergoing transition. On the whole, we are still patriarchal but the idea of women empowerment has slowly begun to seep into the roots of our culture. People now just don't want their daughters to be literate enough to get a suitable groom but they want their daughters to be empowered through higher education. This change is, of course, very slow but nevertheless, still there. Through this study, the researcher tries to assess whether higher education in India is empowering women in the true sense. The sample consists of 35 women students of Panjab University currently pursuing higher education. All these 35 women students were enrolled in a masters or a doctoral degree program. This is a qualitative research study. The primary data was collected through a structured interview schedule to assess the multi-dimensional empowerment of these women through higher education. The findings surprisingly indicate the empowerment caused by higher education is not the same in all aspects of a woman's life. Women feel highly empowered at a personal and an educational level but when it comes to dimensions like legal, political and economic empowerment, the level of empowerment of women is still very low.

Keywords: Higher Education, Multidimensional Empowerment, Women Empowerment.

Introduction

"I want to empower myself with knowledge". ~ Yousafzai (2012)

It is widely recognized fact that the societies with educated women perform far better than the societies where women are deprived of education. Soon after independence, our government focused on making more and more women literate. Now it is being realized that basic literacy is not enough to truly empower a women. All women must get access to higher education as well. A highly educated woman understands the importance of education which she strives to provide to her children. She works to bring about a positive change in the mental set-up of her family and the society. Her voice is recognized and respected. She can raise her voice against ills such as gender inequality, dowry and exploitation. Currently, there are about 651 million females in India.

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Total enrolment in higher education in India: 34.2 million
Males enrolled in higher education in India: 18.5 million
Females enrolled in higher education in India: 15.7 million
Percentage of female enrollment: 45.5% of the total enrolment
(Source: All India Survey on Higher Education, AISHE 2014-15).

This is a miniscule figure when compared to other countries. According to Global Gender Gap Index Report by World Economic Forum, India stands at a dismal 108th rank. In spite of being hailed as the tool to women empowerment, higher education among women in India is still not as prevalent as it should be.

Definitions of terms used

Higher Education

Higher education, post-secondary education, or third level education is an optional final stage of formal learning that occurs after secondary education. Often delivered at universities, academies, colleges, seminaries, and institutes of technology, higher education is also available through certain college-level institutions, including vocational schools, trade schools, and other career colleges that award academic degrees or professional certifications. (Source: Wikipedia)

Women Empowerment

Kohl (1997): "Empowerment in its simplest form means the manifestation of the redistribution of power that challenges patriarchal ideology and male dominance."

Adams (1996): "Empowerment is the means by which individuals, groups and communities take control of their circumstances and achieve their own goals, thereby being able to work towards helping themselves and others to maximize the quality of their lives."

Dimensions of women empowerment analyzed in this study

Women empowerment is not a singular or isolated term. It is an all-encompassing term that includes various facets of a woman's life and personality. Women empowerment has the following multiple dimensions, according to Verghese (2011):

• Personal - that includes the freedom to make one’s own choices; mobility etc.
• Psychological - that includes confidence, self-esteem etc.
• Ethical - that includes the feeling of being respected as a woman, the belief in the natural equality of genders.
Economic - that includes employability, control over one's own money, share in family resources etc.

Legal - that includes awareness about a woman's legal / constitutional rights.

Political - that includes belief in a woman's ability to occupy a decisive position.

Educational - belief in the ability of education to serve as an empowerment tool.

Rationale of the study

In our country, talks about women empowerment are common. Everybody talks about issues like women's safety, women's rights and women's empowerment. The government looks forward to portray India's image as a modern and an advanced nation where women participate in all areas of administration and governance. But is this really happening? 'Save The Children foundation' conducted a year long survey (2015-16) titled "The Best And The Worst Countries To Be A Girl". India ranks poorly at 90th position in this survey. According to this survey, our position is even worse than Sri Lanka (60th), Nepal (85th) and Pakistan (88th). Given such glaring facts, this study becomes a necessity. Higher education is being hailed as a tool to achieve women empowerment. The research wants to check whether higher education is empowering women in the true sense in which it should, or not.

Frenette and Coulombe (2007) analyse the role of rapidly rising educational attainment among young women in raising their comparative position in the labour market. This research paper shows that higher education among young women substantially reduced the gender gap in employment and earnings. Malik and Courtney (2011) reveal that how higher education empowers women. The economic independence and heightened respect within the family were the benefits of higher education. It also enabled the women to resist the discriminatory practices. Murtaza (2012) examines the current status of women in higher education in Gilgit, Baltistan. He examined the difficulties faced by the women in pursuit of higher education, harassment at work places and work load. The parents didn't spend similar amount of money in educating their daughters as compare to their sons. Sidramashettar (1991) puts forward the point that the economic status of a highly educated wife as a wage earner and contributor of family income enables her to have a say in the decision making process in the family. If empowerment is the ability to carry out one's will then employability definitely gives that empowerment. Lumumba (2006) examines the role of education, particularly in research, as a key component of the role and mission of higher education in addressing the immediate and long-term search for gender equity. More specifically, the question of the empowerment of women in the context of academia, considering women as social agents that have the capacity to foster structural change using research as a tool, is critically examined.
Objectives of the study

• To analyze the role played by higher education to serve as a tool for women empowerment.

• To compare the varied levels of empowerment brought about by higher education in multiple dimensions of empowerment.

• To give suggestions regarding what can be done to bring about real empowerment of women through higher education.

Sample

Purposive sampling technique is used. 35 female students pursuing either a masters or a doctoral degree course from Panjab University, Chandigarh, constituted the sample for this study. These students come from various socio-economic backgrounds.

Tool

A self-made structured interview schedule was used to assess the multidimensional empowerment of women.

Data collection

Each female student was personally interviewed by the researcher. A structured interview was conducted. Questions regarding all the dimensions were asked. Each interview lasted 10-15 minutes. From their responses, the researcher deciphered whether a particular female student felt empowered in a particular dimension or not.

Data analysis

The collected data was analyzed using content analysis method. Under content analysis, the researcher categorized the student's responses and percentage ratio of the same was calculated. The analysis along with the percentage ratio is presented below as findings.

Findings

• 76% of women felt empowered on an educational level. They had the freedom to chose their field of educational interest and get more education if they wanted to. They felt that education can empower lives.

• 64% of women felt empowered at a personal level. They felt that they can make their own major life decisions like; choosing their spouse; going anywhere that they want to, travel alone etc.

• 59% of women felt empowered ethically. They felt respected as women and they also believed that society treats men and women as equals.

• 52% of women felt legally empowered. They had knowledge regarding their own legal and constitutional rights as women.
47% of women felt psychologically empowered. They felt that they have the required confidence to talk to other people and they would never compromise with their self-esteem.

41% of women felt economically empowered. They felt that they are employable, have full control over their own money and have a share in family resources.

41% of women felt politically empowered. They felt that being women, they can become leaders and occupy positions of decision-making, if they would want to.

Suggestions to increase the level of women empowerment through higher education

- The government should open more educational and technical institutes in far flung remote areas where female enrollment in higher education is very low.
- Scholarships for girl students getting enrolled in higher education
- Hostel facility must be provided in all these institutes.
- Technical, vocational and job-oriented courses must be available in these institutes so as to increase the economic empowerment of girls.
- The government must start a campaign through print/television/social media that makes the women aware about their legal and constitutional rights.
- Self defense courses and sports must be promoted among girls in higher education so as to increase their confidence.
- More and more panchayat representatives, municipal commissioners, MPs and MLAs should be women so as to increase the political empowerment of women. Higher education should promote this idea.
References


PERCEPTION OF SECONDARY SCHOOL STUDENTS REGARDING CURRICULUM TRANSACTION OF PUNJABI GRAMMER

Dr. Tirath Singh* & Vineet Sharma**

ABSTRACT

The study was undertaken with objective to examine the Student's perception regarding Curriculum Transaction of Punjabi grammar (CTPG) at secondary stage. Total sample of 1200 students from 60 schools was selected through stratified random sampling technique from three regions of Punjab i.e. District Barnala; Malwa region, District Jalandhar; Doaba region, District Amritsar; Majha region. Perception about Curriculum Transaction of Punjabi grammar scale was developed by Dr. Tirath Singh (2014) was used. Results of the study show that Students of first division and second division had unfavorable perception regarding curriculum transaction of Punjabi grammar, but students of second division had less (unfavorable) than students of first division. Students of both (illiterate and up to 9th standard) parent had unfavorable perception regarding Curriculum Transaction of Punjabi grammar. But students with parent qualification up to 9th standard had less than unfavorable than illiterate parent. No interaction effect was found.

Keywords : Perception, Curriculum transaction, Punjabi grammar.

Introduction

Curriculum Transaction (CT) is very significant process in education. It (CT) is the effective and desired implementation of the curriculum contents on the basis of aims and objectives specified in the curriculum. Curriculum transaction incorporates decisions about the contents and effective planning for providing learning experiences to its learners on the basis of content, organization of planning, administration/implementation of the organized planning and evaluation of the implementations by the implementer and the experts in the relevant field. Grammar as the practical analysis of a language, its anatomy deals with the function of words in a sentence. It explains the structural details of a sentence. It is concerned with the general rules of syntax or sentence construction, i.e., the order of words, agreement of the subject and the verb, sequence of tenses etc. these rules throw light on the language structure and facilitate correct language learning. Transaction of curriculum with respect to grammar of father tongue Punjabi is mostly ignored area of research. Research review of the related literature also shows the same gap and keeping in view the same in mind the present study was conducted.

Prasher (1977) undertook a study of the errors in English of Hindi-Speaking undergraduate students for the Central Institute of English and foreign languages (Hyderabad, India). The sample comprised of 100 first year students from different colleges in Madhya Pradesh.

*Principal, Sacred Heart Int. College of Education, Baranala.
**Research Scholar, Punjabi university Patiala.
Pradesh. The study focused on investigation of errors in certain selected areas of English grammar and lexis only. The errors of students were described in linguistic terms and some of the probable sources of errors were explained. Samples of students' English were obtained through a free composition and a passage for translation from Hindi into English. In all, 4161 errors were identified and categorized under 15 major areas listed in order of frequency of recurrence. Of these, errors in the verb phrase formed the bulk of the total errors. Interference of the Mother Tongue was identified as the primary source of errors.

Jarad (1986) investigated the relative clause formation and the coding of tense in the English inter-language of thirty-two Palestinian students at the six colleges of the Islamic University of Gaza. The findings show that Palestinian learner's switching of tense resulted from using English morphology to express an aspectual system similar to that of the Palestinian Arabic. The English past tense and present tense were used to mark Palestinian perfective and imperfective aspects, respectively. The subject verb agreement marker and the concord markers "s"/ is and 'm/ am omitted in relative clauses and when there was change in aspect.

In the area of relative clauses, the data showed that relative clauses were ninety percent independent of the Palestinian Arabic structuring of relative clauses. The learners used resumptive pronouns not only in clauses where the predicate incorporates a noun, adjective, or a prepositional phrase, but also before verbs. This led Jarad to conclude that there was a large amount of influence of the Palestinian aspectual system of the learners' use of English tense.

Bhatnagar (2003) examined the curriculum aspects and transactional modes of Hindi language at secondary level and revealed that these should be more stress on practice grammar and using new teaching devices.

Bautista and Lourdes (2004) examined the response of a sample of 205 Filipino university freshmen to grammatically correct and incorrect verb forms in a 20 items Grammatically judgment Test, The test covered tense harmony, verb forms, tenses, and modals. The results showed that both the high proficiency and the low proficiency group had difficulty recognizing non-standard uses of model would. A possible explanation for this finding might be the tendency in a second language variety to simplify complex structure and semantics.

Gakhar and Bawa (2006) studied the effect of intelligence, socio-economic status, domicile and type of school on the achievement of students in English grammar. A sample of 250 class IX students studying in government and private senior secondary schools of Chandigarh was studied. The test was constructed by the investigators themselves. The study found that students belonging to high socio-economic status group, to urban areas and to private schools made fewer errors in English grammar and thus secure high on the achievement test. Also the students with high intelligence performed better than the students with lower intelligence. More individual attention, regularity in assigning and checking home-work in private schools were given as reasons for better performance of the private school students.

**Objectives of the study**

- To study the perception of secondary school students regarding Curriculum Transaction of Punjabi Grammar (CTPG).
- To study the influence of Gender, Parent (Father) Qualification, previous achievement marks and their various interactions on perception regarding (CTPG).
Sample

In order to examine Curriculum Transaction in relation to Punjabi language total 60 schools 1200 students of ninth class were taken through stratified random sampling technique from three regions of Punjab i.e. District Barnala; (Malwa) region ,District Jalandhar; (Doaba) Region, District Amritsar; (Majha) Region.

Tool used

Perception about curriculum transaction of Punjabi grammar scale developed by Dr. Tirath Singh (2014) was used. The scale contains 27 items with five response categories ie SA, A, UND, D, SD. Scoring was 5 4 3 2 1 for positive items and reverse for negative items. The reliability (cronbach alpha) the scale was .82 and Content validity was ensured.

Data collection

The scale was distributed to the students of 9th class on a one to one basis and filled in front of the researcher to avoid any confusion and to get honest answers. After collecting data scoring was done according manual. Data was entered into spreadsheet for statistical analysis. Analysis was done on the basis of objectives.

Analysis and Interpretation

Table I- Variable wise comparison of perception regarding CTPG.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>S. D</th>
<th>CV</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>190</td>
<td>76.54</td>
<td>11.150</td>
<td>14.57</td>
<td>0.473</td>
</tr>
<tr>
<td>Female</td>
<td>210</td>
<td>77.10</td>
<td>12.524</td>
<td>16.24</td>
<td></td>
</tr>
<tr>
<td>Division in Previous achievement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With Distinction</td>
<td>76</td>
<td>77.61</td>
<td>12.548</td>
<td>16.17</td>
<td>1.545</td>
</tr>
<tr>
<td>First division</td>
<td>166</td>
<td>75.05</td>
<td>11.667</td>
<td>15.55</td>
<td>2.401</td>
</tr>
<tr>
<td>Second division</td>
<td>115</td>
<td>78.44</td>
<td>11.642</td>
<td>14.84</td>
<td></td>
</tr>
<tr>
<td>Third division</td>
<td>42</td>
<td>78.12</td>
<td>11.733</td>
<td>15.02</td>
<td>0.154</td>
</tr>
<tr>
<td>Father Qualification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>147</td>
<td>77.44</td>
<td>11.450</td>
<td>14.78</td>
<td>0.727</td>
</tr>
<tr>
<td>upto 9</td>
<td>102</td>
<td>78.59</td>
<td>13.268</td>
<td>16.88</td>
<td>1.828</td>
</tr>
<tr>
<td>Metric or more</td>
<td>151</td>
<td>75.05</td>
<td>11.119</td>
<td>14.81</td>
<td>2.293</td>
</tr>
<tr>
<td>Total</td>
<td>400</td>
<td>76.83</td>
<td>11.880</td>
<td>15.46</td>
<td></td>
</tr>
</tbody>
</table>
Note=Criterion of neutral perception=81 total number of items (27) is multiplied by number of mid response category (3) i.e. 27X3= 81. Hence mean score less than 81 indicate unfavorable/negative perception and higher mean score indicate favorable/positive perception.

Table No. 1 shows not significant difference (t value 0.473) between male and female students. In the light of this null Hypothesis that, there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of gender, is accepted. It may be concluded that both male and female students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

Table No. 1 shows not significant difference (t value 1.545) between students with distinction and first division students. In the light of this null Hypothesis that, there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is not accepted. It may be concluded that both students studying in distinction and first division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

Table No. 1 shows not significant difference (t value 0.472) between students with distinction and second division students. In the light of this null Hypothesis that, there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is accepted. It may be concluded that both students studying in distinction and second division students had equal level of perception regarding curriculum transaction of Punjabi grammar.

Table No. 1 shows not significant difference (t value 0.218) between students with distinction and third division students. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is retained. It may be concluded that both students studying in distinction and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

Table No. 1 shows significant difference (t value 2.401) between students with first division and second division. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is rejected at 0.01 level of significance. Further the mean score of first division (75.05) is lower than (78.44) second division students. It may be concluded that students of first division and second division had unfavorable perception regarding curriculum transaction of Punjabi grammar, but students of second division had less (unfavorable) than students of first division.
Table No. 1 shows not significant difference (t value 1.522) between students with first division and third division students. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is retained. It may be concluded that both students studying in first division and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

Table no. 1 shows not significant difference (t value 0.154) between students with second division and third division students. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding curriculum transaction of Punjabi grammar on the basis of marks in previous class, is retained. It may be concluded that both students studying in second division and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

Table No.1 shows significant difference (0.727) between illiterate and upto 9 parents (Father) qualification. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding Curriculum Transaction of Punjabi Grammar on the basis of parent’s (Father) qualification education, is retained. It may be concluded that illiterate and upto 9 parents (Father) qualification had equal (unfavorable) perception regarding Curriculum Transaction of Punjabi Grammar.

Table- shows significant difference (1.828) between illiterate and more than metric parent (Father) qualification. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding Curriculum Transaction of Punjabi Grammar on the basis of parents (Father) qualification, is retained. It may be concluded that illiterate and more than metric parents (Father) qualification had equal (unfavorable) perception regarding Curriculum Transaction of Punjabi Grammar.

Table No.1 shows significant difference (2.293) between upto 9 and more than metric parents (Father) qualification. In the light of this null Hypothesis that there is no significant difference in mean score of perception regarding Curriculum Transaction of Punjabi Grammar on the basis of parents (Father) qualification, is rejected. Further the mean score of students with illiterate (77.44) is higher than students of Father with upto 9 qualification (78.59)It may be concluded that students of both (illiterate and upto 9) parent had unfavorable perception regarding Curriculum Transaction of Punjabi grammar. But students with parent qualification upto 9 had less than unfavorable than illiterate parent.

Findings
1. Both male and female students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.
2. Students studying in distinction and first division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.
3. Students studying in distinction and second division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

4. Students studying in distinction and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

5. Students of first division and second division had unfavorable perception regarding curriculum transaction of Punjabi grammar, but students of second division had less (unfavorable) than students of first division.

6. Students studying in first division and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

7. Students studying in second division and third division students had equal (unfavorable) level of perception regarding curriculum transaction of Punjabi grammar.

8. Illiterate and upto 9 parents (Father) qualification had equal (unfavorable) perception regarding Curriculum Transaction of Punjabi Grammar.

9. Illiterate and more than metric parents (Father) qualification had equal (unfavorable) perception regarding Curriculum Transaction of Punjabi Grammar.

10. Students of both (illiterate and upto 9) parent had unfavorable perception regarding Curriculum Transaction of Punjabi grammar. But students with parent qualification upto 9 had less than unfavorable than illiterate parent.

References


ATTITUDE OF SECONDARY SCHOOL STUDENTS TOWARDS MATHEMATICS IN RELATION TO THEIR GENDER AND LOCALITY

Dr. Pawan Kumar* & Mr. Jagdish Singh**

Abstract

Education is a process of human enlightenment and empowerment for the achievement of a better quality of life. In India the quality improvement of Mathematics education is the greater need of today. The quality of education can be measured through achievement and psychomotor domains. To achieve this goal positive attitude towards mathematics among students should be highly motivated to develop their skill like mathematics aptitude, imagination, originality, creativity, logical thinking and systematized reasoning etc. Mathematics is poorly taught and badly learnt, It is little more than burdening the mind with dead information, and it could degenerate even into a new superstition. The present study was conducted with an objective to study the attitude of secondary school students towards Mathematics in relation to their gender and locality. The findings of the present study will help educational authorities to devise instructional strategies across the curriculum to enhance the mathematics attitude of school students.

Keywords : Attitude, Mathematics, Gender and Locality.

Introduction

In the present age of science and technology, mathematics dominates almost every field of one's daily activities. It is an indistinguishable part of human life and has now become every man's everyday concern. It disciplines the mind, systematizes one's thought and reasoning. It is an important subject in school curriculum and is closely related to one's daily life as compared to other school subjects except mother tongue. In real sense, mathematics is a science of space and quantity that helps in solving the problems of life needing numeration and calculation. It provides opportunities for the intellectual gymnastic of the man's inherent powers. It helps the students in acquiring essential knowledge, skills, interests and attitudes and it is necessary for the realization of the practical or utilitarian value, disciplinary value and cultural value. The way that Mathematics is represented in the classroom and perceived by students, even when teachers believe they are presenting it in authentic and content dependent way stands to alienate many students from mathematics (Barton, 2000; Furinghetti and Pakhonen 2002).

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The competence gain in the study of mathematics is widely used in all spheres of human life. Mathematics plays a key role in shaping how individuals deal with the various spheres of private, social and civil life (Anthony & Walshaw, 2009). This justifies the compulsion of study of the subject by all students who go through basic and secondary education in most of the countries. It is therefore a core subject at these levels of education. It is regrettable, therefore, that in the contemporary times many students struggles with mathematics and perform abysmally low in their final examinations in most jurisdictions. It has also been realized that many students have developed negative attitude towards the study of mathematics as a result of mass failure of students in the subject. It is an irrefutable fact that the successfulness of learning the subject is contingent on myriad of factors. School, classroom, student and teacher factors all impinge on the learning of mathematics.

The knowledge of mathematics is an essential tool in our society (Broody, 1987). As a tool it can be used in our daily life to overcome the difficulties faced (Bishop, 1996). Due to this, mathematics has been considered as one of the most important core subject in a school curriculum.

Before thinking about the teaching and learning of mathematics one must know, what is mathematics? In one of the dictionaries it has been given that 'Mathematics is the science of number and space" While others have defined it as "The science of measurement, quantity and magnitude." It is clearly indicated that mathematics is an accepted science which ideals with the quantitative aspect of knowledge of our life. It is helpful in drawing necessary conclusions and interpreting various ideas with useful meaning. How does mathematics do all things? Infect, mathematics has its own language, tools and mode of operations. That is why mathematics is taken as a chest filled up with so many valuable tools concerning with operations like measuring, weighing, etc. It helps in proper understanding of the nature’s work and complicated problems of life by converting them into its language of signs and symbols. In real sense, mathematics is a real science of space and quantity which is helpful in solving a number of problems needing numeration and calculations. In fact, it is an exact science and it involves high cognitive abilities and powers.

**Attitude**

An attitude is a readiness to respond in such a way that behavior is given a certain direction. It is a particular feeling about something. It therefore involves a tendency to behave in a certain way in situations which involves something whether person, idea or object. Attitude is a central part of human identity. Everyday people love, hate, like, dislike, favour, oppose, agree, disagree, argue, persuade etc. All these are evaluative responses to an object. Hence attitudes can be defined as "a summary evaluation of an object of thought" (Bohner & Wänke, 2002).
It is partially emotional and is acquired not inherent, in an individual. Attitudes are never innate. They are formed and learnt by the individual as he grows up in the group. Attitudes develop and change with time (Rubinstein, 1986). According to Multi component model of Attitude (Eagly & Chaiken, 1993), attitudes are influenced by three components. They are cognitive (beliefs, thoughts, attributes), affective (feelings, emotions) and behavioural information (past events, experiences) (Maio, Maio, & Haddock, 2010). Negative attitude may have negative impact on teaching. Favorable positive attitude makes the teaching-learning process easier and performance of an individual way of thinking, acting and behaving. It has very serious implications for the learner, the teacher, the immediate social group.

**Attitude towards Mathematics**

Some authorities regard attitude towards Mathematics as just a like or dislike for Mathematics, while others extend the meaning to embrace beliefs, ability, and usefulness of Mathematics. For Zan and Martino (2007), attitude towards Mathematics is just a positive or negative emotional disposition towards Mathematics. Neale (1969), however, defines attitude towards Mathematics as an aggregated measure of "a liking or disliking of Mathematics, a tendency to engage in or avoid Mathematical activities, a belief that one is good or bad at Mathematics, and a belief that Mathematics is useful or useless" Similarly, Hart (1989) considers attitude towards Mathematics from multidimensional perspectives and defined an individual's attitude towards Mathematics as a more complex phenomenon characterized by the emotions that he associates with Mathematics, his beliefs about Mathematics and how he behaves towards Mathematics. Attitude towards Mathematics has cognitive, affective and behavioral components; and like any other kind of attitude, it can be formed through any of the three processes described earlier. A student can develop positive attitude towards Mathematics because he or she learns to associate positive experiences or events with it. Also, positive reinforcement creates room for the formation of positive attitude for Mathematics.

**Values of Mathematics**

After knowing what Mathematics is, it is necessary to answer like why should everybody learn Mathematics? The answer to all such questions lies in the knowledge of the utility or values of teaching Mathematics. Following are the values of teaching Mathematics:

**Unitarian or practical value :**

As far as the practical value of Mathematics is concerned, no other subject of the school curriculum can surpass it. Not a single aspect of life is free from its use. Every one of us uses some mathematics directly or indirectly in every form of our life. People can go without their mother tongue but not without calculations. Infect it can be concluded that mathematics is needed us whether big or small, rich or poor, younger or older, man or woman in every sphere of one's life.
Social Value:

Mathematics is a subject of great social importance. It helps in organizing and maintaining our social structure. Society is the result of the union of individuals. It needs various laws but also in their compliance, Law, harmony, dynamicity prevailed in our society depend upon mathematics. The means of transport, communication and so many scientific inventions and discoveries that have knitted the world into a family have their existence due to mathematics.

Moral Value:

Study of mathematics helps in character formation and moral development. The qualities like truthfulness, honesty, purity of thoughts and cleanliness, justice, punctuality, duty, patience, self control, self respect, self confidence, respect for other’s opinion, distinguishing good and bad, brevity and simplicity in the expression of thoughts, belief in the systematic organization and arrangement etc can be developed through the teaching of mathematics. It also helps in developing positive attitudes as there is no place of prejudiced feelings, biased attitude, doubts and half truths in the solution of various problems of our life.

Artistic or aesthetic value:

For the lover of mathematics, there is all beauty, art, music and fineness in this subject. One finds a huge treasure of pleasure after getting success in the solution of a mathematics problem. It was the reason why Pythagoras sacrificed hundred oxen to the Goddess for celebrating his discovery of the theorem that goes by his name. In the same way, Archimedes had also forgotten his nakedness after discovering his principle. When the student is successful in solving the problem and tallies the answer given in the text book, every student feels maximum satisfaction and derives the greatest pleasure.

Intellectual value:

The study of mathematics helps us in developing our intellectual powers like power of imagination, originality, creativity, logical thinking and systematized reasoning. Every problem in mathematics is an open challenge to the faculties of the mind and a systematic and organized exercise for one’s mental health. Hubsch has rightly remarked that "Mathematics is like a wheat stone and by its study one learns to think distinctly, consecutively and carefully." The power of acquiring knowledge and skill to use the acquired knowledge properly at the hour of need are only aimed through the teaching of mathematics.

Disciplinary value:

Mathematics not only helps in developing and controlling the faculties of an individual, it also equips him with proper intellect, reasoning and seriousness needed to lead a responsible life. That is why; a mind trained through the study of mathematics is more...
capable of leading a well disciplined life. Mathematics student is habitual to think properly without any unnecessary biases and prejudices. He can discriminate what is good and what is bad, therefore he does not take decisions with his emotions but tries to apply the logic and intellect. He does not believe in hear saying but tries to investigate the thing before reacting to it.

Cultural value:

By culture of a nation or society we mean the mode of living of its inhabitants. The culture is reflected through how they live, behave, eat, drink and maintain their social relationships. The scientific discoveries, which owe their roots in mathematics, are to a great extent, responsible for bringing changes in the mode of living and thereby the culture has been continuously influenced by the progress and improvement of mathematics. Hogben has rightly said, "Mathematics is the mirror of civilization." The greatness of Indian culture is once reflected through the glory of Indian mathematics of olden days.

International value:

Mathematics has international value in the sense that it is helpful in creating international understanding and the feeling of brotherhood. Indian history reveals that there was a time when our ancestors were unable to count even more than one. Therefore, as far as the potential of knowledge and intellectual development is concerned, we all human beings—the inhabitants of all countries, the followers of all the religions and members of all the races are the same and therefore, it is unwise to think superior or inferior to any of the other race, religion, culture or nation.

Significance of the study:

All the technology around us was developed by mathematically skilled engineers and scientists utilizing techniques and ideas developed by mathematicians. If there had not been mathematically skilled workforce in the past, we might not have the computers, internet and mobile phones we take for granted today. It is regrettable, therefore, that in the contemporary times many students struggle with mathematics and perform abysmally low in their final examinations in most jurisdictions. It has also been realized that many students have developed negative attitude towards the study of mathematics as a result of mass failure of students in the subject. It is an irrefutable fact that the success of learning the subject is contingent on myriad of factors. School, classroom, student and teacher factors all impinge on the learning of mathematics. Students mostly prepare themselves for passing examination. The teachers and parents are also concerned with relatively low achievement of students in mathematics and a number of studies have locked into the causes of such poor performance. Attitude is really the disposition of an individual to learn and to develop some proficiency in some particular area. Actually it helps to acquire knowledge in a particular area and on the basis of the interest of the future performance of a child that can be predicted.
A child under the pressure of the teachers and parents selecting a professional course will be failure in that area without attitude in that field. Generally, it is noted that students of the same class differ in their performance in mathematics though by same teacher with same objectives, techniques and same environment. On the basis of the studies, it has been explained that it is due to lack of ability, interest, liking, desire, and inclination towards mathematics which in totality is referred to as mathematics aptitude. Even the individual having the same level of intelligence may not show the same result in mathematics. That is why the researchers came across with the cases that some students are fairly good in mathematics and some are not. Also the general notion is that the students who perform well in mathematics, fare good in other subjects simultaneously aptitude and intelligence in relative to some demographic variables viz. gender, locality and type of schools. Secondary stage is the foundation of higher education. Every aspect of life, mathematics has been playing its significant role. Secondary students are our future teachers, engineers, doctors etc. The progress of nation depends upon their achievements; hence, it is essential to know their attitude towards mathematics as mathematics is the foundation of all sciences.

**Objectives of the study**

1. To study the attitude of secondary school students towards mathematics.
2. To study the difference in the attitude of male and female secondary school students towards mathematics.
3. To study the difference in the attitude of rural and urban secondary school students towards mathematics.

**Hypotheses of the study**

1. Secondary school students have positive attitude towards mathematics.
2. There is no significant difference in the attitude of male and female secondary school students towards mathematics.
3. There is no significant difference in the attitude of rural and urban male secondary school students towards mathematics.

**Methodology**

In the present study, Descriptive Survey Method was used.

**Sample**

For the present study, a sample of 100 secondary school students (10 from each school) from Pathankot district of Punjab state, 50 male students (25 from rural area and 25 from urban area each) and 50 female students (25 from rural area and 25 from urban area each) were selected on random cum purposive basis.
Tool used

For the present study the investigator used ‘Attitude Towards Mathematics Scale’ (2003) developed by Dr. S. C. Gakhar and Rajni.

Statistical techniques used

Data was interpreted with the help of Mean, SD, t-test and percentage.

Analysis and interpretation

Hypothesis-1

"Secondary school students have positive attitude towards mathematics."

Table -1 : Showing the levels of attitude and percentage of different groups.

<table>
<thead>
<tr>
<th>Class interval</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>200-210</td>
<td>2</td>
<td>66% Extremely high attitude</td>
</tr>
<tr>
<td>190-200</td>
<td>18</td>
<td>of Mathematics students</td>
</tr>
<tr>
<td>180-190</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>170-180</td>
<td>20</td>
<td>21% moderate attitude of</td>
</tr>
<tr>
<td>160-170</td>
<td>21</td>
<td>mathematics students</td>
</tr>
<tr>
<td>150-160</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>140-150</td>
<td>3</td>
<td>13% Extremely low attitude of</td>
</tr>
<tr>
<td>130-140</td>
<td>2</td>
<td>mathematics students</td>
</tr>
<tr>
<td>120-130</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

The table shows that 66% secondary school students have extremely high attitude towards mathematics, while 21% have moderate and 13% have low attitude. Hence, from the analysis of the data, it can be concluded that the majority of the students have extremely high attitude towards mathematics. Hence, the hypothesis 1, "Secondary school students have high attitude towards mathematics" stands accepted.

Hypothesis II.

"There is no significant difference in the attitude of male and female secondary school students towards mathematics"
Table 2: Showing the Mean, Standard Deviation, & 't' value of male and female secondary students.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>'t' value</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50</td>
<td>177.86</td>
<td>13.36</td>
<td>0.06</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Female</td>
<td>50</td>
<td>175.46</td>
<td>17.03</td>
<td></td>
<td>at 0.05 level</td>
</tr>
</tbody>
</table>

Table no 2 shows that Mean scores of attitude of male and female secondary students towards mathematics are 177.86 and 175.46 with SD 13.36 and 17.03 respectively. The 't' value is 0.6 which is insignificant at 0.05 level. It means that male and female secondary students did not differ significantly in their attitude. Hence, Hypothesis II. "There is no significant difference in the attitude of male and female secondary school students towards mathematics" stands accepted.

Hypothesis III.

"There is no significant difference in the attitude of rural an urban male and secondary school students towards mathematics."

Table 3: showing Mean, SD and 't' value of rural an urban male and secondary school students.

<table>
<thead>
<tr>
<th>Area</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>'t' value</th>
<th>Inference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural</td>
<td>50</td>
<td>177.24</td>
<td>15.66</td>
<td>0.03</td>
<td>Insignificant</td>
</tr>
<tr>
<td>Urban</td>
<td>50</td>
<td>176.08</td>
<td>16.16</td>
<td></td>
<td>at 0.05 level</td>
</tr>
</tbody>
</table>

Table 3 shows that Mean scores of attitude of rural and urban secondary school students towards mathematics are 177.24 and 176.08 with SD 15.66 and 16.16 score. The 't' value is 0.03, which is insignificant at 0.05 level. It means that rural and urban secondary students did not differ significantly in their attitude towards mathematics. Hence, Hypothesis III. "There is no significant difference in the attitude of rural an urban male and secondary school students towards mathematics" stands accepted.

Main Findings

Following are some worthwhile main findings which have been emerged from the present study on the basis of the analysis and interpretation.

1. 60% secondary school students had extremely high attitude towards mathematics.
2. 21% secondary school students had moderate attitude towards mathematics.
3. 13% secondary school students had extremely low attitude towards mathematics.

4. There is no significant difference in the attitude of male and female secondary school students.

5. There is no significant difference in the attitude of rural and urban secondary school students towards mathematics.

References


CAREER DECISION MAKING AMONG GIRL STUDENTS OF EDUCATIONALLY BACKWARD BLOCKS IN RELATION TO THEIR SELF EFFICACY

Madhavi Goyal* & Dr. Jatinder Grover**

ABSTRACT

Career decision making does not occur in a vacuum as it is dependent upon the various social, psychological and emotional factors. The present study is an endeavour to find out the relationship of career decision making with career decision self efficacy of girl students of 10th class belonging to educationally backward blocks and non-educationally backward blocks of two districts of Punjab. The results indicated no significant correlation between career decision making and career decision self efficacy of girl students belonging to educationally backward blocks while significant correlation was found between career decision making and career decision self efficacy of girl students belonging to non-educationally backward blocks. A significant difference was found on career decision making between the girl students of educationally backward and non-backward blocks. No significant difference on career decision self efficacy was found between girl students of educationally backward and non-backward blocks.

Keywords: Career Decidedness, Career Indecision, Career Decision Self Efficacy, Educationally Backward Blocks (EBB), Non-Educationally Backward Blocks (Non-EBB).

Introduction

At adolescent stage of life students face situations when there is a need to take decision related to education and career selection but they have less self-belief to take decision. Career decisions are among the most important decisions a person has to make. Career choices have important and long-lasting consequences for the individual's overall well-being, health and financial situation. But career decision-making encompasses a large number of influences that are related to making choices about education, training, jobs and careers. Decisions related to the career is not the independent decision of the student because parents, friends, siblings, teachers also effect the career decision.

Decisions related to career cannot be prepared all of a sudden, it is a continuous process. Career decision making is a difficult procedure by which, the decision builders are required to process information regarding themselves and information regarding the world of employment (Jepsen, 1984). Career decision is the certainty of an individual about his/her career decision, where certainty relates to the extent an individual convinced that one can make decision (Osipow, Carney, Winer, Yanico & Koschier, 1987). There is also a concept of career indecision which refers to an individual's inability to make a decision for...
the profession (about their career) that he/she is striving for. Gati, Krausz and Osipow (1996) defined career indecisiveness as difficulties that an individual has in career decision making.

The complexity of the process of career decision-making makes it difficult for most people to take the best decision, which is to make a well-informed decision that best helps them to achieve their goals. Moreover, traditionally-bounded career paths have shifted towards less defined and predictable career pathways and to greater uncertainty and flexibility. In this new world of work, the need to change jobs or occupations quite frequently over one's career life has become the rule rather than the exception. Careers are now often seen as a sequence of various work roles rather than moving gradually upwards within a hierarchical structure (Arthur and Rousseau, 1996).

Self-efficacy is an individual's faith in his or her capability to be successful in special circumstances. Self-efficacy beliefs influence how people feel, think, motivate themselves, and behave (Bandura, 1993). Self-efficacy is therefore an important factor in understanding how people develop confidence and perceive their abilities. People who have high self-efficacy are more likely to attempt and successfully execute tasks, whereas those with low self-efficacy find it difficult to achieve them because they are often fighting self doubt (Bandura, 1993, 1997). Thus, both positive and negative self-efficacy beliefs have a big influence on what activities people choose to participate in.

Bandura’s (1982) self-efficacy theory proposed that self-efficacy beliefs are developed and increased primarily through following four major processes and sources of information:

- Past performance accomplishments and successful mastery experiences,
- Vicarious learning experiences through observing the performance of role models and modeling them,
- Verbal persuasion such as social influences in response to one's abilities and encouragement from others, and
- Emotional arousal such as anxiety and other negative psychological states.

The four sources of self-efficacy can have a strong influence on career self-efficacy beliefs. A lack of past performance accomplishments, insufficient vicarious learning opportunities, and/or the absence of verbal persuasion and encouragement from others in society such as teachers, parents, mentors, or counselors can all affect career self-efficacy negatively (Hackett & Betz, 1981). In addition, emotional arousal is theorized to impact career self-efficacy in both a positive and negative way (Bandura, 1982).
In general, if an individual's background has involved successful and positive experiences, in which career self-efficacy has been raised and strengthened, he or she is more likely to develop a higher level of expectations, increased self-confidence, and enhanced performance towards that career domain (Sterrett, 1998).

Educationally Backward Blocks (EBBs) means a block which is an intermediate geographical cluster between village and a district, where the level of rural female literacy is less than the national average and the gender gap in literacy rate is above the national average. A block has been designated as EBB on the basis of twin criteria of Female Literacy Rate being below the national average of 46.13% and Gender Gap in Literacy being above the national average of 21.59%. (Sanghi, 1984).

All Educationally Backward Blocks have been covered under (National Programme for Education of Girls at Elementary Level (NPEGEL). In Punjab, in Bathinda district there are three educational blocks which are declared educationally backward.

Taylor & Pompa (1990); Geiken (2009) concluded that career decision-making self-efficacy and outcome expectations accounted for variance in career decision-making difficulties. Bullock-Yowell, McConnell and Schedin (2014) and Crisan and Turda (2015) reported that college students undecided about career have lower career decision-making self-efficacy, higher incidence (frequency) of negative career thoughts and an insignificant negative correlation between gender and career indecision was found. Reddan (2015) revealed that learning activities related to career decision making lead to develop students’ confidence in self-appraisal, occupational information, goal selection, planning and problem solving positively.

The objective of the present research is to assess the career decision making among girls of educationally backward blocks (EBB) and non educationally backward blocks (non-EBB) of Punjab in relation to their self-efficacy. The other objective was to ascertain the difference between career decision making and self efficacy of girls of EBB and Non-EBB.

Hypotheses

1. There exists no significant relationship between career decision making and career decision making self-efficacy of girl students belonging to EBB.
2. There exists no significant relationship between career decision making and career decision making self-efficacy of girl students belonging to Non-EBB.
3. There exists no significant difference between career decision making of EBB and Non-EBB girl students.
4. There exists no significant difference between career decision self efficacy of EBB and Non-EBB girl students.
Method of the Study:

In the present study, descriptive survey method is used to collect data. The data was collected in April-May, 2016 from all the selected schools.

Sample of the Study: Data was collected randomly from 731 girl students of 10th class, out of which, 359 students were from 10 schools situated in educationally backward blocks of Bhatinda district and 372 students were from 11 schools situated in non-educationally backward blocks of Ajitgarh district.

Tools used: For measuring career decision making, Singh’s Career Decision Making Scale (1999) and for measuring career decision self-efficacy, Career Decision Self-Efficacy Scale by Betz and Karen (2012) were used, which were adapted and translated into Punjabi.

Results Interpretation:

Quantitative Results:

Correlation between Career Decision Making and Career Decision Self-Efficacy of EBB Girl students: Results are presented as follows:

Table 1: Coefficients of correlation between different dimensions of Career Decision Self-Efficacy and Career Decision Making of EBB Girl students

<table>
<thead>
<tr>
<th>Dimensions of Career Decision Making</th>
<th>Self-Efficacy</th>
<th>Components of Career Decision Making</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Career Decidedness</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>r</td>
</tr>
<tr>
<td>Self-appraisal</td>
<td>359</td>
<td>-.029</td>
</tr>
<tr>
<td>Occupational information</td>
<td>359</td>
<td>-.057</td>
</tr>
<tr>
<td>Goal selection</td>
<td>359</td>
<td>-.012</td>
</tr>
<tr>
<td>Planning</td>
<td>359</td>
<td>-.072</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>359</td>
<td>.016</td>
</tr>
<tr>
<td>Total scores on Self-Efficacy</td>
<td>359</td>
<td>-.037</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance

For EBB girl students, no significant correlation was found between career decidedness and different dimensions career decision self-efficacy. Coefficient of correlation between career indecision and self-appraisal dimension of career decision self-efficacy was found negatively significant. No significant correlation was found between career indecision and total scores on career decision self-efficacy of EBB girl students.
Correlation of Career Decision Making and Career Decision Self-Efficacy of Non-EBB Girl students: Results are presented as follows:

Table.2: Coefficients of correlation between different dimensions of Career Decision Self-Efficacy and Career Decision Making of Non-EBB Girl students

<table>
<thead>
<tr>
<th>Dimensions of Career Decision Making</th>
<th>Components of Career Decision Making</th>
<th>Career Decidedness</th>
<th>Career Indecision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>r</td>
<td>N</td>
</tr>
<tr>
<td>Self-appraisal</td>
<td>372</td>
<td>.136**</td>
<td>372</td>
</tr>
<tr>
<td>Occupational information</td>
<td>372</td>
<td>.161**</td>
<td>372</td>
</tr>
<tr>
<td>Goal selection</td>
<td>372</td>
<td>.112*</td>
<td>372</td>
</tr>
<tr>
<td>Planning</td>
<td>372</td>
<td>.143**</td>
<td>372</td>
</tr>
<tr>
<td>Problem Solving</td>
<td>372</td>
<td>.153**</td>
<td>372</td>
</tr>
<tr>
<td>Total scores on Self-Efficacy</td>
<td>372</td>
<td>.165**</td>
<td>372</td>
</tr>
</tbody>
</table>

*Significant at 0.05 level of significance. **Significant at 0.01 level of significance

For NEBB girl students, positive significant coefficients of correlation between career decidedness and different dimensions of career decision self-efficacy were found. It indicates that increase in career decision self efficacy will lead to career certainty. Positive significant coefficients of correlation between career indecision and dimensions of career decision self-efficacy i.e. occupational information, goal selection, planning, problem solving dimensions and total scores were found.

Analysis of Difference in Mean Scores on Career Decision Making between EBB and Non-EBB Girl Students: Results are presented as follows:

Table.3: t-ratio between Mean Scores for Career Decision Making between EBB and Non-EBB Girl Students

<table>
<thead>
<tr>
<th>Components of Career Decision Making</th>
<th>Blocks</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Decidedness</td>
<td>EBB</td>
<td>359</td>
<td>5.74</td>
<td>1.57</td>
<td>3.71</td>
</tr>
<tr>
<td></td>
<td>Non-EBB</td>
<td>372</td>
<td>5.30</td>
<td>1.68</td>
<td>(significant at 0.01)</td>
</tr>
<tr>
<td>Career Indecision</td>
<td>EBB</td>
<td>359</td>
<td>46.27</td>
<td>8.04</td>
<td>4.34</td>
</tr>
<tr>
<td></td>
<td>Non-EBB</td>
<td>372</td>
<td>43.80</td>
<td>7.28</td>
<td>(significant at 0.01)</td>
</tr>
</tbody>
</table>
On career decidedness, a significant difference was found between EBB and Non-EBB girl students. High mean score of EBB Girl students on career decidedness indicates certainty of career choice. On career indecision, a significant difference is found between EBB and Non-EBB girl students. High mean score on career indecision scale indicates high indecision with regard to career choice among EBB Girl students.

**Analysis of Difference in Mean Scores of Career Decision Self Efficacy between EBB and Non-EBB Girl Students**:

Results are presented as follows:

<table>
<thead>
<tr>
<th>Career Decision Self Efficacy</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educationally Backward Blocks</td>
<td>359</td>
<td>168.89</td>
<td>26.25</td>
<td>0.597</td>
</tr>
<tr>
<td>Non-Educationally Backward Blocks</td>
<td>372</td>
<td>170.14</td>
<td>30.22</td>
<td>(not significant)</td>
</tr>
</tbody>
</table>

From the table, it is clear that on career decision self efficacy, no significant difference was found between EBB and Non-EBB girl students. However, Non-EBB girls achieved higher on career decision self efficacy than EBB girl students.

**Discussion and Conclusion**

The main objective of the study was to assess the career decision making among girls of educationally backward blocks (EBB) and non-educationally backward blocks (non-EBB) of Punjab in relation to their career decision self-efficacy. For EBB girl students, no significant correlation was found between career decidedness and different dimensions of career decision self-efficacy. A significant negative correlation was found between self-appraisal dimension of career decision self-efficacy and career indecision of EBB girl students and result indicated that increases in self appraisal may decrease the career indecision and vice versa.

For Non-EBB girl students, a significant positive coefficient of correlation between career decidedness and different dimensions of career decision self-efficacy i.e. self-appraisal, occupational information, goal selection, planning, problem solving and total scores on self-efficacy was found and results indicated that increases in career decision self-efficacy may increase the career decision making and vice versa. For Non-EBB girl students, a significant coefficient of correlation was found between career indecision and different dimensions of career decision self-efficacy i.e. goal selection, planning, problem solving and total scores on career decision self-efficacy.

On career decidedness, a significant difference was found between EBB and Non-EBB girl students and a high score of EBB girls on career decidedness indicates certainty of choice of career. For the dimension of career indecision, a significant difference is
found between EBB and Non-EBB girl students. It indicates that EBB girl students have high career in-decidedness than the Non-EBB girls. No significant difference on career decision self-efficacy was found between the EBB and Non-EBB girl students.

As all the girls belong to Punjab and getting same guidance and instructions in the schools, so it may lead to no difference on career decision self-efficacy. Probable causes may be lack of guidance at home and school; parents' illiteracy; no self-assessment experience for students in school; no exposure to various new professions; and no expert guidance to students of rural areas of whole of the Punjab. Krumboltz (1996) suggested that an individual's decision to enroll in a certain education program, or become employed in a particular occupation, is the result of 'sequential cumulative effects of numerous learning experiences affected by various environmental circumstances and the individual's cognitive and emotional reactions to these learning experiences and circumstances'.

References:


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