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INSIGHTFUL RESEARCHES IN EDUCATION

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NIRANJANA K.P., Influence of Epistemological Beliefs, Achievement Goals and Self-Regulated Learning Strategies on Achievement in Accountancy of Higher Secondary School Students, Ph D. Edn., University of Calicut., 2018.

INFLUENCE OF EPISTEMOLOGICAL BELIEFS, ACHIEVEMENT GOALS AND SELF-REGULATED LEARNING STRATEGIES ON ACHIEVEMENT IN ACCOUNTANCY OF HIGHER SECONDARY SCHOOL STUDENTS

NIRANJANA K P

I. Introduction

Commerce education is that part of general education which focuses on direct and practical training for specific trade, industry, or business by taking into account the broad aims of education and enables individuals to earn for a livelihood. In Indian context, commerce education can be described as that broad area of knowledge and practices which explains and defines the role of business in the economic development of the country as an Indian enterprise system and also provides necessary understanding as well as experiences which help to mould an individual for effective participation as a productive citizen and successful consumer in the Indian society. Thus, commerce education not only prepares an individual to lead a civilized life but also enables an individual to earn for a livelihood by providing training in commercial practices and preparing for proficiently taking up the duties and responsibilities of the business world.

Higher secondary stage is a critical and transitional stage in between the school and university education or secondary and higher education. The intellectual levels of the students begin to widen and more experiences related to real life situation is gathered at this stage. The Central Board of Secondary Education included business studies and accountancy subjects in the commerce curriculum, as part of restructuring the curriculum in the academic year 1995-96, to explain and understand the enlarged functions and scope of commercial activities to the students at higher secondary stage (Shollapur, 2007). While considering the subjects provided in commerce stream in our country, accountancy is an important subject in commerce education as it is necessary to satisfy the vocational needs. The study conducted by Chawla, Jain & Mahajan (2013) examined the attitude of senior secondary school students towards accountancy subject and revealed that even though the students are having positive attitude

towards accountancy teacher and the methodology of teaching, they are having negative attitude towards the subject and dilemma about the numerical as well as confusing nature of the subject. Thus, the studies for enhancing accountancy learning will be helpful for the students as well as the teachers to facilitate learning.

1.1 Need and significance of the study

Educational scenario of India is going through an era of constructivism in which innovative activities are used by the teachers as well as students for transacting and mastering the content. The constructivist approach to education necessitated the incorporation of learner centered approaches in classroom environment and the teachers encourage the students to think, generate hypothesis, collect necessary information, analyze and evaluate the collected information, and find out solution for a problematic situation. The research evidences indicate that the students' epistemological beliefs about learning influence the problem solving behaviours, academic performance, use of cognitive strategies, comprehension skills, motivation to learn, and learning processes (Ryan, 1984; Schommer, 1990; Paulsen & Feldman, 1999). The domain specific research studies exploring epistemological beliefs reported the findings proving that domain specific epistemological beliefs has influence on study strategies and problems solving in History, Mathematics, and hypermedia learning (Schommer-Aikins, Duell & Hutter, 2005; Schommer-Aikins & Duell, 2013).

Motivation an internal process which encourages an individual to move towards their goal is considered as the central factor in learning. Achievement goal is an important perspective in contemporary research on student motivation, learning, and competence in academic achievement. (Elliott & Dweck, 1988). The research studies in the area of achievement goal revealed that both the mastery goal and performance goal orientations are beneficial for academic achievement of the students at various levels (Dweck, 1986; Eppler & Harju, 1997). Research evidences shows that achievement goal orientations are related to various aspects of learning such as self-efficacy, academic performance, learning styles, and anxiety (Barkur, Govindan, & Kamath, 2013).

Selfregulated learning is recognized as an important predictor of student academic motivation, student learning, and academic performance in various subjects. (Pintrich & De Groot, 1990; Zimmerman, 1994; Schunk, 1994; Chen, 2002; Kumari & Chamundeswari, 2015; Yýdýzlý, Saban, & Ewing, 2016). Under this background, the investigator felt that it would be highly significant and useful to study the influence of Epistemological Beliefs, Achievement Goals, and Selfregulated Learning Strategies on Achievement in Accountancy of higher secondary school students.

1.2. **Statement of the problem**

The study is entitled as **Influence of epistemological beliefs, achievement goals and self-regulated learning strategies on achievement in Accountancy of Higher Secondary School students.**

1.3. **Definition of key terms**

The key terms used for stating the problem are described below.

i. **Epistemological Beliefs**

Epistemological Beliefs have been defined as the beliefs pertaining to what is knowledge and how the knowing and learning occurs (Schommer, 1990).

For the present study, Epistemological Beliefs specifically in the context of Accountancy learning are considered. The epistemological beliefs refer to the beliefs of the students related to the nature of the subject Accountancy and the process of acquiring knowledge in Accountancy which is measured using Scale on Epistemological Beliefs in Accountancy.

ii. **Achievement Goals**

Achievement Goals are conceived as cognitive representations of what individuals are trying to do or what they want to achieve and represent the individual's orientation to the task or situation, their general focus or purpose for achievement (Pintrich, Conley & Kempler, 2003).

For the present study, Achievement Goals refer to the purpose and motivation of an individual to engage in academic activity. The type of achievement goal viz., mastery goal, performance-avoidance goal, and performance-approach goal, which is pursued by the students while engaging in academic and learning tasks are considered and they are measured with the help of Achievement Goal Inventory.

iii. **Self Regulated Learning Strategies**

Self regulated Learning Strategies refer to the combined use of cognitive strategies, meta cognitive strategies, and resource management strategies by the students to take control of their effort and classroom learning environment (Pintrich & De Groot, 1990).

For the present study, the Self regulated Learning Strategies are the strategies used by the students to achieve their goal in classroom and academic related activities. The cognitive, metacognitive, and resource management strategies

adopted by the students in completing learning tasks are measured using a Scale on Self regulated Learning Strategies

iv. **Achievement in Accountancy**

The term Achievement in Accountancy refers to the relative accomplishments of students in accountancy as measured by a Test of Achievement in Accountancy constructed and standardized for higher secondary school students of Kerala.

v. **Higher Secondary School Students**

The term higher secondary school students refer to the students studying in standard XI and XII of the recognized higher secondary schools in Kerala State.

For the present study, higher secondary school students refer to those students studying in Commerce stream in higher secondary schools of Kerala state.

1.4 Objectives of Study

The objectives of the study are:

1. To find out whether there exist any gender, type of management, and locale differences for the selected independent variables namely, Epistemological Beliefs, Achievement Goals, Self regulated Learning Strategies, and the dependent variable, Achievement in Accountancy among higher secondary school students.
2. To study the influence of Epistemological Beliefs, Achievement Goals, and Self regulated Learning Strategies on Achievement in Accountancy for the total sample and subgroups based on gender, type of management, and locale of schools.
3. To find out the individual and combined contributions of Epistemological Beliefs, Achievement Goals, and Self regulated Learning Strategies on Achievement in Accountancy for total sample.
4. To work out the equation to the regression lines for predicting Achievement in Accountancy based on the variables namely, Epistemological Beliefs, Achievement Goals, and Self regulated Learning Strategies.

1.5 Hypotheses of the study

The study is carried out to test the following hypotheses:

There is significant gender difference in the mean scores of Epistemological Beliefs, Achievement Goals, Self-regulated Learning Strategies, and Achievement in Accountancy of higher secondary school students.

2. There is significant difference in the mean scores of Epistemological Beliefs Achievement Goals, Self-regulated Learning Strategies, and Achievement in Accountancy of higher secondary school students based on the type of management of schools.
3. There is significant locale difference in the mean scores of Epistemological Beliefs, Achievement Goals, Self-regulated Learning Strategies, and Achievement in Accountancy of higher secondary school students.
4. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for total sample.
5. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for girls of higher secondary schools.
6. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for boys of higher secondary schools.
7. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for government higher secondary school students.
8. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for aided higher secondary school students.
9. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for rural higher secondary school students.
10. There is significant main effect and interaction effect of each of the independent variable namely, Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on the dependent variable, Achievement in Accountancy for urban higher secondary school students.

11. There is significant individual and combined contribution of Epistemological Beliefs, Achievement Goals, and Self-regulated Learning Strategies on Achievement Accountancy for total sample.

2. Variables of the Study

Independent Variables

- Epistemological Beliefs
- Achievement Goals
- Self regulated Learning Strategies

Dependent Variable

- Achievement in Accountancy

3. Methodology

3.1 Method Adopted

Survey method was adopted for the study.

3.2 Sample for the study

The population considered for the study is higher secondary school students of commerce stream in Kerala state who follow Kerala state syllabus. The study was carried out on representative sample of 1012 higher secondary school students studying in standard XI of commerce stream selected from Kasargode, Kozhikode, Malappuram, Palakkad, Thrissur, Ernakulam, and Thiruvananthapuram districts of Kerala State. Stratified sampling technique was used for selecting the sample by giving due representation to the subgroup on the basis of gender, type of management of the schools, and locale of the schools.

3.3 Tools used for the study

i. Scale on Epistemological Beliefs in Accountancy (Usha & Niranjana, 2015)

The scale consists of 40 items on five dimensions of Epistemological Beliefs such as certainty of knowledge, structure of knowledge, source of knowledge, control of knowledge, and speed of knowledge acquisition. The items related to naïve and sophisticated beliefs of students about Accountancy and the process of learning related to Accountancy subject are included in the scale. The validity of the scale is ensured through face validity, content validity and criterion related validity (0.64). The reliability of tool was established with the help of test-retest method (0.74) and Cronbach alpha coefficient obtained is 0.82.

Achievement Goal Inventory (Usha & Niranjana, 2015)

- ii. This inventory consists of 45 items on three types of Achievement Goal pursued by the students viz., mastery goal, performance-approach goal, and performance-avoidance goal. The validity of the inventory is ensured through face validity, content validity and criterion validity (0.67). The reliability of the tool was established by using test-retest method (0.85) and Cronbach alpha coefficient obtained is .86.

Scale on Self Regulated Learning Strategies (Usha & Niranjana, 2015)

- iii. This scale consists of 58 items related to the three components of Self Regulated Learning Strategies viz., cognitive strategies, metacognitive strategies, and resource management strategies. The validity of the scale is ensured through face validity, content validity and criterion validity (0.78). The reliability of the tool was established by using test-retest method (0.79). Cronbach alpha coefficient obtained is .88.

Achievement Test in Accountancy (Usha & Niranjana, 2015)

- iv. The achievement test was constructed on the basis of Revised Bloom's Taxonomy of Educational Objectives. The standardized achievement test consists of 40 multiple choice test items from Accountancy subject of standard XI. The content validity of test was established through proper analysis of the content and objectives as well as by preparing a blue print in accordance with the curricular requirements. The test items were subjected to evaluation by experts in the field of teaching Accountancy. Thus, the content validity and face validity of Achievement Test in Accountancy was established. Criterion related validity (.63) of the Achievement Test in Accountancy was established by correlating the scores of achievement test in Accountancy with the marks obtained by the students for final examination in Accountancy for standard XI public examination. The reliability of achievement test was ensured by test-retest method (0.77).

3.4 Procedure of the study

The data required for the present study, were collected from the selected sample, i.e. 1012 higher secondary school students of commerce stream in standard XI. The investigator approached the principals of selected schools in order to seek permission to collect the data. After getting permission from the authorities, the required data were collected from students of selected schools in each district. The investigator administered all the four tools to higher secondary school students of standard XI studying in commerce

stream. Before administering each tool, necessary directions were given to the students and ensured the secrecy of their responses. First of all the Achievement Test in Accountancy was administered in one period of 40 minutes. Then the remaining three tools were administered for a period of two hours. Altogether the investigator took almost three hours to administer the four tools. The duly filled response sheets were collected and considered for data analysis.

4. Statistical techniques used

- (i) Descriptive Statistics
- (ii) Mean Difference Analysis : Test of significance of difference between means of large independent sample (t-test) was used.
- (iii) Analysis of Variance with 2X3X2 Factorial Design
- (iv) Multiple Regression Analysis

5. Findings of the study

The major findings of the study are:

- **Difference based on Gender**

The data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for girls and boys of higher secondary schools are presented in Table 1.

Table 1. Data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for girls and boys of higher secondary schools

Variable	Group	N	Mean	SD	t-value
Epistemological Beliefs	Boys	485	81.16	7.32	**t=12.81
	Girls	527	87.23	7.76	
Mastery Goal	Boys	485	29.52	6.74	** t=11.87
	Girls	527	34.62	6.93	
Performance-Avoidance Goal,	Boys	485	32.24	4.94	**t=4.02
	Girls	527	33.42	4.42	
Performance-Approach Goal	Boys	485	29.82	6.26	**t=7.74
	Girls	527	32.75	5.78	

Self Regulated Learning Strategies	Boys	485	125.75	13.27	**t=13.54
	Girls	527	137.78	14.96	
Achievement in Accountancy	Boys	485	19.41	6.67	**t=11.78
	Girls	527	24.31	6.53	

****p ≤ .05**

Table I reveals that there exists significant difference in the mean scores of Epistemological Beliefs, Mastery Goal, Performance-Approach Goal, Performance-Avoidance Goal, Self Regulated Learning Strategies and Achievement in Accountancy with respect to gender. By analyzing the means scores, it can be concluded that the girls of higher secondary schools are having high level of Epistemological Beliefs, superior in pursuing Mastery Goal, Performance-Approach Goal, Performance-Avoidance Goal, superior in practising Self Regulated Learning Strategies and having high scores in Achievement in Accountancy than the boys of higher secondary schools.

- **Difference based on Type of Management of schools**
The data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for students of Government and Aided higher secondary schools are presented in Table 2.

Table 2. *Data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for Government and Aided higher secondary school students*

Variable	Group	N	Mean	SD	t-value
Epistemological Beliefs	Government	539	84.36	8.11	<i>t=0.16</i>
	Aided	473	84.27	8.16	
Mastery Goal	Government	539	32.36	6.96	<i>t=0.85</i>
	Aided	473	31.97	7.67	
Performance-Avoidance Goal,	Government	539	33.23	4.62	**t=2.63
	Aided	473	32.44	4.79	

Performance-Approach Goal	Government	539	31.59	6.12
	Aided	473	31.07	6.25
Self Regulated Learning Strategies	Government	539	132.44	14.95
	Aided	473	131.53	15.91
Achievement in Accountancy	Government	539	22.11	7.02
	Aided	473	21.79	7.06

** $p \leq .01$, * $p \leq .05$

Table 2. Reveals that the government and aided higher secondary school students possess the same level of Epistemological Beliefs, are same in pursuing mastery goal and Performance-Approach Goal, and no difference in the scores of Achievement in Accountancy. It is also evident that the government higher secondary school students are superior in pursuing Performance - Avoidance Goal and are practicing Self Regulated Learning Strategies than aided higher secondary school students.

• Difference based on Locale of schools

The data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for students of Rural and Urban higher secondary schools are presented in Table 3.

Table 3. Data and results of the test of significance difference between the mean scores of Epistemological Beliefs, Achievement Goals, Self Regulated Learning Strategies and Achievement in Accountancy for students of Rural and Urban higher secondary schools

Variable	Group	N	Mean	SD	t-value
Epistemological Beliefs	Rural	535	84.69	8.70	$t=1.57$
	Urban	477	83.90	7.42	
Mastery Goal	Rural	535	32.84	7.43	** $t=3.07$
	Urban	477	31.43	7.20	
Performance-Avoidance Goal,	Rural	535	33.03	4.68	$t=1.25$
	Urban	477	32.66	4.74	

Performance-Avoidance Goal	Rural	535	31.72	5.96	* $t=2.03$
	Urban	477	30.93	6.41	
Self Regulated Learning Strategies	Government	535	132.15	16.17	$t=0.30$
	Aided	477	131.86	14.52	
Achievement in Accountancy	Government	535	22.66	7.35	** $t=3.37$
	Aided	477	21.78	6.59	

** $p \leq .01$, * $p \leq .05$

Table 3 reveals that the rural and urban higher secondary school students possess same level of Epistemological Beliefs, are same in pursuing Performance-Avoidance Goal, and in practicing Self Regulated Learning Strategies. It is also evident that the rural higher secondary school students are superior in pursuing Mastery Goal and Performance-Approach Goal and higher scores in Achievement in Accountancy than urban higher secondary school students.

• Main Effect of select Independent Variables on Achievement in Accountancy for Total sample

The F value obtained indicates that the influence of Epistemological Beliefs ($F(1,1000)=141.46, p \leq .01$), Achievement Goals ($F(2,1000)=51.77, p \leq .01$), and Self Regulated Learning Strategies ($F(2,1000)=97.36, p \leq .01$) on Achievement in Accountancy is significant for total sample. There exists significant difference in the mean scores of Achievement in Accountancy for Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups of higher secondary school students for total sample.

The comparison of mean scores of Epistemological Beliefs groups indicated that those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=26.99, SD=5.12$) scores high on Achievement in Accountancy than those students who are having naïve Epistemological Beliefs ($M=16.93, SD=4.74$) for total sample.

The Scheffe's Post Hoc analysis revealed that those higher secondary students who are pursuing Mastery Goal ($M=27.96$) scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal ($M=16.51$) and Performance-Approach Goal ($M=21.21$) for total sample. Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal for total sample.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=26.72$, $SD=5.38$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=17.17$, $SD=4.95$) for total sample.

- **Main Effect of select Independent Variables on Achievement in Accountancy for Girls of Higher Secondary Schools**

The F value obtained indicates that the influence of Epistemological Beliefs, $F(1,515)=68.04$, $p \leq .01$, Achievement Goals, $F(2,515)=18.70$, $p \leq .01$, and Self Regulated Learning Strategies, $F(1,515)=41.37$, $p \leq .01$, on Achievement in Accountancy is significant for girls of higher secondary schools. There exists significant difference in the mean scores of Achievement in Accountancy for Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups among girls of higher secondary schools

The comparison of mean scores of Epistemological Beliefs groups indicated that those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=27.79$, $SD=4.62$) scores high on Achievement in Accountancy than those students who are having naive Epistemological Beliefs ($M=17.93$, $SD=4.35$) among girls.

The Scheffe's Post Hoc analysis revealed those girls who are pursuing Mastery Goal ($M=28.47$) scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal ($M=17.54$) and Performance-Approach Goal ($M=22.07$). Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal among girls of higher secondary schools.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=27.53$, $SD=4.88$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=18.30$, $SD=4.73$) among girls.

- **Main Effect of Select Independent Variables on Achievement in Accountancy for Boys of Higher Secondary Schools**

The F value obtained indicates that the influence of Epistemological Beliefs, $F(1,473)=62.36$, $p \leq .01$, Achievement Goals, $F(2,473)=28.10$, $p \leq .01$, and Self Regulated Learning Strategies, $F(1,473)=42.58$, $p \leq .01$, on Achievement in Accountancy is significant for boys of higher secondary schools. There exists significant

difference in the mean scores of Achievement in Accountancy for Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups among boys of higher secondary schools.

The comparison of mean scores of Epistemological Beliefs groups indicated that those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=25.33, SD=5.66$) scores high on Achievement in Accountancy than those students who are having naive Epistemological Beliefs ($M=16.36, SD=4.86$) among boys.

The Scheffe's Post Hoc analysis indicated that those higher secondary school students who are pursuing Mastery Goal ($M=26.63$) scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal ($M=15.98$) and Performance-Approach Goal ($M=20.38$) for boys. Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal for boys of higher secondary schools.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=25.03, SD=5.95$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=16.51, SD=4.96$) among boys.

- **Main Effect of Independent Variables on Achievement in Accountancy for Government School students**

The F value obtained indicates that the influence of Epistemological Beliefs, $F(1,527)=95.05, p \leq .01$, Achievement Goals, $F(2,527)=32.42, p \leq .01$, and Self Regulated Learning Strategies ($F(1,527)=48.50, p \leq .01$, on Achievement in Accountancy is significant for government school students. There exists significant difference in the mean scores of Achievement in Accountancy for Epistemological Beliefs groups, Achievement Goals groups and Self Regulated Learning Strategies groups of higher secondary school students for government schools.

The comparison of mean scores of Epistemological Beliefs groups indicated that those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=27.20, SD=4.84$) scores high on Achievement in Accountancy than those students who are having naive Epistemological Beliefs ($M=16.92, SD=4.72$) in government schools.

The Scheffe's Post Hoc analysis indicated that the higher scores in Achievement in Accountancy are associated with those higher secondary students who are pursuing Mastery Goal ($M=28.22$) than Performance-Avoidance Goal ($M=16.52$) and

Performance-Approach Goal ($M=21.84$) for government school students. Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal for government schools.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=26.62, SD=5.44$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=17.23, SD=4.98$) for government schools.

- **Main Effect of Independent Variables on Achievement in Accountancy for Aided School students**

The F value obtained indicates that the influence of Epistemological Beliefs, $F(1,461)=43.70, p \leq .01$, Achievement Goals, $F(2,461)=20.75, p \leq .01$, and Self Regulated Learning Strategies, $F(1,461)=48.60, p \leq .01$, on Achievement in Accountancy is significant for aided school students. There exists significant difference in the mean scores of Achievement in Accountancy for the Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups of aided higher secondary school students.

The comparison of mean scores of Epistemological Beliefs groups indicated that high scores on Achievement in Accountancy are associated with those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=26.74, SD=5.40$) than those students who are having naïve Epistemological Beliefs ($M=16.95, SD=4.76$) for aided schools.

The Scheffe's Post Hoc analysis revealed that those higher secondary school students who are pursuing Mastery Goal ($M=27.68$) scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal ($M=16.50$) and Performance-Approach Goal ($M=20.50$) for aided school sample. Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal for aided schools.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=26.84, SD=5.30$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=17.10, SD=4.94$) in case of aided schools.

Main Effect of select Independent Variables on Achievement in Accountancy for Rural School students

The F value obtained for Epistemological Beliefs, $F(1,523)=83.08, p \leq .01$, Achievement Goals, $F(2,523)=28.58, p \leq .01$, and Self Regulated Learning Strategies, $F(1,523)=56.49, p \leq .01$, on Achievement in Accountancy is significant for rural school students. There exists significant difference in the mean scores of Achievement in Accountancy for Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups of rural higher secondary school students.

The comparison of mean scores of Epistemological Beliefs groups indicated that those higher secondary school students who are having sophisticated Epistemological Beliefs ($M=27.91, SD=4.68$) scores high on Achievement in Accountancy than those students who are having naive Epistemological Beliefs ($M=16.98, SD=5.17$) in rural schools.

The Scheffe's Post Hoc analysis showed that the higher mean scores in Achievement in Accountancy are associated with those higher secondary students who are pursuing Mastery Goal ($M=28.44$) than Performance-Avoidance Goal ($M=16.13$) and Performance-Approach Goal ($M=22.21$) in rural schools. Those higher secondary students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal in the case of rural schools.

The comparison of mean scores of Self Regulated Learning Strategies groups revealed that those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=27.77, SD=4.98$) scores high on Achievement in Accountancy than those who are practicing low Self Regulated Learning Strategies ($M=17.21, SD=5.27$) in rural schools.

Main Effect of select Independent Variables on Achievement in Accountancy for Urban School students

The F value obtained indicates that the influence of Epistemological Beliefs, $F(1,465)=57.75, p \leq .01$, Achievement Goals, $F(2,465)=16.60, p \leq .01$, and Self Regulated Learning Strategies, $F(1,465)=43.61, p \leq .01$, on Achievement in Accountancy is significant for urban school students. There exists significant difference in the mean scores of Achievement in Accountancy for the Epistemological Beliefs groups, Achievement Goals groups, and Self Regulated Learning Strategies groups of higher secondary school students in urban schools.

The comparison of mean scores of Epistemological Beliefs groups indicated that those

higher secondary school students who are having sophisticated Epistemological Beliefs ($M=25.87, SD=5.38$) scores high on Achievement in Accountancy than those who are having naive Epistemological Beliefs ($M=16.89, SD=4.25$) for urban schools.

The Scheffe's Post Hoc analysis revealed that those higher secondary school students who are pursuing Mastery Goal ($M=27.27$) scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal ($M=16.88$) and Performance-Approach Goal ($M=20.29$) in urban schools. Those urban school higher secondary school students who are pursuing Performance-Approach Goal scores high on Achievement in Accountancy than those who are pursuing Performance-Avoidance Goal.

The comparison of mean scores of Self Regulated Learning Strategies groups showed that the higher scores on Achievement in Accountancy are associated with those higher secondary school students who are practicing high Self Regulated Learning Strategies ($M=25.47, SD=5.57$) than those who are practicing low Self Regulated Learning Strategies ($M=17.12, SD=4.61$) in the case of urban schools.

- **Interaction Effect of select Independent Variables on Achievement in Accountancy for Total sample**

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,1000)=1.44, p>.05$, Epistemological Beliefs and Self Regulated Learning Strategies ($1,1000=0.12, p>.05$), and Achievement Goals and Self Regulated Learning Strategies, $F(2,1000)=2.82, p>.05$, on Achievement in Accountancy of higher secondary school students is not significant for total sample.

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, and Self Regulated Learning Strategies on Achievement in Accountancy, $F(2,1000)=4.25, p\leq .05$, of higher secondary school students for total sample is significant.

- **Interaction Effect of select Independent Variables on Achievement in Accountancy for Girls**

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,515)=0.07, p>.05$, Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,515)=1.34, p>.05$, and Achievement Goals and Self Regulated Learning Strategies, $F(2,515)=0.73, p>.05$, on Achievement in Accountancy of higher secondary school students is not significant for girls.

The F value for the interaction effect of Epistemological Beliefs, Achievement Goals and Self Regulated Learning Strategies on Achievement in Accountancy, $F(2,515)=$

1.45, $p > .05$, of higher secondary school students for girls is also not significant.

- **Interaction Effect of select Independent Variables on Achievement in Accountancy for Boys**

Epistemological Beliefs and Achievement Goals, $F(2,473)=1.81, p > .05$, Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,473)=0.35, p > .05$, and Achievement Goals and Self Regulated Learning Strategies, $F(2,473)=2.33, p > .05$, on Achievement in Accountancy of higher secondary school students is not significant for boys.

The F value for the interaction effect of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies on Achievement in Accountancy, $F(2,473)=2.86, p > .05$, of higher secondary school students for boys is also not significant.

- **Interaction Effect of select Independent Variables on Achievement in Accountancy for Government School students**

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,527)=0.45, p > .05$, and Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,527)=0.35, p > .05$, on Achievement in Accountancy of higher secondary school students is not significant for government higher secondary school students. The interaction effect of Achievement Goals and Self Regulated Learning Strategies, $F(2,527)=3.69, p \leq .05$, on Achievement in Accountancy of government higher secondary school students is significant.

The F value obtained indicates that the interaction effect of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies, $F(2,527)=1.26, p > .05$, on Achievement in Accountancy of government higher secondary school students is not significant.

- **Interaction Effect of select Independent Variables on Achievement in Accountancy for Aided School students**

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,461)=2.11, p > .05$, Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,461)=0.09, p > .05$, and Achievement Goals and Self Regulated Learning Strategies, $F(2,461)=0.17, p > .05$, on Achievement in Accountancy of aided higher secondary school students are not significant.

The F value obtained indicates that the interaction effect of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies on Achievement in Accountancy of aided higher secondary school students is significant, $F(2,461)=3.89, p \leq .05$.

- **Interaction Effect of Select Independent Variables on Achievement in Accountancy for Rural School Students**

The F value obtained indicates that the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,523)=1.04, p>.05$, Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,523)=0.63, p>.05$, and Achievement Goals and Self Regulated Learning Strategies, $F(2,523)=1.17, p>.05$, on Achievement in Accountancy of rural higher secondary school students is not significant.

The F value obtained indicates that the interaction effect of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies on Achievement in Accountancy of rural higher secondary school students is significant, $F(2,523)=3.88, p\leq.05$.

- **Interaction Effect of Select Independent Variables on Achievement in Accountancy for Urban School Students**

The F value obtained for the interaction effect of Epistemological Beliefs and Achievement Goals, $F(2,465)=0.90, p>.05$, and Epistemological Beliefs and Self Regulated Learning Strategies, $F(1,465)=0.37, p>.05$, on Achievement in Accountancy of urban higher secondary school students are not significant. The interaction effect of Achievement Goals and Self Regulated Learning Strategies, $F(2,465)=4.17, p\leq.05$, on Achievement in Accountancy of urban higher secondary school students is significant.

The F value obtained indicates that the interaction effect of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies ($F(2,465)=0.53, p>.05$) on Achievement in Accountancy of urban higher secondary school students is not significant.

- **Regression Analysis**

The multiple correlation coefficient was found to be 0.878 which is significant at .01 level. It means that Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies jointly contribute in predicting Achievement in Accountancy of higher secondary school students. The percentage of joint contribution of Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies is 77 percent in predicting Achievement in Accountancy of higher secondary school students.

The individual contributions of Epistemological Beliefs, Mastery Goal, Performance-Avoidance Goal, Performance-Approach Goal, and Self Regulated Learning Strategies in predicting Achievement in Accountancy is 29.82 percent, 18.15 percent, 0.10 percent, 2.45 percent and 26.48 percent respectively.

For predicting Achievement in Accountancy from the predictor variables namely,

Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies of higher secondary school students, the regression equation is formed. The regression equation is

$$Y^1 = 0.323 X_1 + 0.231 X_2 - 0.014 X_3 + 0.064 X_4 + 0.149 X_5 - 33.990$$

Y^1 = Predicted value of Achievement in Accountancy

X_1 = Epistemological Beliefs

X_2 = Mastery Goal

X_3 = Performance-Avoidance Goal

X_4 = Performance-Approach Goal

X_5 = Self Regulated Learning Strategies

6. Educational implications

- The understanding of students' epistemological beliefs in accountancy helps the instructors to gain insight into students' learning difficulties in accountancy. Activities which help to reduce the gap between the theory and practice such as project or internship practices can be incorporated in accountancy subject to develop more sophisticated beliefs among the students. As far as accountancy subject is concerned in the first year more importance is given to the fundamentals of accounting and while progressing in learning more importance is given to the application aspects. The instructional strategies should aim at developing more concrete understanding in the initial years and then help them to develop knowledge on the basis of reasoning and observation which in turn will help in developing more sophisticated epistemological beliefs among the students. The use of problem solving strategies helps to develop high sophisticated beliefs among the higher secondary school students.
- While engaging in academic related activities each student should have a definite aim in order to become successful in educational as well as in personal life. The opportunities should be given to the students to master the content by collecting information from various sources and guidance should be given to the students to construct knowledge with the help of the peers as well to consider mistakes as opportunities to gain knowledge. Instead of depending upon teacher centered methods more importance should be given to learner centered approaches to develop mastery goals among the students. The learning activities that help the student to go deep into the matters learned in the class should be provided by the teachers. The teachers and parents should help the students to focus on self improvement by using self referred standards instead of comparing their performance with that of peers.

- The basic assumption of constructivism is that the students are self directed learners and they organize their efforts to construct knowledge. The parents, teachers, and administrators should be made aware of the importance of using self regulated learning strategies. Teachers should provide opportunities and help students to manage their strategies and regulate their own learning. The training in use of meta cognitive strategies such as task analysis, systematic planning, self motivation, self monitoring, and constructive use of feedback to enhance learning should be given to the students. Guidance should be given to the students for the effective utilization of resources by seeking the help of peers and teacher to understand the subject matter and provide opportunities to collect information from various sources by giving challenging assignments. The use of self regulated learning strategies helps the students to make their learning process systematic.

7. Conclusion

The study reveals that Epistemological Beliefs, Achievement Goals, and Self Regulated Learning Strategies influence Achievement in Accountancy of Higher Secondary School students significantly for the total sample and subgroups based on gender, locale, and type of management of schools. The results also revealed that among the predictor variables Achievement in Accountancy can be predicted from Epistemological Beliefs than Mastery Goal, Performance-Approach Goal, and Self Regulated Learning Strategies. Performance Avoidance Goal is not a significant predictor of Achievement in Accountancy of Higher Secondary School Students. Over the past few decades constructivist approaches to learning and teaching have become influential concepts and attention has been increasingly focused on how we learn as well as what we learn. Even though commerce education in India was started with a view to prepare the manpower required to industrial world, it failed to keep pace with the dynamism of business world. In this technologically advanced era, commerce education is struggling to meet the demands of business by continuing itself with a strong basis towards conceptual learning without much importance to skill and competency development. The vision of commerce education and accountancy subject needs to be clearly defined by creating strong epistemological beliefs about the nature of subject. Effective learning demands active engagement of the learner in the learning process for creating meaningful learning contexts. The sophisticated epistemological beliefs, pursuing mastery goal and use of self regulated learning strategies demand the active engagement of learner in the learning process. Therefore, the investigator suggests that the curriculum planners and teachers should take necessary steps to foster sophisticated epistemological beliefs of the students, encourage students to pursue mastery goal and use self regulated learning strategies to enhance the teaching learning process of accountancy at higher secondary stage.

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