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Peeping into the Learning World of Secondary Teacher Trainees: Can their Academic Success be Predicted?

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Abstract: The study investigated the styles of learning and thinking, study habits, achievement motivation of teacher trainees along with their attitude towards teaching and perception for B.Ed. course. It also explored the predictors that may determine the academic success of these pre-service teachers. The data were analyzed by employing product moment correlation, factor analysis and multiple regression. Findings showed that a total of 29.7% variance in marks in theory papers may be explained a total of 29.7% variance was explained by eight measures whereas five measures contributed towards the explanation of 29.5% variance in skills in teaching. But only three predictors emerged that accounted for 13.1% variance in their aggregate marks in B.Ed. The major predictor for overall academic success was participation of these trainees in dramatics in their colleges. Attitudinal variables were ineffectual in determining the overall academic success of pre-service teachers.

Introduction

The quality of education is a direct consequence and outcome of the quality of teachers and teacher education system. Thus, Teacher, the key factor in all educational development, needs to be professionally equipped with teaching competencies, commitment and determination to perform at their best. The world needs more teachers, better teachers and committed teachers, and India is no exception. No nation can even marginally slacken its efforts in giving necessary professional inputs to its teachers.

Since the teachers play a major role in education of children, teacher preparation must not lose sight of this basic thrust so as to empower teachers to transmit knowledge, skills and values among the students. Teacher quality is therefore crucial and has been globally accepted to be significantly associated with the quality of education in general and students' learning outcomes in particular. The Education Commission (1964-66) of India accepted this influence of teachers in powerful words, "No system can rise above the status of its teacher…" Similar sentiments have been expressed by the Delors report (1996), and UNESCO report on *Teacher and Educational Quality: Monitoring Global Needs for 2015(2006).* The European Commission Report 'Communication on Teacher Education' (2007) from the outset observes 'research shows that teacher quality is significantly and positively correlated with pupil attainment and it is the

most important within school aspect explaining students' performance (40, p.3). Hence, the teacher education becomes a matter of vital concern.

The professional preparation of teachers may be determined by their own academic achievements during the teacher education course as academic achievement tells about knowledge and skills acquired that are necessary to become a proficient teacher. Moreover, achievement is a fundamental aspect of everyday life, affecting people's work, interpersonal relationships, sense of being, and leisure (Struthers, Menec, Schonwetter, & Perry, 1996). The quintessential achievement-oriented domain in education, particularly for college students, includes high performance on tests, passing courses, and completing degrees. However, academic achievement is strongly influenced by demographic and psychological factors. Academic performance is always associated with the many components of learning world of a learner.

In the Bachelor of Education course, the teacher trainees have to learn to teach. "Learning to teach like teaching itself, is always the process of 'becoming', a time of formation and transformation, of scrutiny into what one is doing and one can become" (Britzman, 1993, p.113). According to Nemser-Feinman and Floden (1986) teachers go through three stages when they start teaching: adequacy, mastery and impact awareness of the effect of their teaching on the students. Pre-service courses should prepare the future teacher for adequacy and mastery. The teacher preparation to a large extent depends both on learners' characteristics and learning environment during the teacher training programme.

The learning environment constitutes the components of the external variables including curriculum, institutional environment, home environment, socioeconomic status and learners' characteristics incorporate both intellectual and non-intellectual variables such as, intelligence, aptitude, competence, maturation, attention, readiness, interest, motivation, attitude, perceptions, approaches of learning; learning styles, study habits, sensation and perception, memory and previous academic achievement.

As it is not feasible for the researcher to study all the variables (due to time constraint), therefore, two background variables namely, age, and socio-economic status and five personal characteristics, namely, styles of learning & thinking, study habits, achievement motivation, attitude towards teaching and perception about B.Ed. course have been explored to find the relationships of these variables with the academic performance of secondary teacher trainees.

Theoretical Framework

Socio-Economic Status

Socio-economic status, is the ranking of an individual by the society he lives in, in terms of his material belongings and cultural possessions along with the degree of respect, power and influence he wields (Bhardwaj, 2001). The International Dictionary of Education (1977) explains socio-economic status as a person's position in any given group, society or culture as determined by wealth, occupation, education and social class where social class is the grouping of the people on a scale of prestige in a society according to their social status. It is determined by many factors such as occupation, income, moral standing, family history, social grouping and organization, type of schooling and area of residence.

Shultz (1993); Woodman (1999); also showed that the socio-economic status of the learners has a significant (positive) effect on their academic performance. Gopalacharyulu (1984) found a positive and significant relationship between socio-economic status of the secondary teacher trainees with their academic achievement.

Styles of Learning and Thinking

The idea that people learn differently is venerable and probably had its origin with the ancient Greeks (Wratcher, Morrison, Riley & Scheirton, 1997). Educators have noticed that some students prefer certain methods of learning more than others. These dispositions, referred to as learning styles, form a student's unique learning preference and aid teachers in the planning of small-group and individualized instruction (Kemp, Morrison & Ross, 1998).

Dunn (2000) cites “Learning style is a biologically and developmentally determined set of personal characteristics that make the identical instruction effective for some students and ineffective for others.”

One way of looking at learning styles is to determine hemispheric dominance. Brain hemisphericity greatly influences the individual's learning style and all kinds of intellectual and personality characteristics (Boyle & Dunn, 1998: McCarthy, 1996; Shiflett, 1989; Torrance, 1982). Torrance (1982) defined hemisphericity "as the tendency for a person to rely more on one than the other cerebral hemisphere in processing information" (p. 29). According to Beaumont, Young and McManus (1984), whenever hemisphericity was used in studies it implied that individuals tended to rely on a preferred mode of cognitive processing in which the predominant activity was either in the left or right cerebral hemisphere. For more than half a century, scholars have been investigating the role of styles in human performance (Morgan, 1997). According to Gadzella (1995), left-hemispheric students achieve higher grades than right-hemispheric ones.

Thinking style is one’s characteristic way of processing information. It is the way one acquires knowledge, organize thoughts, form views and opinions, apply values, solve problems, make decisions, plan, and express oneself to others. Thinking Styles measures peoples' cognitive and linguistic preferences and levels of flexibility at work for twenty-six 'types' of thinking (dimensions). People approach learning in a way that is natural to their inborn thinking style. Scientific research identified two distinct groups of people whose thinking styles, and therefore also learning needs, are antipodal; analytics (left brained) and holistics (right-brain processors).

Convington (1984), Gee (1990), Dille and Mezack (1991), Gibson and Graff (1992), Richardson (1994), Riding and Grimley (1999), Cassidy and Eachus (2000), Zhang (2002) demonstrated that the style of learning and thinking do affect the academic performance of the learners. Grigorenko and Sternberg (1997), Garcia and Hughes (2000) found significant correlations between academic achievement and thinking styles. Contrary to this, the results of researches by Nelson (1986), Coggins (1988), Billing and Cobbs (1992), Priadnyana (1995), Kaur (1999), Ruksasuk (2000), Argon et al (2001), Dentino (2001), De Ture et al (2004) led to infer that learning styles are poor predictors of success.

Study Habits

Study habits refer to the activities carried out by learner during learning process for the purpose of improving learning (Mayer, 1987). The study strategies include a variety of behaviors, such as notes-taking, organizing information, scheduling, concentrating, ability, personal motivation, ways of mental storing and so on (Gadzella & Williamson, 1984; Minnaert & Janssen, 1992).

Self-regulated learners know how to manage their time because they are aware of deadlines and how long it will take to complete each assignment. They prioritize learning tasks, evaluating more difficult from easier tasks in terms of the time required to complete them. They are aware of the need to evaluate how their study time is spent and to reprioritize as necessary (Zimmerman & Risemberg, 1997). According to Yip and Chung (2005), study strategies are good determinants of academic success in higher education. Students who use their time efficiently are more likely to learn and/or perform better than students who do not have good time management skills. The findings of Merriam and Caffarella (1999), Kumar (1999), Carter (2000) showed that there is a significant impact of study habits on the academic performance of the learners.

Achievement Motivation

According to Achievement Motivation Theory, achievement outcomes have been regarded as a function of two characteristics, "skill" and "will" (McCombs and Marzano, 1990). McClelland (1965) stated that high achieving individuals are characterized by self-confidence, the ability to take calculated risks, the need to research their environment and the desire for feedback about their performance. Achievement-motivated people constantly seek improvements and ways of doing things better, logically favour jobs and responsibilities that naturally satisfy their needs, i.e. offer flexibility and opportunity to set and achieve goals.

A model that attempts to explain academic achievement motivation is achievement goal theory (Ames, 1992; Urdan, 1997). This theory contends that individuals' interpretations of their achievement outcomes, rather than motivational dispositions or actual outcomes, determine achievement strivings by their effect on cognitive self-regulation processes. Cognitive self-regulation refers to students being actively engaged in their own learning, including analyzing the demands of school assignments, planning for and utilizing their resources to meet these demands, and monitoring their progress toward completion of assignments (Pintrich, 1999). In order for students to accept responsibility for their own learning, they must be motivated to succeed and possess the skills and abilities to engage in appropriate self-regulated learning strategies (McCombs, 1988).

Academic achievement motivation affects not only how well a student learns new skills and information, but also how well the student uses existing skills and knowledge in both familiar and novel situations (Lepper, 1983).Knowles (1980) theorized the primacy of motivational processes in successful adult learning. Sewart *et al* (1983), Deci and Ryan (1985), Murphy (1989), Suciati (1990), Oxford *et al* (1993), Fortier, Vallerand and Guay (1995), Chan *et al* (1999), Ergul (2004) reported that motivation is significantly related with the academic performance.

Attitude towards Teaching

An attitude is psychophysical structure that stores related bits of affective, cognitive, and psychomotor learning in a manner that allows instantaneous, subconscious access by its owner. This structure functions as a tool that allows its owner to respond quickly and effectively to environmental situations related to the satisfaction of fundamental personal needs. The three components of attitude interact through an explicit structure and process. (Kamradt & Kamradt,1999).
Teaching attitude is a readiness of a teacher to become motivated with subject to an object. Under certain conditions such as when we are in presence of the subject or when the value which it has for us can be enhanced or defended, we are likely to become appropriately motivated.

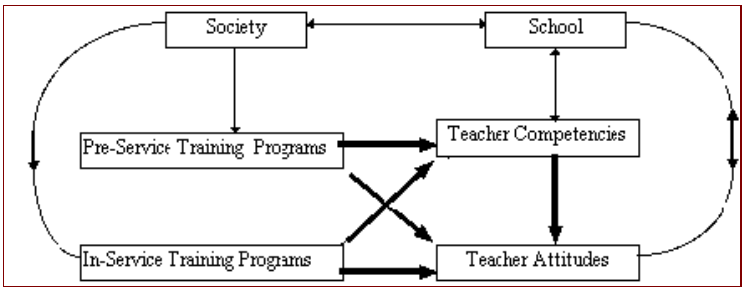

Figure 1. A Model Proposed by Baros & Elia (1997)

Even though the attitudes are generally assumed within the scope of competency, they should be analyzed separately in terms of their effect on the learning of knowledge and skills because there is a correlation between the attitudes of individuals while attempting to do a job and completing that job successfully. As Sozer (1991, p. 4) states, in a learning environment where attitude formation is not taken into account, the possibility of having great difficulties in the occurrence of learning experiences and realization of teaching activities should not be forgotten. Therefore, examining the student attitude is very important in terms of providing an effective teaching-learning environment and developing functional education programs (Yasar, 1985, p.5). Patil (1984) and Gopalacharyalu (1984) found a significant correlation of attitude towards teaching with academic achievement.

Perception about B.Ed. course

The process of perception has two parts to it. The sequence from passive observation to foreground content is the unconscious part. Then the continuation, from judgement to the loop of projection and introjections, is the subconscious part since it deals with the hidden intentions and expectations of the person. The stages of perception are presented in the diagram (given below). The arrows indicate the change from one stage to the next one. The sequence ends in the loop of projection and introjection.

Figure 2. Process of perception
(Source: http://discover-your-mind.co.uk/1e-perception%20diagram.htm)

Thus, perception is way of seeing or understanding a thing, phenomenon or process etc. Perception denotes an insight of an individual that can be expressed overtly in the form of opinion. Perceptions of learners for their course investigates how learners take their course of study in terms of their interest in the course and ultimately about the effectiveness of the curriculum for practical implementation. A substantial body of research has shown personal perceptions and beliefs to play a significant role in career development (Bandura, 1997). New teachers' experiences are, in many cases affected by perceptions and expectations formed before even their teaching preparation programmes. Vermunt (2005) states that students who are using meaning directed learning, that is who are critical and who are relating various aspects of learning content, have been found to receive higher grades in higher education.

Purpose of the Study

The present study was designed to examine the relationship of the two background variables which are continuous in nature, specifically, age and socio-economic status and five personal characteristics, namely, styles of learning and thinking, study habits, achievement motivation, attitude towards teaching and perception about B.Ed. course (along with their sub-measure) with each of the three measures of academic performance, namely, theory papers, skills in teaching, and total academic performance (in terms of aggregate marks) of secondary teacher trainees. The inter-correlations (49X49 matrix) thus obtained were subjected to factor analysis and rotation of factors. Factor analysis led to the identification of constellation of background and personal variables of these teacher trainees, clustering together with three measures of academic performance.

Thereafter, the singular and conjoint predictive efficiency of two background variables, viz. age and socio-economic status and all the five personal characteristics (including the sub-measures) of teacher trainees were examined by setting different regression models to explain the criteria variables of academic performance.

Methodology

A sample of 200 teacher trainees doing B.Ed. in colleges situated in the state of Punjab and UT Chandigarh was extracted by random sampling technique. The instruments used for this study included Socio Economic Status Scale (Bhardwaj, 2001), the coefficient of reliability were found out by test-retest method which ranges from .69 for (Social & Total Assets) to .94 (for Caste).

Styles of Learning & Thinking- SOLAT tool (Venkataraman,1993), the reliability coefficients of the tool as reported by the author in the manual, by test-retest method, for the right and left hemisphere function were .89 and .65 respectively and for integrated score, it was .71. Content validity of the tool was determined through the opinion of professors and doctors in the field of Psychology and Neurosurgery by the author.

Deo-Mohan Achievement Motivation (n-Ach) Scale (Deo and Mohan, 1985), the reliability coefficient of the scale by test retest method is .69. The concurrent validity was found out by the authors on comparing the scores obtained on this scale and scores on projective test of achievement motivation. The coefficient of correlation between the scale and projective test is .54. The scales score were also correlated with the scores obtained by administering the Aberdeen Academic Motivation Inventory by Entwistle (1968) and the reported value of 'r' is .75.

Study Habit Inventory (Palsane and Sharma, 1995), The reliability coefficient of the inventory as found by the authors is equal to .88 by test-retest method and .56 using split half (odd and even) method. For establishing concurrent validity of the inventory, the authors of the inventory compared its score with the score obtained on Study Habit Inventory by Mukhopadhyaya and Sansanwal (r=.69), Study Habit Inventory by Patel (r=.74) and Study Involvement Inventory by Bhatnagar (r=.83).

Teacher Attitude Inventory (Ahluwalia, 1978), the reliability co-efficient as reported by the author by spilt-half (odd-even) method is .79 and by test-retest method it is equal to .59. The co-efficient of correlations for concurrent validity of TAI on comparing with Hindi adaptation of MTAI (Joshi) is r=.23.

Perception about B.Ed. Course Scale was developed and standardized by the investigators. For try out, sample of one hundred teacher trainees were taken. The coefficient of correlation was calculated by employing test-retest method that came out to be .831. Face validity of the scale was determined by experts' opinion. Secondly, validation was done by point biserial correlation technique of item analysis. Further, factor analysis indicated for internal consistency that is structural togetherness of seven areas with its totals in original or rotated factors.

The academic success was measured by taking final examination marks in theory papers, skills in teaching and aggregate marks. The data was analyzed by employing product moment correlation, factor analysis and multiple regression.

Findings

Background Variables and Academic Performance

The product moment coefficients of correlation were computed to find out the relationships between background variables and academic performance of teacher trainees. No significant correlations were obtained between Age and any of the three variables of academic performance that is in theory papers ($r_=$ -.098), in skills in teaching (r= -.017) and total marks (r = -.046). In other words, the academic performance of on-campus trainees is not related with their age. But socio-economic status had positive and significant relationships with performance of trainees in their skills in teaching exam (r=.189, p<.01) and overall performance (r=.162, p<.05). In other words, higher is the socio-economic status; greater are the marks in skills in teaching and aggregate. The performance of these trainees in theory papers had non-significant relationship with the socio-economic status (r=.110).

Personal Characteristics and Academic Performance

To know the relationship between personal characteristics of teacher trainees i.e. styles of learning and thinking styles, study habits, achievement motivation attitude towards teaching and perception about B.Ed. course with each of the three variables of academic performance, coefficients of correlation were calculated.

Styles of Learning and Thinking and Academic Performance

Styles of Learning and Thinking	AP1	AP2	AP3
Right Hemispheric Learning Styles	-0.034	0.068	0.074
Left Hemispheric Learning Styles	-0.07	-0.02	-0.117
Right Hemispheric Thinking Styles	0.099	0.076	-0.078
Left Hemisphere Thinking Styles	-0.207**	-0.083	-0.075

Table 1. Product moment correlation between styles of learning and thinking with three variables of academic performance (theory-AP1, skills in teaching-AP2 and overall performance-AP3)

The values of co-efficient of correlation indicated that academic performance of trainees is related significantly neither with left nor with right hemispheric learning styles. Whereas left-hemispheric thinking styles of these trainees have negative correlation with their performance in theory papers ($r_=$ -.207, p<.01) which shows that the trainees who employ left hemispheric thinking style attain lesser marks their theory papers. Right hemispheric thinking styles have non- significant relationship with academic performance.

Study Habits and Academic Performance

Areas of Study Habits	AP1	AP2	AP3
Budgeting Time (SH_1)	0.172*	0.091	0.152*
Conditions for Study (SH_2)	0.005	-0.164*	-0.022
Reading ability (SH_3)	0.229**	-0.065	0.113
Notes Taking(SH_4)	0.257**	0.138*	0.118

Learning Motivation(SH_5)	0.042	-0.064	0.014
Memory(SH_6)	0.178*	-0.001	0.108
Taking Examination(SH_7)	-0.028	-0.096	-0.011
Healthy Habits (SH_8)	0.248**	0.108	0.212**
Overall Study Habits (OSH)	0.185**	-.064	0.107

Table 2. Product moment correlation between study habits with three variables of academic performance (theory-AP1, skills in teaching-AP2 and overall performance-AP3)

The values of coefficient of correlations between nine measures of study habits and three variables of academic performance demonstrates that six measures of study habits, namely, budgeting time (r= .172, p<.05), reading ability (r= .229, p<.01), notes taking (r=.257, p<.01), memory (r=.178, p<.05), healthy habits (r_1=.248, p<.01) and overall study habits (r=.185, p<.01) have positive and significant relationships with their marks in theory papers. The performance in skill in teaching of on-campus teacher trainees is related positively and significantly with notes-taking (r = .138, p<.05) whereas the conditions for study is negatively correlated with the performance in skills in teaching (r = -.164, p<.05). The overall academic performance of theses trainees is significantly and positively correlated with the budgeting time (r=.152, p<.05) and healthy habits (r =.212, p<.01). Budgeting time and healthy habits enhance the performance of on-campus teacher trainees in theory papers and aggregate marks. Learning motivation and taking examination have non-significant relationship with all the three variables of academic performance.

Achievement Motivation and Academic Performance

Factors of Achievement Motivation	AP1	AP2	AP3
Academic motivation (AM_1)	0.175*	0.118	0.041
Need for Achievement (AM_2)	0.07	0.018	0.028
Academic Challenge (AM_3)	0.165*	-0.011	-0.001
Achievement Anxiety (AM_4)	-0.018	-0.274**	-0.136
Importance of Grades (AM_5)	0.047	0.045	-0.056
Meaningfulness of Task (AM_6)	0.179*	0.051	0.018
Relevance of College for future goals	0.017	0.018	-0.069
Attitude towards Education (AM_8)	0.075	-0.013	0.039
Work Methods (AM_9)	0.104	0.013	0.07
Attitude Towards Teachers (AM_{10})	0.263**	0.253**	0.12
Interpersonal Relations (AM_{11})	0.072	0.077	0.117
Individual Concerns (AM_{12})	0.169*	0.081	0.219**
General Interest (AM_{13})	0.138*	-0.028	0.085
Dramatics (AM_{14})	0.273**	0.025	0.252**
Sports (AM_{15})	0.056	-0.148*	0.069
Overall Achievement Motivation	0.151*	0.026	0.181**

Table 3. Product moment correlation between achievement motivation with three variables of academic performance (theory-AP1, skills in teaching-AP2 and overall performance-AP3)

Overall achievement motivation (r= .151, p<.05) along with the eight factors out of fifteen, namely, academic motivation (r=.175, p<.05), academic challenge (r= .165, p<.05), meaningfulness of task (r=.179, p<.05), attitude towards teachers (r= .263, p<.01) individual concern (r= .169, p<.05), general interest (r= .138, p<.05) and dramatics (r= .273, p<.01) have positive and significant relationship with their performance in theory papers. As to the Performance in skills in teaching, two factors, namely, achievement anxiety (r= -.274, p<.01) and sport (r= -.148, p<.05) have negative and significant correlation. Attitude towards teachers has a positive and

significant relationship with performance in skills in teaching (r=. 253, p<.01). It conveys that on-campus trainees who have low achievement anxiety, less motivated towards sports and have favorable attitude towards teachers are likely to obtain higher marks in their skills in teaching exam. The overall academic performance of on-campus trainees is significantly correlated with three sub-measures of achievement motivation, namely, individual concern (r= .219, p<.01), dramatics (r= .252, p<.01) and overall achievement motivation (r=.181, p=.01). In other words, on-campus trainees with individual concerns having high achievement motivation and liking for dramatics are likely to obtain higher marks in aggregate. Remaining factors, namely, need for achievement, importance of grades, relevance of college for future goals, attitude towards education, work methods, interpersonal relations of these trainees has non-significant relationships with all the three variables of academic performance.

Attitude towards Teaching and Academic Performance

Attitude towards teaching	AP1	AP2	AP3
Teaching Profession (AT_1)	0.148*	.246**	0.067
Classroom Teaching (AT_2)	0.129	0.115	0.059
Child-centered Practices (AT_3)	-0.02	0.03	-0.083
Educational Process (AT_4)	0.024	0.061	0.004
Pupils (AT_5)	0.131	0.102	0.054
Teachers (AT_6)	0.01	0.07	0.045
Overall Attitude towards Teaching	0.06	.102	0.009

Table 4. Product moment correlation between attitude towards teaching with three variables of academic performance (theory-AP1, skills in teaching-AP2 and overall performance-AP3)

Attitude of the trainees towards teaching profession has significant correlation with performance in theory papers (r = .148, p<.05), and performance in skills in teaching (r = .246, p<.01). No other significant correlation has been observed between any measure of attitude towards teaching (such as teaching profession, classrooms practices, child-centered, educational process, pupils and teachers) and academic performance of these trainees.

Perception about B.Ed. Course and Academic Performance

Perception about B.Ed. course	AP1	AP2	AP3
Relevance of Course content of Theory papers	.129	.010	.078
Curriculum Transaction	.098	-.056	.093
Development of Teaching skills and attitude	.112	.048	.074
Teachers' Behavior	.104	.081	.090
Relevance of School Experience Programme/ Practical work	-.056	.025	.068
Evaluation Procedure	.081	-.097	.072
Personality Development	.105	.031	.074
Overall Perception (OPR)	0.197**	.091	.137

Table 5. Product moment correlation between perception about B.Ed. course with three variables of academic performance (theory-AP1, skills in teaching-AP2 and overall performance-AP3)

Only one significant correlation has observed i.e. between overall perception of these trainees about B.Ed. course and their performance in theory papers (r=.197<.01). The other two variables of academic performance (skills in teaching and overall) are not significantly correlated with overall perception of the on-campus trainees towards B.Ed. course. Also, non-significant relationships are seen between sub-measures of their perception of B.Ed. course (relevance of course content of theory papers, curriculum transaction, development of teaching skills and attitude, teachers' behavior,

relevance of school experience programme/ practical work, evaluation procedure, personality development) and all the three variables of academic performance.

Factor Analysis

Principal-component Method (Hotelling, 1935) and Varimax rotation (Kaiser, 1964) were used to examine the factorial structure underlying two background variables, forty four personal variables and three variables of academic performance of teacher trainees. The Eigen value differences in the Scree test permitted to retain only five factors for rotation. When factor loadings with value less than 0.30 were excluded, the analysis yielded a five-factor solution with a simple structure. Both the original as well as rotated factors where the variables of academic performance have appeared were been taken in to considerations for discussion of results. One background variable i.e. socio-economic status shared communalities with all the three measures of criterion variables of academic performance (theory, skills in teaching and aggregate) on the original factor V. Right-hemispheric learning as well as thinking styles constellated together with performance in skills in teaching on original Factor IV and with all the three measures of academic performance i.e. in theory, skills in teaching and overall on the original Factor V. Three measures of study habits, namely, conditions for study, healthy habits and memory shared significant loadings with performance in skills in teaching on original factor IV and notes-taking loaded with performance in theory, skills in teaching and also overall academic performance on the original factor V. None of the measure of achievement motivation as well as attitude towards teaching came together with the criterion variables on any of the original or rotated factor. The variable of overall perception about B.Ed. course shared significant loadings with all the three measures of academic performance i.e. theory, skills in teaching and overall performance on rotated factor IV and original factor. Besides this, one measure, namely, personality development during B.Ed. course also constellated with performance in skills in teaching on original factor IV.

Multiple Regression

Step-up Multiple Regression equations and multiple R's were found out in order to identify the predictive efficiency of the background variables (age and SES) and personal characteristics, singularly and conjointly towards the criterion variable of academic performance (in theory, skills in teaching and overall).

On the criterion variable of performance in theory papers, a total of 29.7% variance was explained by eight measures of personal characteristics but none of the background variable had emerged as a potent predictor of their performance in theory papers. The personal variables involved four measures of achievement motivation, namely, dramatics (7.5%), attitude towards teachers (3.2%), overall achievement motivation (2.5%) and general interests (2.4%), two measures of study habits, viz., notes-taking (4.8%) and healthy habit (3.8%), one measure each of perception about B.Ed. course i.e. overall perception(3.7%), and one measure of attitude towards

teaching i.e. teaching profession (1.8%). The strongest predictors of marks in theory papers included motivation for dramatics, notes-taking and healthy habits.

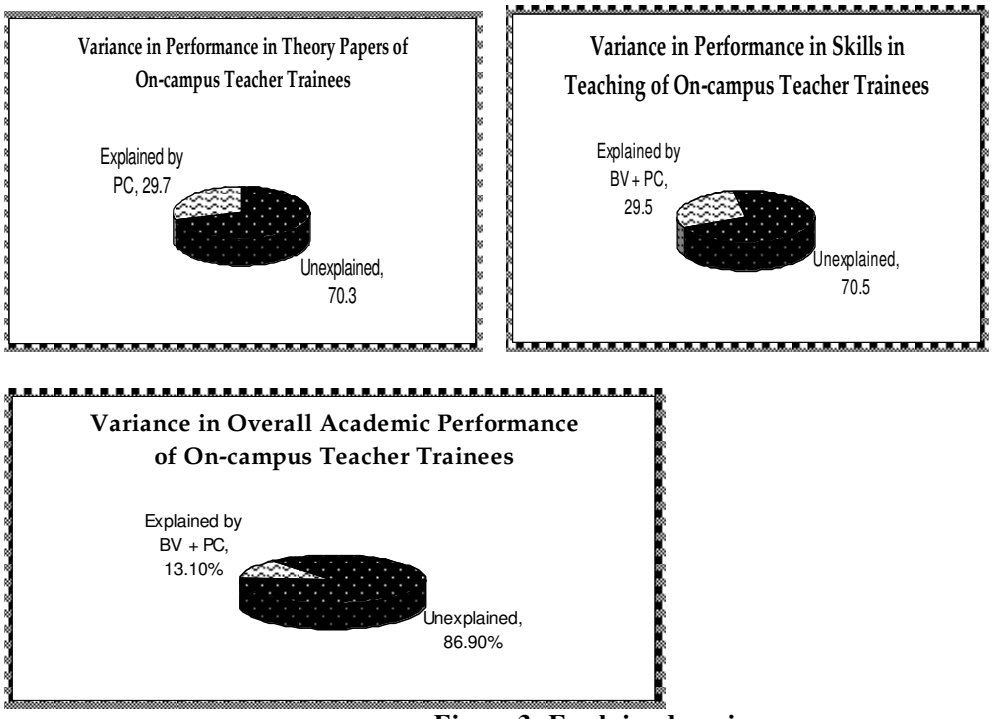

Figure3. Explained variances.

Five variables of personal characteristics and one background variable explained 29.5% variance towards performance in skills in teaching. The variables socio-economic status that accounted for 3.6% variance, achievement anxiety (7.5%), attitude towards teaching profession (6.7% variance), attitude towards teachers (5.5%), conditions for study (3.5%), and motivation for sports (2.6%) predict the performance in skills in teaching. The strongest predictors of marks in skills in teaching came out to be achievement anxiety and attitude towards teaching profession. The directions of correlation depicts that lesser the achievement anxiety and more favorable the attitude towards teaching profession of trainees higher the marks obtained in skills in teaching exam.

A total variance of 13.1% in their aggregate marks in B.Ed. was explained by their one background variable and three variables of personal characteristics. The potent predictors included socio-economic status with predictive efficiency of 2.6%, dramatics (6.3%), individual concern (1.2%), and healthy habits (3.0%) and these personal predictors conjointly explained 10.5% variance towards this criterion variable. The strongest predictors were variables of dramatics and socio-economic status for B.Ed. regular students.

Discussion of Results

The results of the study showed that the academic success (in theory) is related with left-hemispheric thinking styles (negative); six measures of study habits, namely,

budgeting time, reading ability, notes taking, memory, healthy habits and overall study habits; seven factors of achievement motivation, namely academic motivation, academic challenge, meaningfulness of tasks, attitude towards teachers, individual concerns, general interests, dramatics and overall achievement motivation (all positive); one sub-area of attitude towards teaching i.e. attitude towards teaching profession; and with Overall Perception about B.Ed. Course.

As far as teacher trainees' performance in skills in teaching is concerned, six measures emerged as significant correlates that included notes-taking, attitude towards teachers, attitude towards teaching profession (positively correlated) and conditions for study, achievement anxiety and sports (negatively correlated). Five measures, namely, budgeting time, healthy habits, individual concerns, dramatics, and overall achievement motivation showed significant and positive relationships with their total marks in B.Ed (overall academic success).

The relationship of socio-economic status with the performance in skills in teaching exam may be understood in terms of the fact that for skills in teaching exam, the trainees who use sophisticated models and other teaching aids along with well made lesson plan files are likely to get good marks. The trainees who belong to high socioeconomic status spend a lot of money for preparation of the teaching aids and files; may lead to obtaining higher marks in skills in teaching exam. Moreover, those who belong to high class are more exposed to the new world of knowledge and technology. Thus they may have wider and up dated knowledge about different aspects related to pedagogy as well as skills in teaching. These factors may have an impact on the performance in skills in teaching. Gopalacharyulu (1984) also found a positive and significant relationship between socio-economic status of the secondary teacher trainees with their academic achievement. The findings of Shultz (1993); Woodman (1999); also showed that the socio-economic status of the learners has a significant (positive) effect on their academic performance.

The negative association of left-hemispheric thinking style with marks in theory papers of trainees indicates that fractional and analytic thinking impedes performance in theory papers. In other words, it may be asserted that divergent, imaginative and creative thinking enhances performance. During the teacher training course creativity and innovation is emphasized that are exhibited by right-brained learners. Divergent and creative thinking, planning realistically, synthesizing ideas, learning through exploration, liking for drawing pictures, clusters (helps) with the marks in skills in teaching among face-to-face trainees. A lot of innovations and creativity may be added in displaying the teaching skills, and delivery of lesson demands congruence with lesson plan, thus require good memory. These aspects are appreciated by supervisors and likely to be successfully evaluated. Moreover, the strongest predictor of academic performance in the present study is motivation for dramatics (a creative aspect) which justifies the finding. Grigorenko and Sternberg (1997), Garcia and Hughes (2000) found significant correlations between academic achievement and thinking styles.

The variable of study habit as a whole (totals) is positively related to the academic performance of on-campus trainees. High score on overall study habits refers to budgeting the available time appropriately, having good conditions for studying (i.e. quiet environment and accessibility to all the material for study), ability to comprehend whatever is read, taking meaningful and relevant notes and preparing notes by self,

greater desire to excel, distribution of learning period for better retention, minimum examination anxiety, analyzing the outcomes of examination, developing good habits through guidance are conducive both to the learning and learning outcomes. One may have high ability but in the lack of good study habits one is unlikely to achieve high in academics, this is what the results of present study seem to indicate. As to sub-areas of study habits, budgeting time, reading ability, notes-taking, memory, healthy habits are related with their academic performance in theory. According to Yip and Chung (2005), study strategies are good determinants of academic success in higher education. Self-regulated learners know how to manage their time because they are aware of deadlines and how long it will take to complete each assignment. They prioritize learning tasks, evaluating more difficult from easier tasks in terms of the time required to complete them. They are aware of the need to evaluate how their study time is spent and to reprioritize as necessary (Zimmerman and Risemberg, 1997).

The negative relationship of conditions for study with academic performance is explicable as adaptations to the available conditions for learning are needed to have good academic achievement. Teacher trainees who wait for ideal conditions to be accessible, and are not flexible in their choice of place at which to study and availability of learning resources, and cannot restructure or reorganize their learning environments may not achieve at par with those who can modify their conditions or adapt to the available conditions.

As far as achievement motivation is concerned, higher overall achievement motivation along with higher academic motivation, liking for academic challenges, meaningfulness of the tasks, favorable attitude towards teachers, more individual concerns, greater motivation for dramatics and wider general interests lead to higher performance of on-campus trainees in theory papers; more favorable attitude towards teachers; lower achievement anxiety; and lesser motivation for sports contribute towards better performance in skills in teaching, and overall academic performance is higher if there is a higher overall achievement motivation, more individual concerns, and greater involvement in dramatics. Bank and Finlapson (1980) stressed that successful students have significant higher motivation for achievement than unsuccessful students. Aremu (1998) stated that interest and attitude of learner towards a particular subject is of considerable importance. This is because these two constructs are high motivating factors which can lead to better achievement on the part of the learner. The negative relationship between academic anxiety and performance may be understood by statement of Ladas (1980, as cited in Carrier et al, 1984). He argues that anxiety may influence all aspects of information processing. Anxiety affects how a student attends to orienting stimuli, reduces the capacity of the sensory-motor system by interfering with perceptions of stimuli and it affects short-term memory by providing competing stimuli which interfere with the encoding of the information. Cognitive anxiety has been found to have a negative linear relationship with performance (Burton, 1988). Lecompte et al. (1983) found that students reporting high anxiety had significantly poorer grades than their less anxious peers. Regarding skills in teaching examinations, the confidence with which a trainees teaches, has the high weightage in marks, therefore, nervousness (an effect of anxiety) may lead towards lower marks in skills in teaching.

Attitudinal variables of teacher trainees i.e. their attitude towards teaching profession and their perception for B.Ed. course is significantly correlated to their performance in theory papers as well as in skills in teaching. It may be stated here that perception can be differentiated from attitude. 'Attitudes' are more enduring in nature and relatively stable, not easily changeable and 'perception' involves giving meaning to and organizing the immediate experiences in the learning environment (both in class and out of the class) with respect to content, content transaction, teachers' behaviors, evaluation techniques, acquiring skills, attitude and growth of personality. Perry (1997) reported that instructor expressiveness and lecture content had a significant effect on student ratings of instruction and on student achievement. According to Lizzio et al. (2002) students' perceptions of their learning environment have a strong influence on study outcome. Himelstien (1992) reported that students with clear career orientation achieved higher grades.

The results show that overall academic performance is not related significantly with most of the selected variables. Though performance in theory as well as in skills in teaching may be predicted by these variables to larger extent, it is evident from the regression analysis that only a small amount (13.1%) of overall academic success of teacher trainees may be predicted by their age, socio-economic status, learning and thinking styles, achievement motivation, study habits, attitude towards teaching and perception about course. The total marks in the B.Ed. course are not only determined by theory papers and skills in teaching but there are many other components that are evaluated internally. Those trainees who participate and do well in those components achieve higher marks. The same may be confirmed by the finding of the present study which where the major predictor of overall academic performance is involvement in dramatics. Moreover, the intellectual variables may have more predictive efficiency than the selected variables for ascertaining the marks in B.Ed.

Implications

The findings of this study raise an important issue. The teacher trainees get a teaching job on the basis of marks obtained in their B.Ed. course. The results show that attitudinal variables have a little place in predicting the aggregate marks. Thus those who get higher marks may or may not have favorable attitude towards teaching. Overall teacher attitude has serious implications for the learners. Can (1987) asserts that the quality of attitude of teachers reflects their occupational understanding of teaching. Lacking desirable attitude among teachers may lead to job dissatisfaction that may impact the performance and behavior of the students. Keeping this in view, it is recommended that innovative evaluation techniques may be devised through which not only knowledge and skills but also the attitudes may also be measured as to be a complete teacher a person should possess all the three.

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