SUMMARY
AND
CONCLUSIONS
CHAPTER V
SUMMARY AND CONCLUSIONS

5.1 SUMMARY

5.1.1 Learning in the context of Universities

The Indian higher education system today faces a daunting challenge of expansion in the phase of globalised competition and all this has made access to higher education even more difficult. With tertiary education at the disposal of privileged few, and majority percentage excluded from educational stream, job and economic insecurity, and, as a result, unfulfilled career ambitions among disadvantaged leads to aimlessness and unrest, fear and frustrations. With this scenario around, the adolescents are confronted by different challenges when they enter into university life but at the same time they have many aspirations that are reflective of their talents and interests. It becomes important to assess that what makes a learner motivated to learn and struggle to sustain this association with education system and continue to be a part of it?

The transition to university has been a poorly supported and difficult process for students, yet the first year experience at university is crucial for establishing sound patterns of study and academic engagement (James, Krause and Jennings, 2010). Students often enter university with firmly established study habits, some of which are inappropriate for higher education. Students then try to interpret the situation in terms of their previous learning experiences, in which teachers may have not only provided them knowledge but also strong guidance about what work to do and when it is required (external regulation) whereas university education depends increasingly on self-regulation in learning and studying (Vermunt, 1998).

Students in higher education tend to adopt different goals and intentions for their academic work, and, being engaged in the myriad of classroom academic tasks is exclusively a choice they can make for themselves. Furthermore, their level of engagement and willingness to persist in the academic task may be dependent on their motivational beliefs (Pintrich & De Groot, 1990).
5.1.2 Learning Strategies

Pintrich, Smith, Garcia and McKeachie (1991) classified learning strategies into two broad categories – cognitive and metacognitive strategies and resource management strategies. Payne (1992) defines cognitive strategies as the behaviours and thoughts in which students are engaged while studying and these include the use of basic and complex strategies for processing information from text and lectures. Resource management activities can occur differently depending on what prior knowledge about subjects students have and what resources they can use in their context. The activities for resource management are not directly related to cognitive and metacognitive activities (Pintrich, 1999). Resource management strategies include activities like time and effort management, seeking help from others, seeking information and structuring environment for learning (Pintrich, 1999).

i. Cognitive and Metacognitive Learning Strategies

Cognitive learning strategies are methods used by the learner to deal with the actual learning material. Elaboration methods, such as summarizing, paraphrasing and relating new information to existing knowledge is one cognitive strategy that has a positive impact on the academic performance of students (Pintrich & De Groot, 1990). Metacognition refers to an individual’s awareness and control of the cognition process and includes processes such as goal setting, planning and self-evaluation used to control and monitor the individual’s learning process (Pintrich, 1999). Metacognitive learning strategies are based around the learner’s knowledge and self-regulation of their own cognition through planning and monitoring of their cognitive learning activities (Pintrich, 1999). Metacognition consists of two components: knowledge and regulation. Metacognitive knowledge includes knowledge about oneself as a learner and the factors that might impact performance, knowledge about strategies and knowledge about when and why to use strategies.

The cognitive and metacognitive strategies have been categorised into rehearsal, elaboration, organisation, critical thinking and metacognitive self-regulation are defined and differentiated in the following manner.
• Rehearsal strategies include naming items from a list to be learnt, actively reading assignments according to a plan. Listening in lectures and re-writing class notes indicate rehearsal strategy use.

• Elaboration strategies help students store information in long term memory by building internal connections between terms to be learnt. Such strategies require students to edit note, comparing reading assignments with lecture notes, summarise, paraphrase and find their own examples from real world events and problems, as well as to use generative note-taking.

• Organisation strategies involve creating hierarchies of presented information to make it easier for the learner to connect related concepts, and critical thinking, which evaluates the creditability of the learning material and attempts to apply the concepts under study to new situations. Organisation strategies include clustering, outlining, grouping, selecting the main idea from reading passages and paying attention to headings, sub-headings, diagrams, tables, figures, charts and graphs. These strategies help students to select appropriate information and also make connections with the information to be learnt.

• Critical thinking refers to the degree to which students report applying previously acquired knowledge to new situations in order to solve problems, reach decisions or make critical evaluations with respect to the standards of excellence.

• Metacognitive regulation is the monitoring of one’s cognition and includes planning activities and task performance and evaluation of the efficacy of monitoring processes and strategies. Hennessey (1999) defined metacognition as “awareness of the content of one’s conceptions, an active monitoring of one’s own cognitive processes in relationship to further learning and application of a set of heuristics as an effective device for helping people organise their methods of attack on problems in general”.

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ii. Resource Management Strategies

These include students’ regulatory strategies for controlling other resources besides their cognition. Resource management strategies require the learners to take control of their learning environment. This includes management of time and study environment. Another important aspect is the management of who to include in the study environment; being able to seek help and learn from peers are important characteristics of a self-regulated learner (Ryan & Pintrich, 1997). Following are some of the resource management strategies:

- Management of time (e.g. making a study schedule and stick to it) and study environment (e.g. choose a right place to concentrate on course work) along with focus on the use of others in learning. Time management involves scheduling a time to study whereas study environment management refers to a physical place where students study. Time management involves making study schedules and allocating time for study activities (Pintrich, 2000), while, management of study environment may involve monitoring one’s learning environment for distractions and removing the distractions to create an atmosphere that is advantageous for studying.

- Peer learning (e.g. using a study group or friends to help with learning) and help seeking (e.g. seeking help from peers and instructors when needed). Peer learning refers to the dialogue between and among peers and the intellectual exchange of ideas and information.

- Effort regulation is self-management and reflects a commitment to task completion and achieving one’s goals despite difficulties and distractions. Students need to regulate the amount of effort that they devote to learning by monitoring their behaviour and feedback on their performance (Pintrich, 2000).

- Help-seeking refers to process whereby students ask peers and instructors to clarify confusing course material and hence expedite their academic performance. Help seeking determines the degree to which learners seek assistance when they have difficulty understanding concepts during training (Pintrich et al., 1991). Good students know when, why, and to whom they should turn when seeking help (Pintrich, 2000).
The activity and reflexivity of a learner are important aspects in self regulated learning “students are self-regulated to the degree that they are metacognitively, motivationally, and behaviourally active participants in their own learning process” (Zimmerman, 2001). This activity and awareness in the learning process is influenced by the way students make use of different cognitive and metacognitive learning strategies.

5.1.3 Motivational Beliefs

Motivational beliefs are frequently found in the literature to be associated with the theory of self-regulated learning, one of the flourishing areas of research, since it redistributes and transmits the responsibility and control from the teacher to the students. Pintrich (2003) had remarked, “however, it has also been argued that possessing knowledge of cognitive and meta-cognitive self-regulated learning strategies is not enough to enhance students learning and academic performance; students must also be motivated to use their metacognitive strategies to build upon their understanding of instructional material”. Although there are various approaches and models related to the theories of motivational beliefs and self-regulated learning (Marcou and Phillipou, 2005), the models of Pintrich (1999) and Zimmerman (2004) incorporate both “skill” or cognitive and “will” or affective components of learning. The “will” component refers to the notion of motivational beliefs such as self-efficacy, task value and goal orientation beliefs (Pintrich, 1999).

The success/failure of students in learning process has vital linkages with motivational beliefs. Motivational beliefs deal with three aspects: value components (intrinsic goal orientation, extrinsic goal orientation and task value), expectancy components (control of learning beliefs and self-efficacy for learning and performance) and affective component (test anxiety). These components of the above three aspects of motivational beliefs are briefly explained as under

- Intrinsic goal orientation concerns the degree to which a student perceives himself to be participating in a task for reasons such as challenge, curiosity and mastery, using self-set standards and self improvement.
- Extrinsic goal orientation denotes that a student participates in a task for reasons such as grades, rewards, performance, evaluations by others and competition.
• Task value refers to students’ opinion of the appeal, importance and usefulness of the task.
• Control of learning is measure of student’s beliefs that they are in control of their learning outcomes are thus contingent upon their own efforts rather than external factors such as the teacher or luck.
• Self-efficacy for learning and performance refers to students’ beliefs about their ability to effectively apply knowledge and skills they already possess to novel situations which in turn create new cognitive skills.
• Test anxiety is a measurement of how much one worries about tests and how thoughts start diverting when an individual takes an examination. Operationally, motivational beliefs may be conceived of as a learner’s beliefs of his own motivation that energises his/her learning behaviour.

5.1.4 Course Experiences

In the literature on learning in higher education, the term ‘course experience’ is used to describe dimensions of students’ experiences of learning (Wilson, Lizzio, & Ramsden, 1997; Byrne & Flood, 2003; Diseth, 2007; Diseth, Pallesen, Hovland, & Larsen, 2006). The construct of course experiences is primarily based on the assumption that a significant part of university experiences and learning outcomes are affected by what happens outside the classroom (Griffin, Coates, McInnis and James, 2003). A large body of research indicates that students’ out-of-class experiences may have as much influence on the development of higher-order cognitive skills as do their more formal, classroom-based instructional experiences (Pascarella & Terenzini, 1991, 1998).

Salient areas of course experience may include: effective teaching; aims and objectives of the institution; assessment procedures; appropriate workload; learning climate and intellectual environment; social dimensions of learning; provision and utilisation of resources to encourage and support independent learning; guidance and support for students to encourage increasing academic independence; analysis of higher-order graduate outcomes beyond generic skills; enhancement of graduates’ intellectual stimulus and challenge; recognition of the growing importance of information technology
etc. Thus, course experiences cover virtually every aspect of a student’s university experience.

Research on student learning has shown that students adopt qualitatively different approaches to their studies, depending upon their prior experiences of studying and the particular context in which they find themselves (Ramsden, 2003). Students experience the same teaching and the same course, but they experience them in different ways. Becoming aware of those differences, and trying to understand them, is the key to improving students’ experiences of learning (Prosser, 2005). Students’ learning experiences are embedded in a number of contextual situations that provide a ‘dynamic web of influences’, implying that the quality and outcomes of undergraduate study are composed of more than the quality of teaching alone (Pascarella, 1991).

Various studies on student learning in higher education have drawn focus on both quantitative and qualitative research methodologies to build a body of knowledge and theory about how and what students study and learn in higher education (Ramsden, 1991). There have also been few investigations into the relationship between students’ course experiences and their motivational beliefs, particularly in the context of Asian postgraduate students but many researchers (Tinto, 1987; Freeman, Anderman & Jensen, 2007; Pintrich, 2003) have emphasised the importance of social perceptions (peer relationships and a sense of belonging) in relation to students’ adjustment to college life, academic motivation and success. Also, students’ academic and social perceptions have been found to be associated with several of adaptive motivational characteristics (for example self-efficacy, intrinsic motivation and task value) both in school students (Anderman, 2003) and college level students (Freeman, Anderman & Jensen, 2007). It has also been suggested (Freeman & Anderman, 2007) that a combination of both academic and interpersonal factors in students’ college experiences may promote the sense of belonging and, ultimately, their academic motivation in that setting.

5.1.5 Academic Achievement

Academic achievement is the outcome of education – the extent to which a student, teacher and institution has achieved their educational goals. Education has always been concerned with the prediction of academic achievement. Psychologists have
connoted it as scholastic achievement or educational achievement. These refer to the scores obtained in annual examinations conducted by the institution or board at the end of the year as the end product of the students’ labour for the whole year. Academic achievement refers to the extent to which learners acquire the knowledge, skills and proficiencies that the instructor wants them to attain. Academic achievement at any educational stage is considered to be a cumulative function of experiences that any individual gathers from the present and prior family environment, community, and school influences.

According to Aitken (1982) academic performance is measured by means of expected grades as reported by students in order to capture how well the student felt about what he or she was doing academically. The author also concluded that academic performance is one of the most important variables for explaining student satisfaction from his/her course.

Scholastic achievement may also be perceived as the level to which a learner is profiting from instructions in a given area of learning hence achievement is reflected by the extent to which skills and knowledge has been acquired by the person from the training imparted to him. In terms of academic achievement in higher education, grade point average (GPA) is commonly used as an indicator of student’s learning attainment. Laidra (2006), Naderi (2010) examined the influence of undergraduate cumulative grade point average on academic success whereas Lounsbury at al. (2004) used both grade-point average and the grade received in single college course as measures of academic success.

5.1.6 Overview of Related Literature and Emergence of the Problem

From the literature review, it is evident that motivational beliefs and learning strategies play a significant role in student’s academic achievement and performance in higher education. Some of the pertinent studies related to learning strategies, motivational beliefs, course experiences and academic achievement among students are

The role of self-regulated learning strategies in academic success among students was highlighted in the studies done by Radovan (2011), Lan et.al. (2010), Kosnin (2007)
and Sungur (2007), and these studies reported a significant relationship between use of learning strategies and academic achievement among students. Simsek and Balban (2010) reported gender differences in the use of learning strategies and also found more use of these strategies among the successful students. Anderson (2007) found no significant relationship between metacognitive strategies and achievement in algebra among African-American students while. Cheng (2002), in his study reported negative effect of peer-learning in learning computer concepts and. However, a study by Doljanac (1994) reported differences in the use of learning strategies for academic success among students in a course, when they just entered into it (i.e. in their first semester) and in final semester.

Research by Johnson (2014), Kaur and Kaur (2012) recognized significant relationship between motivational beliefs and academic achievement among students enrolled in higher education. Also, studies by Sakes and Mesut (2010), Artino et.al. (2009), Sungur (2007), Tella (2007), and Ozkan (2003) emphasized on the contribution of motivational beliefs to student’s academic achievement and they also found a significant and positive relationship between the two variables. Adcroft (2010) found differences in motivational beliefs among students with respect to the course they pursued. It was further suggested that the students’ interest in academics was influenced by their motivational beliefs while Taheri (2010) found gender differences in the motivational beliefs of students.

Loong (2012), Cheng (2011) and Artino (2009) investigated the effect of self-regulated learning strategy use and academic performance of students. The findings from these studies affirmed the positive effect of learning strategy usage and academic achievement among the students. Also, Simsek and Balaban (2010) in their research found disciplinary differences in the use of learning strategies and academic achievement of students. Shelley (2010) in her study found gender differences in approaches to learning among students in professional and academic courses in higher education.

Studies examining the relation between learning strategy usage and motivational beliefs were executed by Ongwo and Hungi (2014), Kingir et. al. (2013). These studies found that the above two constructs were related to each other. Research done by Keisci, et.al. (2011) corroborated with previous research and indicated towards significant

Schwinger et. al. (2012), Kosnin (2007) and Vanderstoep et. al. (1996) conducted studies to study the use of self-regulated learning strategies and motivational beliefs as predictors of academic achievement and found a significant relationship between learning strategy use, motivational beliefs and academic achievement. Study by Lynch and Trujillo (2011) found significant and negative relationship between extrinsic goal orientation and academic achievement among females while Khatib (2010), found no relation between extrinsic goal orientation and academic achievement. Test anxiety (affective component of motivational beliefs) was found out to be having a negative relationship with academic achievement in the studies conducted by Lynch et.al. (2011), Khatib (2010) and Wolters. Yu and Pintrich (1996). Furthermore, Yildrim (2013) established motivational beliefs as a mediator between learning strategies and academic achievement.

Owston, York and Murtha (2013) and Webster and Min (2012) in their researches supported course experiences as a factor influencing academic achievement. Scarboro (2012) suggested that the course experiences have a significant role in student learning. This study also reported interdisciplinary differences in course experiences of students in higher education. Ning and Downing (2011, 2010), Nausheen (2010), Webster and Chang (2009), Karagiannopoulou and Christodoulides (2005), in their studies, have reported a positive relationship between course experiences and academic achievement among the university students.

Some of the studies pertaining to academic achievement emphasized the role of intelligence in determining the academic achievement e.g. Dieseth (2002) and Asthana (2011) while Bai (2011) and Chamundeshwari (2013) in their research depicted academic achievement to be a function of emotional intelligence. Research work by Bernardo
(2003) and Chamorro and Adrian (2008) examined academic achievement in relation to approaches to learning and these studies concluded that students’ learning approach plays a decisive role in determining the performance in academics. Yip (2007) reported differences in the learning strategy usage among high and low achievers while Hassanbeigi (2011) concluded that high achievers were more efficient in using study skills as compared to the low achievers. Ahmar and Anwar (2013) in their research recognized gender and socio-economic status as factors affecting the academic achievement among students. Findings from the study by Hussain et. al. (2012) also supported gender differences and further this study brought forward the interdisciplinary differences in academic achievement among students with science students performing better than the students pursuing humanities.

Thus, academic success can be viewed as a combination of a number of self-regulated learning strategies and motivational beliefs. Most the research endeavours have focussed on effect of these as the predictors of academic success in educational attainment in higher education. There emerge some differences in relation to which components of self-regulated learning and motivational beliefs affect the academic achievement of students as some of the studies have reported differences in the extent of usage of different components of motivational beliefs and learning strategies among university students pursuing a variety of courses. Also, it remains a question of investigation that how do the students’ course experiences (in terms of quality of instructions, aims and objectives of institution, assessment procedures, skill development programs etc.) differ across the streams of study and those in turn influence their academic performance.

The teaching-learning process in higher education differs from school education on the account of more focus on critical thinking; transmission of knowledge towards applicability and skill development so as the learners become productive contributors to social and economic development. Moreover, previous academic performance in the qualifying examinations plays a crucial role in selecting a particular course of study, may be academic or professional and further, varying courses demand different learning strategies from learners and motivational beliefs also, differ from learner to learner.
The research endeavours in higher education are focussed on learning outcomes of students which serve as quality indicators of education institutions in the process of educational attainment. Since, learning is a situational phenomenon, learners need to adapt themselves and modify their strategies in order to achieve goals according to the situational demands by appropriate means. This contributes to development of self-regulatory skills among students in relation to their learning experiences which they gain while studying in a particular course. Motivational beliefs, also, play an important role in the learning process as these enable learners to control their own functioning. Thus, individuals can regulate their own emotions and apply motivational strategies at this level of education and enhance their achievement. It is a matter of interest to study gender differentials in the use of learning strategies and motivational beliefs by the students studying in different courses. The present study intended to explore the relationship of different characteristics of course experiences, students’ use of learning strategies and their motivational beliefs in the context of different faculties. Further, this research intends to assess the academic achievement which university/ students in relation to their learning strategies, motivational beliefs and course experiences. The problem was stated as:

**LEARNING STRATEGIES, MOTIVATIONAL BELIEFS AND COURSE EXPERIENCES AS CORRELATES OF ACADEMIC ACHIEVEMENT AMONG UNIVERSITY STUDENTS**

**5.1.7 Objectives**

1. To study the variables under investigation, namely, learning strategies, motivational beliefs, course experiences and academic achievement among the university students.
2. To study the gender differences in learning strategies, motivational beliefs, course experiences and academic achievement among the university students.
3. To study the learning strategies, motivational beliefs, course experiences and academic achievement among the university students pursuing social science, science and professional stream of study.
4. To study the interaction effect of gender and stream on learning strategies, motivational beliefs, course experiences and academic achievement among the university students.
5. To study the relationship between learning strategies (i.e. cognitive and metacognitive strategies and resource management strategies) and academic achievement among university students i.e. for total sample, across the gender and stream of study.

6. To study the relationship between motivational beliefs (intrinsic goal orientation, extrinsic goal orientation, task value beliefs, control of learning beliefs, self-efficacy and test anxiety) and academic achievement among university students i.e. for total sample, across the gender and stream of study.

7. To study the relationship between course experiences and academic achievement of university students and academic achievement among university students i.e. for total sample, across the gender and stream of study.

8. To study the predictive efficacy of learning strategies, motivational beliefs and course experiences (individual and conjoint) on academic achievement among university students in relation to the gender, stream of study and academic achievement level (high, low and average achiever group).

5.1.8 Hypotheses

1. There will be a significant difference in the learning strategies use among the male and female university students.

2. There will be a significant difference in learning strategies use among the university students pursuing social science, science and professional stream of study.

3. There will be a significant interaction effect of gender and stream on learning strategies use among the university students.

4. There will be a significant difference in the motivational beliefs of the male and female university students.

5. There will be a significant difference in the motivational beliefs of the university students pursuing social science, science and professional stream of study.

6. There will be a significant interaction effect of gender and stream on motivational beliefs of the university students.

7. There will be a significant difference in the course experiences of the male and female university students.
8. There will be a significant difference in the course experiences of the university students pursuing social science, science and professional stream of study.

9. There will be a significant interaction effect of gender and stream on course experiences of the university students.

10. There will be a significant difference in academic achievement among the male and female university students.

11. There will be a significant difference in academic achievement among the university students pursuing social science, science and professional stream of study.

12. There will be a significant interaction effect of gender and stream on academic achievement among the university students.

13. There will exist a significant and positive relationship between cognitive and metacognitive learning strategies (rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation) and academic achievement of university students.

14. There will exist a significant and positive relationship between cognitive and metacognitive learning strategies (rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation) and academic achievement of university students in relation to the gender.

15. There will exist a significant and positive relationship between cognitive and metacognitive learning strategies (rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation) and academic achievement of university students in relation to the stream of study.

16. There will exist a significant and positive relationship between resource management strategies (time and study environment, effort regulation, peer learning and help seeking) and academic achievement of university students.

17. There will exist a significant and positive relationship between resource management strategies (time and study environment, effort regulation, peer learning and help seeking) and academic achievement of university students in relation to the gender.

18. There will exist a significant and positive relationship between resource management strategies (time and study environment, effort regulation, peer learning and help seeking) and academic achievement of university students in relation to the stream of study.
19. There will exist a significant and positive relationship between motivational beliefs (intrinsic goal orientation, task value beliefs, control beliefs, self efficacy for learning and performance) and academic achievement of university students.

20. There will exist a significant and positive relationship between motivational beliefs (intrinsic goal orientation, task value beliefs, control beliefs, self efficacy for learning and performance) and academic achievement of university students in relation to the gender.

21. There will exist a significant and positive relationship between motivational beliefs (intrinsic goal orientation, task value beliefs, control beliefs, self efficacy for learning and performance) and academic achievement of university students in relation to the stream of study.

22. There will exist a significant and negative relationship between motivational beliefs (extrinsic goal orientation and test-anxiety orientation) and academic achievement of university students.

23. There will exist a significant and negative relationship between motivational beliefs (extrinsic goal orientation and test-anxiety orientation) and academic achievement of university students in relation to the gender.

24. There will exist a significant and negative relationship between motivational beliefs (extrinsic goal orientation and test-anxiety orientation) and academic achievement of university students in relation to the stream of study.

25. There will exist a significant and positive relationship between course experiences and academic achievement of university students.

26. There will exist a significant and positive relationship between course experiences and academic achievement of university students in relation to the gender.

27. There will exist a significant and positive relationship between course experiences and academic achievement of university students in relation to the stream of study.

5.1.9 Delimitations

The present study was delimited in the following contexts:

1. The study was delimited to the university students pursuing on-campus courses at post-graduate level.
2. The study was delimited to the three Universities namely, Panjab University, Chandigarh; Punjabi University, Patiala and Guru Nanak Dev University, Amritsar.

3. Analytical and correlational approach was used for the analysis of data.

5.1.10 Operational Definitions

i. Learning Strategies

Operationally for this study learning strategy is a learner’s approach towards learning and using information. Students use these strategies to help them understand information and solve problems they encounter while processing information during the learning process. These reflect learner’s approach towards learning and processing information from text and lectures. Learning strategies enable students to develop a set of constructive behaviours that can positively affect their learning. It includes cognitive and metacognitive strategies (rehearsal, elaboration, organisation, critical thinking and metacognitive self-regulation strategies) and resource management strategies (time and study environment management, peer learning, effort regulation and help seeking).

ii. Motivational beliefs

Motivational beliefs connote a construct in terms of (i) value components (intrinsic goal orientation, extrinsic goal orientation and task value), (ii) expectancy components (control of learning beliefs and self-efficacy for learning and performance) and (iii) affective component (test anxiety).

iii. Course experiences

Course experiences refer to the students’ perception and subsequent experiences during the teaching learning process in a particular course of study. It includes the perceptions of students in the context of quality of teaching; clarity of goals and standards; nature of the assessment; level of the workload; and the enhancement of their generic skills. For the present research course experiences refer to the sum total of its components namely, ‘strengths’, ‘challenges’ and ‘generic skills’.

iv. Academic achievement

It refers to performance of university students in their previous semester(s) examination determined by the percentage of obtained marks. Another component of
learning strategies i.e. resource management strategies component which included scales for time and study environment, effort regulation, peer learning, and help seeking consisted of 19 items.

5.1.11 Methodology

Descriptive studies help in obtaining pertinent and precise information concerning the current status of the phenomenon and enable in drawing out conclusions on the basis of discovered facts. In accordance with the research purpose, the descriptive method of research was employed.

i. Universe of the study and sample

In the present research study, the universe or population comprised of all the post graduate students pursuing post-graduate degree courses in social science, science and professional stream of study, from Panjab University, Chandigarh; Guru Nanak Dev University, Amritsar and Punjabi University, Patiala.

The sample for this study comprised of 907 university students studying in social science stream, science stream and professional stream at post-graduate level in the selected universities. The sample included 317 students from Guru Nanak Dev University, Amritsar, 308 students from Panjab University, Chandigarh and 282 of the selected students were from Punjabi University, Patiala.

ii. Tools Used

a) Motivated Strategies for Learning Questionnaire (MSLQ)

MSLQ was employed to assess the learning strategies and motivational beliefs among the university students. The MSLQ is a self-report instrument that includes 81 items developed to measure students’ motivation orientations and use of learning strategies. The MSLQ is partitioned into a motivation section and a learning strategies section. The motivation section comprised of three components: a value component which includes scales of intrinsic goal orientation, extrinsic goal orientation, and task value; an expectancy component which includes scales for control of learning beliefs and self-efficacy for learning and performance; and an affective component which includes a scale for test anxiety. There were 31 items pertaining to motivational beliefs.
The learning strategies section included two components: a cognitive and metacognitive strategies component which included scales for rehearsal, elaboration, organization, critical thinking, and metacognitive self-regulation; 31 items related to cognitive and metacognitive component. Another component of learning strategies i.e. resource management strategies component which included scales for time and study environment, effort regulation, peer learning, and help seeking consisted of 19 items.

b) Course experience scale

Course experience scale was constructed by the researcher to study and assess the course experiences of university students. Dimensions covered in the tool relate to students’ perceptions of teaching; clarity of goals and standards; nature of the assessment; level of the workload; and the enhancement of their general skills.

The preliminary draft of the constructed scale having 84 items was reduced to 52 items after the critical feedback received from experts. The item discrimination technique which was used to indicate how adequately the test item separated or discriminated between students with high and low scores. While taking into consideration the principle of item discrimination, high and low scoring groups was formed on the basis of P25/P75 criterion. The items that could not discriminate among the high and low scoring groups were eliminated.

After conducting the factor analysis, the final form of the scale consisted of 31 items grouped into the following three factors:

Factor I: Strengths of the course - this component is concerned with the experiences of the university students pertaining to the support that they get while pursuing the course e.g. good teachers, cooperative peer group, infrastructural facilities, relevant curriculum etc. In other words, strengths of the course are indicative of positive experiences.

Factor II: Challenges of the course - the component indicates towards the difficulties faced by students while pursuing their course e.g. lack of feedback from teachers, unclear goals and objectives, lack of student support, heavy workload, poor assessment etc. Thus, reflect the problems that students face while pursuing their course of study and reflect experiences which may be taxing for the students.
Factor III: Generic Skills - this aspect connotes the competencies or abilities that the students require to develop to prepare themselves for the professional world e.g. problem solving, decision making, communication skills etc.

5.1.12 Statistical Techniques Used:

i. Descriptive statistics were used to explain learning strategies, motivational beliefs and course-experiences of post-graduate university students.

ii. Analysis of variance with 2X3 factorial design was applied to assess the main and interaction effects of gender and stream of study on learning strategies, motivational beliefs and course experiences among the University students.

iii. Coefficient of correlation was calculated to find the relationship of learning strategies, motivational beliefs and course experiences respectively with academic achievement.

iv. Simple and Step-wise multiple regression analysis was employed to study the individual and conjoint contribution of components of learning strategies, motivational beliefs and course experiences and academic achievement of university students.

5.2 CONCLUSIONS AND DISCUSSION OF RESULTS

5.2.1 Description of Variables: Learning Strategies, Motivational Beliefs, Course Experiences and Academic Achievement among the University students

i. Learning Strategies

The mean scores obtained by university students on different learning strategies, viz. rehearsal, elaboration, organisation, critical thinking, metacognitive self-regulation, time and study environment management, effort regulation, peer-learning and help seeking are above average thereby indicating higher use of these learning strategies among the university students.

ii. Motivational Beliefs

Mean scores obtained by university students on motivational beliefs sub-scales, show that intrinsic goal orientation, extrinsic goal orientation, task value beliefs, control
of learning beliefs and self-efficacy beliefs are on the higher side. The university students have low scores on test anxiety. This indicates that students have high motivational beliefs for learning during the course of their study.

iii. Course Experiences

Taking into account the course experiences, university students exhibit high scores on ‘strengths’ indicative of the experiences related positive aspects of their course; ‘challenges’ reflecting lesser difficulties faced; and average ‘generic skills’ which represent job related competencies and skills developed during the course of their study. Higher mean obtained on over-all course experiences (i.e. sum-total of components viz. strengths, challenges and generic skills) shows that the university students are having positive perceptions about their course. They are satisfied with the manner the course progresses and they seem to be satisfied with the learning experiences gained in and outside the classrooms during the course.

iv. Academic Achievement

The mean score on academic achievement for the total sample is above average. This means that the university students have above average academic performance.

5.2.2 Learning Strategies, Motivational Beliefs, Course Experiences and Academic Achievement among University Students: Main and Interaction Effects of Gender and Stream of study

i. Learning Strategies

The main effect of gender came out to be significant only for metacognitive self-regulation strategy, with male university students having higher metacognitive self-regulation as compared to the female university students.

The main effect of stream of study was found to be significant for metacognitive self-regulation strategy and time and study environment management strategy. The students pursuing science stream reported higher use of metacognitive self-regulation in comparison to the students in social science and professional stream. The professional stream students showed higher use of time and study environment management strategy
as compared to the fellow students enrolled in other two streams namely, science and social science.

This finding is supported by research conducted by Simsek and Balban (2010), which reported gender differences in learning strategy use. It was found that males were more efficient in selecting and using appropriate strategies than female students. Also, the use of learning strategies varied across the disciplines with fine arts students finding them of least importance and using them in a limited manner.

There is no significant interaction of gender and stream of study in explaining learning strategy use among the university students. This connotes that gender and stream of study do not depend on each-other to explain the learning strategy use among the university students.

**ii. Motivational Beliefs**

There is no significant main effect of gender on any of the motivational beliefs among the university students. This leads to the inference that have motivational beliefs among male and female university students do not differ significantly, irrespective of the stream they are enrolled in. The obtained results are in contradiction with research done by Vanderstoep et.al. (1996) indicated towards significant gender differences in motivational beliefs.

But, there is a significant main effect of stream of study on task value beliefs, self-efficacy beliefs and test anxiety among the university students. Students pursuing social science stream have higher task value beliefs and more test-anxiety than the students pursuing the other two streams i.e. science and professional streams. The students pursuing professional stream have higher self-efficacy beliefs as compared to the students in science and social science streams. The finding is supported by Adcroft (2010) who reported differences in motivational beliefs among students with respect to the course they pursued.

There is no significant interaction effect of gender and stream of study implying thereby, that main effects of gender and stream of study do not interact with each other to explain the motivational beliefs among university students.
iii. **Course Experiences**

The course experiences among male and female university students do not differ significantly across the stream of their study. This means that male and female university students have same perceptions regarding their course of study. Considering the course experiences among students pursuing social science, science and professional stream, the students enrolled in science stream of study have better course experiences (sum-total) and in terms of its components i.e. perceived strengths and generic skills as compared to the students in professional and social science stream.

The significant main effect of stream on course experiences is substantiated by the research conducted by Yin, Lu and Wang (2014) in which the student responses indicated that students had different course experiences across the discipline of their study than the female university students. Scarboro (2012) also reported interdisciplinary differences in course experiences of students in higher education.

There is no significant interaction effect of gender and stream of study on strengths and generic skills as component of course experiences and course experiences (sum-total), thereby meaning that gender differences and difference in the stream of study do not interact with each other to explain the strengths and generic skills as course experience components and course experiences (sum-total) among the university students. But, there is a significant interaction effect of gender and stream of study for challenges as a component of course experiences implying thereby suggesting that the non-significant gender differences depend on stream of study to explain the challenges as a component of course experiences among the university students.

iv. **Academic Achievement**

Academic achievement among the university students does not depend on the gender which means that male and female university students have same academic achievement across the streams. The results are in contrast to the studies carried out by Ahmar and Anwar (2013) and Hussain et. al. (2012), who, in their research recognized gender as a factor affecting the academic achievement among students.

But the significant main effect of stream of study on academic achievement suggests that it varies for the students studying in social science, science and professional...
streams. Taking into account the mean score on academic achievement, it may be inferred that the students pursuing science stream have significantly higher academic achievement as compared to students in professional and social science stream. Also the students in professional stream have higher academic achievement as compared to their fellow students in social science stream.

Findings from the study by Hussain et al. (2012) also supported the interdisciplinary differences in academic achievement among students with science students performing better than the students pursuing humanities.

There is no significant interaction effect of gender and stream of study on academic achievement among the university students.

5.2.3 Learning Strategies, Motivational Beliefs and Course Experiences as Correlates of Academic Achievement

i. Learning Strategies

Among the cognitive and metacognitive strategies, critical thinking, metacognitive self-regulation and time and study environment management have a significant and positive relationship with academic achievement for the total sample of university students. For male university students, rehearsal strategy, metacognitive self-regulation and, time and study environment management strategies bear a significant and positive relationship with academic achievement, while peer-learning has a negative and significant relationship with academic achievement. In case of female university students critical thinking and metacognitive self regulation shows a significant and positive relationship with academic achievement.

For the students of social science courses critical thinking is positively and significantly related to the academic achievement. Among students enrolled in science stream, organisation strategy, metacognitive self-regulation and time and study environment management strategies have a positive and significant relation with academic achievement, while for the students in professional stream, rehearsal strategy have a positive and significant relationship with academic achievement but, organisation strategy bears a significant and negative relationship with academic achievement.
The above findings on learning strategies as correlate of academic achievement among the university students are in accordance with research findings of Radovan (2011), Lan et.al. (2010), Kosnin (2007) and Sungur (2007), and these studies reported a significant relationship between use of learning strategies and academic achievement among students.

**ii. Motivational Beliefs**

Among the motivational beliefs, for the total sample, task value beliefs, control of learning beliefs and self-efficacy beliefs have a significant and positive relationship with academic achievement while extrinsic goal orientation and test anxiety are negatively related with it. For male university students, task value beliefs and self-efficacy beliefs have a significant and positive relationship with academic achievement. Among male students also the extrinsic goal orientation and test anxiety are negatively related with academic achievement. For the female students, task value beliefs, control of learning beliefs and self-efficacy beliefs show a significant and positive relationship with academic achievement while test anxiety is negatively related with it.

In case of students enrolled in social science stream, control of learning beliefs and self-efficacy beliefs bear significant and positive relationship with academic achievement. Among science stream students, task value beliefs and self-efficacy beliefs show significant and positive relation with academic achievement and test anxiety is negatively related with it. For students studying in professional stream, intrinsic goal orientation has significant and positive relationship with academic achievement while extrinsic goal orientation is negatively related to it.

The obtained results are in harmony with the studies by Lynch and Trujillo (2011) which indicated that student self-efficacy was highly correlated with academic performance and also found significant and negative relationship between extrinsic goal orientation and academic achievement among females while Khatib (2010), found no relation between extrinsic goal orientation and academic achievement. Test anxiety (affective component of motivational beliefs) was found out to be having a negative relationship with academic achievement in the studies conducted by Lynch et.al. (2011), Khatib (2010) and Wolters, Yu and Pintrich (1996).
iii. Course Experiences

For the total sample of university students, strengths of the course, generic skills and course experiences (sum-total) have a significant and positive relationship with academic achievement. Among the male university students strengths of the course, generic skills and course experiences (sum-total) show a significant and positive relationship with academic achievement and for female students, all the components and course experiences (sum-total) bear a significant and positive relationship with academic achievement.

For the students enrolled in social science courses strengths of the course and generic skills; for students enrolled in science courses strengths of the courses, generic skills and course experiences (sum-total); and for students in professional courses only generic skills bear a significant and positive relationship with academic achievement. These findings indicate that course experience components have significant and positive relationship with academic achievement among students irrespective of their discipline. Thus, good course experiences facilitate academic achievement among the university students across all the streams of study.

The results from the correlational analysis are substantiated by Ning and Downing (2011, 2010), Nausheen (2010), Webster and Chang (2009), Karagiannopoulou and Christodoulides (2005), as their studies, have reported a positive relationship between course experiences and academic achievement among the university students.

5.2.4 Learning Strategies, Motivational Beliefs and Course Experiences as predictors of Academic Achievement among the University Students

i. Learning Strategies

Among the learning strategies, metacognitive self-regulation emerges as the significant predictor of academic achievement for the total sample; across the gender i.e. both male and female groups; and for students enrolled in science stream. It emerged as the best predictor of academic achievement for the high achiever and low achiever group of university students.
Effort regulation strategy for the students studying in social science stream, and, organisation strategy in case of science stream students turned out to be significant predictors of academic achievement. Critical thinking strategy also turned out to be a significant predictor of academic achievement for the total sample of university students and also in case of female students.

The obtained results are in corroboration with the studies conducted by Schwinger et. al. (2012), Kosnin (2007) and Vanderstoep et. al. (1996) who report self-regulated learning strategies as significant predictors of academic achievement among students.

**ii. Motivational Beliefs**

Out of the motivational beliefs, test anxiety emerged as a significant predictor of academic achievement total sample of university students and also for the female students. Control of learning beliefs turned out to be a significant predictor of academic achievement among the students social science stream and also among male university students. Self-efficacy beliefs turned out to be a significant predictor of academic achievement among the university students enrolled in science stream of study. But, in case of students pursuing science stream and among the high achiever group of university students, none of the motivational beliefs contributed to the academic achievement.

The research findings are substantiated in the studies conducted by Sakes and Mesut (2010), Artino et.al. (2009), Sungur (2007), Telia (2007), and Ozkan (2003). These studies have emphasized on the contribution of motivational beliefs to student’s academic achievement.

**iii. Course experiences**

Out of the course experiences components, generic skills appeared as the best predictor of academic achievement among the students male and female group of university students and also for the group of students who are enrolled in social science, science and professional streams respectively. Also, ‘strengths’ as a component of course experiences emerged as the significant predictor of academic achievement among the high achiever and low achiever group of university students.
The research findings are supported by the studies conducted by Owston, York and Murtha (2013) and Webster and Min (2012), who, in their researches supported course experiences as a factor influencing academic achievement among university students.

On the basis of the simple regression analysis and stepwise regression analysis, it became evident that learning strategies, motivational beliefs and course experiences predicted academic achievement among the university students.

5.3 EDUCATIONAL IMPLICATIONS

The results obtained from the present study lead towards the positive implications for students, teachers, and other stakeholders of higher education.

1. Students should learn to expand and attain learning strategies like metacognitive skills that enhance their commitment in the academic tasks they undertake, this in turn, enhances their academic performance. The students who are willing to improve their academic skills and ability to learn, should be guided to make effective use of learning strategies thereby making optimum use of their academic experiences during the course of their study.

2. On the other front, teachers should promote students to improve and make efficient use their resource management strategies like time management skills and develop skills, such as planning and focussed execution, while they are involved in academic tasks. For this, teachers should equip themselves with information on students’ motivation for learning. More research on this front should be carried to have a profile of the learning strategies being used by university students.

3. The students should be provided with the assignments, projects, worksheets etc. based on higher order learning that requires use of cognitive and metacognitive learning strategies along with suggestive means to develop resource management strategies for enhancement of their learning performance.
4. Going with the convention that motivation is central to learning— the teachers should pay attention to students’ motivational beliefs. Motivational beliefs should be assessed through questionnaires, surveys, any other method considered as useful. Teachers must be aware about the student in terms of self-efficacy, task value beliefs, test anxiety and goal orientations.

5. Further actions must be taken to provide guidance and counselling to minimize the magnitude of test anxiety of the students belonging to different streams of study viz. social science, science and professional.

6. Universities must have access to course experience questionnaire data which provides an objective picture of their constituting departments' performance, in terms of the several dimensions like effective teaching, course objectives, content, assessment criteria etc.

7. Contemplative introspection institution should then explore the grounds for why particular elements are poorly or highly rated by the students. Actions may be required to overcome the imperfections on various aspects related with the student course experiences. Institutions of higher learning can take practical steps to overcome such student difficulties and they can offer the much-needed support and facilities to their postgraduate students, in view of the fact that the number of postgraduate students is multiplying over time in the wake of globalisation.

8. Actions may be taken to promote excellence in higher education. The experiences of students are of foremost importance in determining the quality of their learning outcomes. The perceptions of students enrolled in higher education institutions should be sought and student experiences should be taken into account while framing the quality assurance strategies.

9. On the account of student evaluations, the universities should be able to compare their graduates’ perceptions of course experience with the national standards or should be able to place themselves on the international yardsticks. This allows universities to focus their efforts on improving student experience. Student evaluation of course assist reflective teachers, who are concerned with monitoring and make efforts for improving the effectiveness of their own teaching.
Student evaluation through the account of their course experiences, helps in revising the course curriculum, modifying the assessment criteria. In the larger context student feedback on the courses they pursue should serve as a building block in restructuring and revamping the higher education.

10. The courses need to focus on the skill development among the students in higher education. Special emphasis has been placed on expansion of skill-based programmes in higher education during the Twelfth five-year plan also.

11. The general perception of relatively lower academic performance among the students pursuing social science as compared to their counterparts science and professional stream is empirically evident from this research as well. Hence, it becomes imperative that the students in social science stream should be provided with more exposure and training so as to have a higher level of motivational beliefs and make better use of cognitive and metacognitive learning strategies.

12. The higher education institutions should provide support to the learners not only by providing them with good infrastructural facilities but, the university should act as a support system for the students by providing them with best of the psychosocial experiences during their course of study. The university should promote and sustain the quest for learning among those who have a will to learn. Pt. Jawaharlal Nehru rightly remarked

"A University stands for humanism. For tolerance, for reason, for the adventure of ideas and for the search of truth. It stands for the onward march of the human race towards ever higher objectives. If the Universities discharge their duties adequately, then it is well with the Nation and the People."
5.4 SUGGESTIONS FOR FURTHER RESEARCH

In the context of this research area, some suggestions for further studies are as follows:

1. The study explored learning strategies, motivational beliefs and course experiences as correlates of academic achievement among the university students. But, the inter-relationships between different learning strategies, motivational beliefs and course experiences have not been studied. This dimension of research can be unfolded.

2. The course experience scale may be extended in terms of socio-cultural conditions for diverse learners and modified specifically keeping in view the specific linguistic group of learners.

3. The present research is restricted to the course experiences among the post-graduate students. The study may be extended to studying the course experiences among the graduate students who are studying in different affiliated colleges of the universities.

4. Teachers play a significant role in fostering learning strategies and growth of motivation among their students. Study can also be undertaken to examine some attributes of the teachers such as teachers’ motivation, awareness about different learning strategies, their perception on quality of teaching etc.

5. The study was restricted to three universities i.e. Guru Nanak Dev University, Amritsar, Panjab University, Chandigarh and Punjabi University, Patiala. Research may be extended to other universities in Punjab or in India.

6. Research may also be conducted to compare the learning strategies, motivational beliefs and course experiences among the students in distance learning and regular learning mode.

7. Effectiveness of information and communication technology in class-room teaching on learning strategies may be investigated for research in future.
8. Other psychological constructs like volitional strategies, intelligence, achievement motivation etc may be studied as the predictors of academic achievement among the university students.

9. A qualitative study into exploring the course experiences among university students may also be undertaken for further research.

10. A study of learning strategies and motivational beliefs of the students pursuing online courses may be an area to explore.

11. Institutional variables like students support services, learning support services may also be studied as the predictor of academic achievement.