

Critical Thinking Ability and Vocational Aspirations of Higher Secondary Students

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Abstract

Critical thinking is considered important in the academic fields because it enables one to analyze, evaluate, explain, and restructure their thinking, thereby decreasing the risk of adopting, acting on, or thinking with, a false belief. Choosing a vocation requires meticulous thought, care, and planning. While doing so, you have to keep in mind your goals and a clear idea about the expectations from that vocation. The adult in our society is expected to be employable and self-supporting before he can be said to be independent. Among various thinking abilities, critical thinking ability possesses a significant role in selecting a job. Making a vocational choice is of great concern to both boys and girls at higher secondary level. This study focuses on understanding how critical thinking ability determines the vocational aspirations of Higher Secondary School Students. The evidence obtained from the study substantiate that there is a positive and significant relationship between critical thinking ability and vocational aspiration of higher secondary students.

Keywords: Critical thinking ability; Vocational aspirations; higher secondary students.

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1. Introduction

A person with complete knowledge will be able to meet the challenges of the society efficiently. He will be known and followed by many. Each generation gives new form to the aspirations that shape education in its time. Education contributes towards developing different aspects of personality and the most important aim is vocational development. The choice of vocation is one of the very important decisions a person must make for himself and this choice is a long process rather than a simple incident. The wise choice of a vocation requires knowledge and acceptance of one's own aptitudes, abilities, limitation, interests, values, feelings, fears, likes, dislikes and accurate information about what occupation are available, what they require and they offer. A person's expectation of how he will perform a task is called his level of aspiration. Vocational development is related to academic achievement and socio-economic status but is not related to sex and different levels of education [1]. Parental, occupational and social background, intelligence, school achievement, peer group experience, vocational guidance, and thinking ability are some of the variables which may influence vocational aspiration.

In the present era of information explosion, basic factual knowledge is readily available through the web resources, and in many cases, this information is passed on while traditional classroom delivery. For schools to remain relevant to student growth and skill development, they have no choice but to teach skills that children need to be successful in a modern, global economy. These skills include —broad concepts such as creativity, innovation, problem-solving, communication, collaboration, teamwork, and critical thinking, as well as media and technology literacy, financial literacy, health literacy, and global literacy[2]. Critical thinking is a way of deciding whether a claim is always true, sometimes true, partly true or false. It is a mental process of analyzing or evaluating information, particularly statements or propositions that are offered as true Critical thinking can be described as a —gradual progression from the superficial to the increasingly complex [3].

More recently, critical thinking has been described as the process of purposeful, self-regulatory judgment, which uses reasoned consideration to evidence, context, conceptualizations, methods, and criteria. Critical thinking classifies goals, examines assumptions, discerns hidden values, evaluates evidence, accomplishes actions and assesses conclusions.

1.1. Skills in Critical Thinking Structure

The ability to analyze and creatively adapt to new situations is at the heart of critical thinking. It provides a vehicle for educating the mind [4]. Simply practicing critical thinking strategies like learning how to read rhetorically, to think critically, and to write authoritatively, possess a serendipitous value, one well beyond the academic world [5]. The list of core critical thinking skills includes observation, interpretation, analysis, inference, evaluation, explanation and meta-cognition. In fact, the critical thinking calls for the ability to:

- Recognize Problems, to find workable means for meeting those problems.
- Draw warranted conclusions and generalizations.
- Render accurate judgments about specific things and qualities in everyday life.

1.2. Relevance of critical thinking

The prestige of modern schools is vested in the predominance of their students in the public examination and as such they concentrate much on the competitive domain. Therefore, the students are compelled to a routine of —cramming the night before a test, instead of inquisitively examining a concept and attempting to synthesize it into their own lives. Cramming and critical thinking are vastly different skills. In a class that consists mainly of lectures with periodic quizzes and examinations, students can often get a passing grade by cramming the night before quizzes and tests [6]. In order to redeem students from becoming mental parrots, critical thinking is considered important in the academic fields because it enables one to analyze, evaluate, explain, and restructure their thinking, thereby decreasing the risk of adopting acting on, or thinking with, a false belief.

1.3. The Vocational aim of education

A large number of career options are available these days to the students, making it a difficult task for the youngster to make a mature choice. The wise choice of a vocation requires knowledge and acceptance of one's own aptitudes, abilities, limitation, interests, values, feelings, fears, likes, dislikes and accurate information about what occupation are available, what they require and they offer. Individuals and groups have been concerned with these questions for a long time, but they have to deal with them without a real understanding of how individuals do in fact choose a career. The level of vocational aspiration has been defined as an orientation toward occupational goal [7]. The terms 'level of occupational aspiration' and the 'level of educational aspiration' are both the special instances of the concept of aspiration [8]. Therefore making a vocational choice is of great concern to both boys and girls at higher secondary level.

2. Review of literature

As part of the literature review, a large pool of empirical studies has been located which identified the factors associated with vocational aspiration of school students. The studies include, socio-economic status, early childhood experiences, educational and vocational aspirations, needs and interests, locus of control, cognitive styles etc. [9], work-values [10], educational grade [11], role models [12], residential background and sex [13], perceived problem solving [14], school setting [15], perceived work relation barriers [16], locus of control, dependence proneness and sex [17]. Interest Differentiation and Vocational Identity [18], Adult Career Interests and work values [19] and occupational interests of adolescents in relation to sex, urban-rural residence, socio-economic background and prevalent job trends of employment [20] The studies pertaining to thinking, decision making and vocational aspiration rare but a few studies such as that by [21], which indicates that very young children have been observed thinking critically, whereas trained scientists occasionally fall prey to errors in reasoning and that by [22] which was entitled “Critical Thinking Skills of the United States dental hygiene students”.The study showed no significant difference in critical thinking skills of United states dental hygiene students among final year and the interaction of management experience and age.

2.1. Hypothesis of the Study

- There will be a significant difference in the critical thinking ability of Higher Secondary Students in

the total sample and the various subsamples selected.

- There will be a significant difference in the vocational aspiration of Higher Secondary Students in the total sample and the various subsamples selected.
- The vocational aspiration of Higher Secondary Students is significantly related to their critical thinking ability in the total sample and the various subsamples selected.

2.2. Objectives of the Study

The study has the following objectives in view;

- To find out the critical thinking ability of Higher Secondary Students
- To find out whether there is any significant difference in the critical thinking ability of students with respect to (a) their Gender, (b) the subject group of study and (c) the locale of school in which they are studying
- To find out the vocational aspiration of Higher Secondary Students.
- To find out whether there is any significant difference in the vocational aspiration of students with respect to (a) their Gender, (b) the subject group of study and (c) the locale of school in which they are studying
- To find out the relationship between critical thinking ability and vocational aspiration of Higher Secondary Students.
- To find out whether there is any significant relationship between the critical thinking ability and vocational aspiration of students with respect to (a) their Gender, (b) the subject group of study and (c) the locale of school in which they are studying

3. Methodology

Educational Surveys are versatile and practical. They help to identify conditions and points to present needs. They provide useful information on which sound decisions can be used. Hence, Survey method is used for the study. The population of the present study consists of Higher Secondary School Students studying in Kerala, India. Stratified sampling is a technique designed to ensure representativeness and to avoid bias by use of a modified random sampling method. For the present study, a representative sample of 600 higher secondary students studying in plus two classes (male 185 and female 415) were taken from the schools of Thiruvananthapuram and Kollam districts of Kerala. The strata considered in this study are gender, locale and subject group.

3.1. Tools used for the study

- Personal Data Sheet
- The personal data sheet is used to collect the general information regarding a student, such as a name, gender, class, locality, subject group for study and name and place of the school where studying.
- Critical Thinking Ability Test

- Investigator selected five skills of critical thinking such as Interpretation, Analysis, Inference, Evaluation and Explanation and prepared 6 questions each. This was standardized and used as a critical thinking test.
- Vocational Aspiration Questionnaire
- A standardized questionnaire consisting of 33 items were used as vocational aspiration questionnaire.

3.2. *Statistical Techniques used for the Study*

- The data collected were analyzed using appropriate statistical techniques as follows: Arithmetic Mean, Median, Mode, Standard Deviation, Skewness and Kurtosis of their scores were found out.
- The results were analysed by using the Test of Significance for difference between Means (Critical Ratio) and Pearson's Product Moment Coefficient of Correlation (r)

4. Analysis and interpretation of data

The stability of the data was tested using the Central Tendency Measures such as the Mean, Median, Mode and Standard Deviation. The maximum score of Critical thinking ability is 30 and the maximum score of Vocational aspiration is 66. Mean score and Standard Deviation of critical thinking of Higher Secondary Students are 15.90 and 3.68 respectively. Since the Mean is greater than 15.00, Higher Secondary Students have high critical thinking. The value of Median is 16. This means that 50% of Higher Secondary students scored above 16 and 50% of Higher Secondary Students scored below 16. The value of Mode 17.00 also supported the conclusion that students at Higher Secondary level have high critical thinking.

The Mean score and Standard deviation of vocational aspiration of Higher Secondary Students are 56.54 and 3.50 respectively. The value of Median is 57. This means that 50% of Higher Secondary Students scored above 57, and 50% of Higher secondary students scored below 57. The value of Mode 57 also supports that the students at Higher Secondary level have high vocational aspiration.

Only 92 (15.33%) of the Higher Secondary Students have high critical thinking ability and a majority, i.e., 414 (69%) have average critical thinking ability. It can also be seen that 94 (15.67%) have low critical thinking ability. This shows that majority of the students have average critical thinking ability.

Higher Secondary Students have high vocational aspiration and a majority, i.e., 374 (62.33%) have average vocational aspiration. It can also be seen that only 112 (18.67%) have low vocational aspiration. This shows that majority of the students have average vocational aspiration.

For the subsample boys and girls t-value obtained is significant at 0.01 level ($CR=2.77$; $P < 0.01$), which means that Boys and Girls differ significantly in their critical thinking ability. The higher mean value obtained by Girls indicated that they have higher critical thinking ability compared to Boys.

For the urban and rural sub-samples t-value obtained is significance at 0.01 level ($CR=3.26$, $P < 0.01$), which means that Urban and Rural students differ significantly in their critical thinking ability. t-value obtained is not

significant even at 0.05 level ($CR=0.16$; $P>0.05$), which means that there is no significant difference between Urban and Rural students in their vocational aspiration.

For the science and commerce students, there is no significant difference between vocational aspiration of science and commerce students, as the t-value obtained is not significant even at 0.05 level ($CR=0.07$; $P>0.05$).

For science and humanities, students t-value obtained is not significant even at 0.05 level ($CR=0.53$; $P>0.05$), which means that there is no significant difference between Science and Humanities students in their vocational aspiration. t-value obtained is not significant even at 0.05 level, which means that commerce and humanities students do not differ significantly in their vocational aspiration ($CR=0.43$; $P>0.05$).

4.1. Relationship between Critical Thinking Ability and Vocational Aspiration of Higher Secondary Students

Co-efficient of correlation obtained between critical thinking ability and vocational aspiration of higher secondary students is significant at 0.01 level ($r=0.173$; $P<0.01$). The confidence interval at 0.01 level lies between 0.071 and 0.275. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of higher secondary students

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of Boys is not significant even at 0.05 level ($r=0.104$; $P>0.05$), which means that there is no significant relationship between critical thinking ability and vocational aspiration of boys.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of Girls is significant at 0.01 level ($r=0.181$; $P<0.01$). The confidence interval at 0.01 level lies between 0.059 and 0.303. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of girls.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of Girls is significant at 0.01 level ($r=0.181$; $P<0.01$). The confidence interval at 0.01 level lies between 0.059 and 0.303. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of girls.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of urban students is significant at 0.01 level ($r=0.207$; $P<0.01$). The confidence interval at 0.01 level lies between 0.061 and 0.353. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of urban students

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of rural students is significant at 0.01 level ($r=0.145$; $P<0.01$). The confidence interval lies between 0.003 to 0.287. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of rural students.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of Science students is not significant even at 0.05 level ($r=0.042$; $P>0.05$), which means that there is no significant relationship between critical thinking ability and vocational aspiration of science students.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of commerce students is significant at 0.01 level ($r=0.199$; $P<0.01$). The confidence interval at 0.01 level lies between 0.024 and 0.374. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of commerce students.

The coefficient of correlation obtained between critical thinking ability and vocational aspiration of Humanities students is significant at 0.01 level ($r=0.0263$; $P<0.01$). The confidence interval at 0.01 level lies between 0.093 and 0.433. This shows that there is a positive and significant relationship between critical thinking ability and vocational aspiration of Humanities students.

5. Recommendations

The great variety of choice in occupation makes the problem of decision very difficult for the adolescent. Many factors affect the choice of a vocation. Vocational aspiration of adolescents is influenced by the environment in which the individual lives, family, physical environment, socioeconomic conditions, and emotional status especially thinking ability of the students. Results of this study show that critical thinking nature of students significantly affects students aspirations. This study can be extended to find the other aspects such as choice of a particular field and critical thinking nature. This study can be done among adults and other disciplines.

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