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LEARNING STYLES AND ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS IN RELATION TO EXTRAVERSION-INTROVERSION, DIVERGENT THINKING AND LOCUS OF CONTROL

Dr. RajKumarNayak

M.A.Education, M.A. English, M.A.Philosophy
M.A.Journalism and Mass Communication
M.Phil Education, M.Ed., Ph.D. Education)

Santanu Kumar Patra

M.Sc. Physics, M.Phil. (Physics) Int. B.Ed. M.Ed.
Lecturer in Education (physical Science)
Bhadrak Autonomous College, Bhadrak

Professor

Department of Education
Netaji Subhas University, Jamshedpur, Jharkhand
Visiting Expert N.C.T.E. Inspection Team,
Life Time Member of AIAER, The Global Community, IATE
Editor of "Global Evolution Bi-Annual" (Management & Teacher Education) Research Journal
Editor of "Pahal Horizon" Bi Annual Journal, ISSN: 2456-4842, International Research Journal

ABSTRACT

Many research have been done on academic success and the field that it belongs to. So, the researcher again took the effort to cover a few of the last remaining factors related to academic success that are taken into account. The most important predictor of intellect and the one utilized to evaluate an individual in Indian society is academic accomplishment. As a result, academic success also indicates a person's level of learning and capacity. It is a multidimensional phenomenon in addition to that. The manner in which one acquires knowledge and applies it is a crucial factor to take into account in the overall educational processes, according to recent studies ("Graf, Lin, & Kinshuk, 2008; Kolb & Kolb, 2009; Syler et al., 2006; Thor- ton, Haskell & Libby, 2006; Zualkernan, Allert, & Qadah, 2006"). "Acknowledging of individual learning styles is an attempt to characterize the complicated processes by which one acquires knowledge," according to Kolb, Rubin, and McIntyre in 1974. Biggs & Moore (1993) also stated that "learning style may be regarded of as a formulation of preconceptions by an individual engaged in the action of learning" in support of their statement. The significance of academic accomplishment and learning styles has been emphasized in numerous earlier studies. The researcher intended to conduct the investigation in order to identify any potential influences on secondary school students' academic performance and learning preferences. In general, the conceptualization of academic achievement and learning styles and their associated correlates maintains the commitment for researchers, educators, and other practitioners who seek to understand the concepts and their behavioral aspects and apply targeted, strategic interventions to support the students in coping up and striving for excellence. Little research has been done on these variables when they are combined at different levels, according to literature sources. As a result, it is essential to build understanding of variables from a variety of perspectives, including social, psychological, and educational ones. The researcher became interested in the subject and decided to pursue it in order to probe deeply into the relationship between learning styles and academic accomplishment.

INTRODUCTION

Education is a planned process by which a person or a child acquires information, comprehension, and experience. The result of the education is also solid attitudes and sound talents. It might be argued that education aids in the development of polished, intelligent, and civilized individuals. As a result, it is simple to claim that education is the only way to maintain a civilized society. It is also possible to claim that it is a potent tool for transforming and altering the world. Education is the sole means through which the numerous social ills can be eliminated. Through appropriate education, a number of life's issues can be resolved. Although the majority of psychologists and educators hold that people learn through their daily experiences, education can nevertheless contribute to a person's healthy growth with the right efforts and initiatives. It is crucial to keep in mind that education can help a person advance and lead a successful life, but we also need to put an emphasis on encouraging reading habits, especially for quality books published recently, which can help a person not only find a good job but also lead a fulfilling existence. In this approach, moral and ethical principles are significant to take into account in education. Education can thus help people become more civilized since, as was mentioned before, fully educated individuals can distinguish between good and wrong. Ultimately, it can be said that earning degrees is not the real education, rather learning how to change one's conduct for the better is. In addition, the nation's educational system must instill qualities like kindness, a positive outlook, good manners, and consideration of ethical principles, among others. As a result, it will cultivate in our students decent citizens who will contribute to social advancement. Academic performance is a crucial criterion for assessing a person's intellectual prowess. So, every educational system should take into account the new approaches and techniques that might improve learning and teaching and raise achievement levels.

RATIONALE OF THE STUDY

Many research have been done on academic success and the field that it belongs to. So, the researcher again took the effort to cover a few of the last remaining factors related to academic success that are taken into account. The most important predictor of intellect and the one utilized to evaluate an individual in Indian society is academic accomplishment. As a result, academic success also indicates a person's level of learning and capacity. It is a multidimensional phenomenon in addition to that. The manner in which one acquires knowledge and applies it is a crucial factor to take into account in the overall educational processes, according to recent studies ("Graf, Lin, & Kinshuk, 2008; Kolb & Kolb, 2009; Syler et al., 2006; Thor- ton, Haskell & Libby, 2006; Zualkernan, Allert, & Qadah, 2006"). "Acknowledging of individual learning styles is an attempt to characterize the complicated processes by which one acquires knowledge," according to Kolb, Rubin, and McIntyre in 1974. Biggs & Moore (1993) also stated that "learning style may be regarded of as a formulation of preconceptions by an individual engaged in the action of learning" in support of their statement. The significance of academic accomplishment and learning styles has been emphasized in numerous earlier studies. The researcher intended to conduct the investigation in order to identify any potential influences on secondary school students' academic performance and learning preferences. In general, the conceptualization of academic achievement and learning styles and their associated correlates maintains the commitment for researchers, educators, and other practitioners who seek to understand the concepts and their behavioral aspects and apply targeted, strategic interventions to support the students in coping up and striving for excellence. Little research has been done on these variables when they are combined at different levels, according to literature sources. As a result, it is essential to build understanding of variables from a variety of perspectives, including social, psychological, and educational ones. The researcher became interested in the subject and decided to pursue it in order to probe deeply into the relationship between learning styles and academic accomplishment.

STATEMENT OF THE PROBLEM

“LEARNING STYLES AND ACADEMIC ACHIEVEMENT OF SECONDARY SCHOOL STUDENTS IN RELATION TO EXTRAVERSION-INTROVERSION, DIVERGENT THINKING AND LOCUS OF CONTROL”

OPERATIONAL DEFINITIONS

Academic Achievement “Academic achievement is one of the major criteria applied to judge proficiency and skills of a learner in a given area at a particular time. It is the indication of performance or achievement in a test performed to measure one’s achievement”. Since the investigator intended to take up over-all achievement of all the school subjects in the present piece of research, the final term marks scored by the pupils in their previous class have been considered as academic achievement.

Learning Style Learning styles have been widely defined “as the individual preference process to use in learning. Each student has his/her own style frequently used for manipulating, processing, interpreting and assimilating their knowledge”.

Extraversion-Introversion Extraversion and Introversion describe “how a person directs his/her energy either outwardly towards people and activities or inwardly towards thoughts and ideas”.

Divergent Thinking The term comes from the concept that “there are limitless number of solutions for any given problem, however unrelated they might be, which are then spread on the table to pick out the best one. It’s also an essential aspect of creative thinking”.

Locus of Control Locus of control is the degree to which individuals believe that “they have control over the outcome of events in their lives, as opposed to external forces beyond their control. A person’s locus is conceptualized as internal (a belief that one can control one’s own life) or external (a belief that life is controlled by outside factors which the person cannot influence, or that chance or fate controls their lives)”.

Secondary School Students Secondary school students taken up in the study are 9th graders studying in the private sec. schools affiliated to Board of Secondary Education Odisha

OBJECTIVES OF THE STUDY

The present study asserts to meet the following objectives:

1. To study the relationship of Extraversion-Introversion with Academic Achievement of secondary school students.
2. To study the relationship of Divergent Thinking with Academic Achievement of secondary school students.
3. To study the relationship of Locus of Control with Academic Achievement of secondary school students.
4. To study the relationship of Extraversion-Introversion with Learning Styles of secondary school students.
5. To study the relationship of Divergent Thinking with Learning Styles of secondary school students.
6. To study the relationship of Locus of Control with Learning Styles of secondary school students.
7. To study the difference between Academic Achievement of Introvert and Extrovert secondary school students.
8. To study the difference between Academic Achievement of secondary school students having high & low scores on Divergent Thinking.
9. To study the difference between Academic Achievement of secondary school students having internal and external Locus of Control.
10. To study the difference between Learning Styles of Introvert and Extrovert secondary school students.
11. To study the difference between Learning Styles of secondary school students having high & low scores on Divergent Thinking.
12. To study the difference between Learning Styles of secondary school having internal and external Locus of Control.

HYPOTHESES OF THE STUDY

Following research hypotheses were framed on the basis of review of related literature.

H01 There is no significant relationship between Extraversion-Introversion and Academic Achievement of secondary school students.

H02 There is no significant relationship between fluency and Academic Achievement of secondary school students.

H03 There is no significant relationship between flexibility and Academic Achievement of secondary school students.

H04 There is no significant relationship between originality and Academic Achievement of secondary school students.

H05 There is no significant relationship between Locus of Control and Academic Achievement of secondary school students.

H06 There is no significant relationship between Extraversion-Introversion and Learning Styles of secondary school students.

H07 There is no significant relationship between fluency and Learning Styles of secondary school students.

H08 There is no significant relationship between flexibility and Learning Styles of secondary school students.

H09 There is no significant relationship between originality and Learning Styles of secondary school students.

H10 There is no significant relationship between Locus of Control and Learning Styles of secondary school students.

H11 There is no significant difference between Academic Achievement of Introvert and Extravert secondary school students.

DELIMITATIONS OF THE STUDY

The delimitations of this research are:

- Confined to 407 secondary school students.
- Delimited to the thirteen schools of Cuttack district of Odisha.
- Restricted to private schools affiliated with the Board of School Education Odisha

METHOD OF THE STUDY

The current study is conducted to find out the “relationship and effect of extraversionintroversion, divergent thinking and locus of control on academic achievement & learning styles of secondary school students”. While taking into consideration the aims and targets under the study the researcher has adopted descriptive survey method. The main aim of the descriptive survey method is to describe, study and interpret what exists today and is concerned with conditions, relationships, practices, beliefs, attitudes that provide the processes and the trends that are emerging. Thus the aim of using this method is not only to gather and tabulate the data but to explain the meaning and significance of study and what is described in the study. This method includes not only descriptive research, gathering of data and tabulating it but it serves purposes that are many more. Along with this descriptive research method compares and contrasts the existing evidence. It also involves the measurements, classifications, interpretations and evaluations.

SAMPLE & POPULATION

POPULATION

“A population is any group of individuals that has one or more characteristics in common which distinguishes group from other individuals and that are of interest to the investigator.” (Best, 2008) The population of the study comprised all the male and female students from all the “Secondary Schools of Cuttack district of Odisha”. Hence it can be said that the population is very vast in number which is difficult to study in stipulated period and with circumscribed funds. So the researcher has to circumscribe the number and resort to take a representative sample to generalize the results of the study.

SAMPLE

In this study, the researcher has opted for “multistage random sampling technique” to select a sample of 407 students from private secondary schools of Cuttack district. Initially a sample of 452 secondary school students was selected but due to subject mortality the investigator was left with a sample of 407 secondary school students. Odisha state has six divisions namely Ambala, Karnal, Faridabad, Gurugram, Hisar and Cuttack. Out 30 Districts Cuttack and one district (Cuttack) was selected by using lottery method. In the next stage, the list of private secondary schools of Cuttack district prepared by the Directorate of Education was procured. Thereafter, thirteen schools were selected randomly. From these schools, a sample of 407 students was randomly selected after dropping some students who could not complete the data collection process.

TOOLS APPLIED

▪ Tools selected are related to school students studying at secondary level. The idea behind taking these tools was their availability, language, being appropriate in terms of age of the subjects and relevance to problem of the study. These tests are developed for Indian context and are widely accepted in the field of educational research. Previous class final term scores were taken as academic achievement score. These were obtained from the school records.

STATISTICAL TECHNIQUES USED IN THE STUDY

For the present study data was analyzed through the following statistical techniques.

- ❖ Mean, S. D to describe the nature of data.
- ❖ Along with this the researcher considered to use ‘t’ test to compare groups under consideration.
- ❖ Pearson ‘r’ correlation coefficient was used in the study. It was used to study the “linear relationship between two variables”. Moreover, “Karl Pearson’s Product Moment Correlation” was used to see the relationships between variables under study.
- ❖ Percentage analysis.

RESULTS OF THE STUDY

Findings on the extraversion-introversion link and "academic achievement of pupils in secondary schools.

There was a substantial association between secondary school pupils' academic achievement and extraversion-introversion. In other words, we might claim that there is a correlation between the two variables.

the link between fluency as a quality of divergent thinking and academic accomplishment of secondary school students"

There is a considerable positive association between students' academic achievement and fluency as a component of divergent thinking, which has been documented and found. It might be assumed that an improvement in academic performance will follow an increase in fluency.

discovering the connection between flexibility as a component of diverse thinking and pupils' academic success

Similarly, it was discovered that flexibility significantly and favorably connected with academic success. It suggests that being able to think broadly may also help students perform better in school.

Findings regarding the relationship between originality and diverse thinking and "secondary school students' intellectual achievement."

Regarding the relationship between students' academic accomplishment and originality as a component of divergent thinking, a strong positive association was once again discovered. Also, it was shown that an improvement in academic accomplishment was seen with an increase in one's own contribution, reflection in studies, and independent thinking.

study that examined the link between a person's locus of control and their academic success students in secondary schools.

It was shown that there is a considerable relationship between students' locus of control and academic achievement.

Observations concerning the "connection of extraversion-introversion and learning styles of "secondary school students"

Students' learning styles and extraversion-introversion were shown to be significantly and positively associated. This indicates a correlation between personality type diversity and learning preferences.

the link between fluency as a quality of divergent thinking and secondary school pupils' preferred methods of learning.

According to the study, there is an association between secondary school students' learning preferences and the fluency characteristic of divergent thinking. It suggests that a person's volubility and eloquence may be correlated with having a particular learning style.

discovering the connection between flexibility as a component of diverse thinking and student learning preferences

The ability to view something from a different angle or point of view may be linked to having a better learning style on the part of students, according to another study that found a significant positive correlation between flexibility as a dimension of divergent thinking and learning styles of secondary school students.

Observation concerning the "connection of creativity as a dimension of divergent thinking" and learning preferences of adolescents."

Originality, another facet of divergent thinking, also showed a strong and favorable link with secondary school students' learning preferences. This research highlights how independent and creative thinking skills may correlate to learning preferences that are superior to others.

Findings about the "relationship of locus of control and secondary learning styles" students at a school.

In terms of locus of control, secondary school pupils' learning styles were found to strongly & favorably correlate with it. It follows that a student's learning preferences may be related to how they view what led to their academic success or failure in school. They will concentrate harder and more diligently on their studies if they believe they have personal control over their behavior and performance.

finding comparing secondary school pupils who are introverted and those who are outgoing on academic performance

Secondary school pupils' academic achievement was discovered to be considerably different between introverts and extroverts. Extrovert secondary school pupils do on average better than their introverted counterparts. As a result, extraverted secondary school pupils were shown to have higher academic accomplishment than their introverted counterparts.

Findings about "comparison of secondary school academic achievement" pupils' fluency scores, which are a component of divergent thinking, being both high and low Findings showed a substantial difference between secondary school students with high and low fluency scores in terms of academic achievement. Conclusion: Students with high fluency scores have mean scores that are significantly higher than students

with low fluency scores in secondary school. So, it may be said that having a fluid cognitive process improves academic performance.

Findings about "comparison of secondary school academic achievement" students with high and low flexibility scores, which is a component of divergent thinking thinking

Findings showed a substantial difference between secondary school students with high and low scores on flexibility in terms of academic achievement. It was shown that secondary school pupils with high flexibility scores had higher mean scores, indicating that they had much superior academic accomplishment than their low-flexibility counterparts.

Findings about the comparison of "secondary school academic achievement" pupils with high and low creativity ratings, which is a component of divergent thinking thinking

Results showed a substantial difference in the academic accomplishment scores of secondary school pupils with high and low originality scores, when viewed in the context of mean scores. It is possible to draw the conclusion that students in secondary schools with high originality scores have mean scores that are higher and considerably higher academic accomplishment than students with low originality scores.

Findings about the comparison of "secondary school academic achievement" kids with high and low marks on the dimension of "powerful others" control

The academic achievement of secondary school children with high and low scores on the dimension of locus of control known as "Powerful Others" was found to differ significantly. Children with lower scores on the powerful others scale performed better academically.

Findings about "comparison of secondary school academic achievement" students with high and low scores on the component of locus of control known as "chance" control

The academic achievement of secondary school students with high and low scores on chance control as a dimension of chance was found to be significantly different.

locus of control: 162. It was discovered that those with low chance control scores had high academic achievement.

Findings regarding the academic performance of secondary schools Students with high and poor individual control scores as a locus of control

Likewise, a substantial difference between secondary school students' academic achievement with high and low scores on individual control as a dimension of locus of control could be seen. Academic attainment was observed to be higher among students with higher individual control scores than with comparable participants with lower individual control scores.

finding comparing secondary school pupils who are introverted and those who are outgoing about learning styles

The learning styles of extrovert and introvert secondary school students were found to differ significantly. Secondary school pupils who are outgoing typically engage in active learning.

Findings about the contrast between secondary school pupils' learning approaches high and low fluency scores as a component of divergent thinking

According to the findings, there was a "substantial difference" between secondary school pupils' learning styles with high and low fluency scores. The learning styles of secondary school students with high fluency scores and those with poor fluency scores were found to be considerably different.

Findings about the contrast between secondary school pupils' learning approaches flexibility as a component of divergent thinking: high and low scores

With high and low scores on flexibility, it can be assumed that "a significant difference was identified between the scores of learning styles of secondary school pupils." Students in secondary schools who scored highly on flexibility had learning methods that were noticeably different from those of kids who scored poorly on flexibility.

Findings about the contrast between secondary school pupils' learning approaches Originality as a component of divergent thinking: high and low scores

It was found that pupils in secondary schools with high and low originality ratings had "a significant difference exist between the scores of learning styles." It can be concluded that kids in secondary schools who scored higher on originality do not all learn in the same way as their peers.

Findings regarding the comparison of secondary school pupils' learning styles high and low scores on the dimension of locus of control known as "powerful others"

The learning styles of secondary school children with high and low scores on the locus of control dimension "Powerful others" were found to differ significantly. Also, it was discovered that pupils who have confidence in their own abilities have distinct learning preferences than those who believe in the authority of others.

Findings regarding the comparison of secondary school pupils' learning styles high and low scores on the component of locus of control known as chance control

It was shown that pupils in secondary schools with high and low scores on chance control as a factor of locus of control had "significantly different learning styles." As compared to the group of students that give priority to chance control, it was discovered that those students have different learning styles.

Findings regarding the comparison of secondary school pupils' learning styles scores on the individual Control dimension of locus of control that are high and low

The learning styles of secondary school students with high and low scores on the locus of control dimension of individual control were found to differ significantly. Secondary school pupils with higher levels of individual control belief may be found to have very different learning styles from those with lower levels of individual control belief.

Moreover, percentage analysis showed that extrovert respondents in the sample favoured an active, replicating learning method. Nonetheless, introverted participants showed a preference for active, constructive learning methods.

Participants with high levels of fluency typically learn in a figural reproducing style, while subjects with low levels of fluency prefer an active reproducing approach.

Pupils who are more adaptable favor learning in figuratively constructive ways and are less inclined to study in figuratively reproducing ways.

Similarly, subjects with higher originality scores tended to prefer verbal constructive learning styles, while those with lower scores showed less interest in figurative constructive learning styles.

In contrast to their counterparts who have a low perception of "Powerful Others," students who believe others to be more powerful than themselves are tend to choose enactive reproducing learning strategies.

Corresponding to this, the group of students who have high chance control prefer verbal reproducing styles and low chance control prefer active reproducing techniques.

Also, pupils who score highly on individual control favor verbal constructive style whereas those who score low choose verbal reproducing method.

CONCLUSION

Educational research should result in some recommendations for the improvement of educational practices and procedures, not only new facts that are added to the field of education for the sake of knowledge alone. Establishing curricula and creating educational programs that meet the needs of students from diverse backgrounds is essential. research of academic performance, learning preferences, extraversion-introversion, divergent thinking, and locus of control in secondary school pupils. The current study will be very beneficial for fine-tuning educational policies, and it will also support policy framers, educational planners, administrators, teacher-educators, and parents in particular, as well as society at large, in bringing modifications and improvisation in a variety of secondary school students' skills through the implications. Teachers, parents, and policymakers can all take specific steps to support students' academic success while advising them to adopt an optimistic outlook. Given the foregoing, the present investigation's findings were analyzed, and the following implications are drawn:

Several co-curricular activities ought to be planned in schools, and all pupils ought to be encouraged to take part. It is possible to encourage pupils to participate in group activities despite the fact that personality is dynamic and not static. This will support their social growth and opening up.

Teaching strategies in schools should take into account the study's findings and be geared toward encouraging diverse thinking abilities from a young age. These possibilities will go a long way toward helping kids' abilities flourish and develop, as they may do in the absence of a significant experience.

Regarding the availability of materials to foster diverse thinking, it was believed that tools like play material created from native materials (puppets, stuffed animals), technological devices, and audiovisual aids should be made available in the classrooms.

Through efficient use of print and electronic media, folk media, theater, and other forms of expression, the fundamental idea about the need for diverse thinking skills in the modern world needs to be emphasized.

In order to foster varied thinking in his or her students, teachers should assign practice problems that are of an emerging type.

Establishing a balance between various tasks is necessary. Academic and extracurricular activities should be balanced in educational institutions. Activities that are crucial and beneficial for the growth of creative faculties and harmonious development ought to be supported.

Workshops should be planned to help teachers become more capable of meeting the demands of today's educational issues. Teachers in these workshops ought to have access to the most recent tools to foster students' varied thinking.

Students should place greater emphasis on developing their personalities and fostering an optimistic outlook on the future since, at that point, they will have a better understanding of contemporary culture and technological advancements and be more effective teachers.

Instructors should promote questioning in their pupils and enthusiastically address their inquiries. In order to motivate pupils, teachers should also employ reinforcement in the form of praise, inspiration, feedback, etc.

Teachers should actively contribute to fostering a supportive environment in the classroom and at school so that students can grow their internal locus of control. The teacher's responsibility should be to help, direct, and collaborate in the career development of his or her students.

There should be a plan in place for different activities, such as 1. classes, 2. 3 workshops. lectures from special guests and other speakers to encourage internal locus of control in the students. Teachers should also often provide feedback to students so that they are aware of their internal locus of control.

For both introverts and extroverts, there is a tactic called "think-pair-share," which instructs pupils to turn to their partners after the teacher asks a question rather than having to speak in front of the entire class.

It is crucial for teachers to be patient while dealing with introverted kids.

It is important to inform instructors, student teachers, and other postgraduate students about counseling programs and learning style-specific tactics.

To make classroom instruction interesting, the students should be given the freedom to share their creative ideas.

The school should schedule at least monthly advice and counseling sessions, as well as intervention programs, to assist students in discussing and resolving issues related to their learning styles.

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