EXPLAINING ACADEMIC ACHIEVEMENT IN SECONDARY TEACHER TRAINING PROGRAMME THROUGH DISTANCE MODE

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ABSTRACT

The academic performance of the learners is of great concern in every format of education. The promotion of the academic achievement is an integral part of goals to be achieved in higher education. The present investigation has been undertaken to locate the background and personal variables which may best predict the academic performance of secondary teacher trainees in distance education.

The findings of the study showed that 72.1% of the variance towards the criterion variable of performance in theory papers was explained by fourteen independent variables (one background variable and thirteen measures of personal characteristics), 63.5% variance in performance in skills in teaching of the trainees was explained by eleven independent variables which included ten variables of personal characteristics and one background variable, and a total variance of 62.8% in their overall academic performance was explained by their nine variables (one background and eight variables of personal characteristics).

These findings may be used to improve the services provided to the distance teacher trainees. As guidelines for in-service education planners and educators, the findings of the study can help in redefining goals, needs and approaches to teach, for this group of "double-role" in-service teacher trainees.

Keywords: Academic Achievement, Teacher Training, Distance Education

INTRODUCTION

Distance learning, like any kind of learning, can serve different ends, but it appears mainly to serve those who cannot or do not want to make use of regular classroom teaching.

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Demanding professional commitments and family responsibilities of many adults often make attending a conventional, full-time, face-to-face course with fixed timetables a rather unrealistic proposition, and the reasons why adults choose distance education are primarily "the convenience, flexibility and adaptability of this mode of education to suit individual students' needs" (Holmberg, 1989, p. 24). Distance education helps lots of adults without discriminating between countries or cities, the young or the old, and the rich or the poor, which other educational systems fail to fulfill.

Through increasing access to distance education, students can meet their needs appropriately regardless of the present limitations and border lines (Verduin and Clark, 1994, p.7). Garrison (1990) states that, "the majority of distance education is concerned with meeting the educational needs of adults". Distance teaching will support student motivation, promote learning pleasure and effectiveness if offered in a way to make the learning relevant to the needs and characteristics of distance learners (Holmberg, 1986).

Distance education is also used for catering the needs of teachers who want to improve their qualifications while remaining in the job. It is a cheap and accessible way for the teachers who do not want to fall behind time (Martinez, 2002). In order to provide quality teachers this alternative system needs to be enriched and strengthened through applications of research based findings.

In a Distance education setting, the process of student learning may be even more complex than the conventional 'face to face' setting because perceived obstacles encountered by the learners may be different from one distance learner to another with varying degrees of complexity (Dazarkia, Razak, Mohammed, 2004). Isolation from peer group, and irregular contact with faculty sometimes become hindrances in learning for distance learners who till now had been used to take 'on-campus' classes in their previous academic endeavor. The distance learners also face difficulties in meeting the challenges posed by new system of teaching and learning in respect of time management, autonomy and learning strategies (Moore, 1998). Learners who are able to study their courses at 'any time and at any place, at their 'own convenience' may also end up trying to fit their studies into odd corners of time in between trying to meet the continuing demands of families and jobs. Also, conditions at home may not be suitable for study. However, these learners are usually highly motivated and, as mature adults, have life experience upon which they can draw, and to which they can relate their learning.

All distance teacher trainees are in-service teachers with a teaching experience of two years. Their own specific characteristics and these characteristics may affect their academic performance. Several variables have been useful in predicting successful and unsuccessful face-to-face learners, such as study skills, motivation to succeed, demographic variables, and timeliness of the educational experience etc.

Some of these variables have been identified as particularly important for distance learner success, but with very little supporting evidence (Pachnowski and Jurczyk, 2000). Alderman (1999) believes that some individuals feel that success is based on ability, and failure is caused by a lack of ability. Thus there is a dire need to study the characteristics of trainees in distance education that may predict their success.

PURPOSE

The study was designed to identify the factors/variables which may best predict their academic performance teacher trainees in distance education. It would provide an insight to strengthen the teacher education programme through distance mode.

METHODOLOGY

The investigation was preceded by examining the relationship of background variables and personal characteristics with the variables of academic performance. The relationship of two background variables, namely, age and socio-economic status and five personal characteristics, namely, styles of learning and thinking (learning styles and thinking styles related to right and left hemispheres), study habits with its eight areas, achievement motivation and its fifteen factors, attitude towards teaching along with its six areas and perception about B.Ed. course and its seven sub-measure with each of the three measures of academic performance, namely, performance in theory papers, performance in skills in teaching, and total academic performance of secondary teacher trainees in distance education was found out.

A sample of 200 distance teacher trainees was extracted from the 500 trainees enrolled in B.Ed. at Department of Correspondence Studies, Panjab University (PU), Chandigarh during session 2004-05. For selecting sample of the trainees in distance mode, random sampling technique was adopted.

The instruments used for this study included Socio Economic Status Scale (Bhardwaj, 2001), Styles of Learning & Thinking- SOLAT tool (Venkataraman,1993), Deo-Mohan Achievement Motivation (n-Ach) Scale (Deo and Mohan, 1985), Study Habit Inventory (Palsane and Sharma, 1995), Teacher Attitude Inventory (Ahluwalia, 1978) and Perception about B.Ed. Course Scale was developed and standardized by the investigators. The academic performance was measured by taking final examination marks in theory papers, skills in teaching and aggregate marks from the examination branch of PU, Chandigarh.

RESULTS

Background Variables and Academic Performance
The product moment coefficients of correlation were calculated for two background variables, namely, age and socioeconomic status with each of the three variables of academic performance.

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The value of 'r' showed that age of trainees in distance education has significantly negative relationship with their performance in theory papers (r=-.152) as well as overall academic performance (r=-.153) but non-significant relationship with performance in skills in teaching (r=-.066). The socio-economic status of distance trainees had a positive and significant relationship with their performance in skills in teaching (r=.226) but its non-significant relationship was reported with other two variables of academic performance that is theory (r= .012) and aggregate marks (r=.107).

Personal Characteristics and Academic Performance
The coefficient of correlations were computed between forty four variables of personal characteristics (two dimensions each of learning and thinking styles, eight dimensions of study habits and its total, fifteen factors of achievement motivation plus one overall measure, six areas of attitudetowards teaching and its total along with seven dimensions and its total of perception about B.Ed. course) with each of the three variables of academic performance of secondary teacher trainees in distance. The results have been entered in Tables 1 to Table 5

Learning and Thinking Styles and Academic Performance
Among distance teacher trainees, a significant correlation has been observed between left-hemispheric learning styles and academic performance at B.Ed. level as reflected by marks in theory papers (r_{d1}=.143, p<.05), skills in teaching (r_{d2}=.243, p<.01) and overall academic performance (r_{d3}=.160, p<.05). This indicates that trainee in distance education, who employ left-brained learning styles i.e. prefer verbal and structured content, and use convergent approach for learning are superior in the academics (in terms marks obtained). In other words, greater is the use of left-hemisphere in learning higher is the academic achievement.

Table: 1
Product Moment Correlation between Styles of Learning
and Thinking of Secondary Teacher Trainees in Distance Education
and three variables of Academic Performance

Styles of Learning and Thinking	AP1	AP2	AP3
	'r_{d1}'	'r_{d2}'	'r_{d3}'
Right Hemispheric Learning Styles	-.102	-.004	-.061
Left Hemispheric Learning Styles	.143*	.243**	.160*
Right Hemispheric Thinking Styles	-.092	.130	-.028
Left Hemisphere Thinking Styles	.192**	-.038	.150*

The relationship between right-brained learning styles and the three variables of academic performance ($r_{d1=}$ -.102, r_{d2}= -.004, and r_{d3} = -.061) are negative but non-significant. Thus, right hemispheric learning styles of distance trainees that involve non-verbal learning through open-ended lessons using divergent approach are not related with the academic performance of distance teacher trainees.

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With regards to thinking styles of trainees in distance education, left-hemispheric thinking styles of trainees have a significant and positive correlation with two variables of academic performance i.e. theory papers ($r_{d1} = .192$, $p<.01$) and overall academic performance ($r_{d3} = .150$, $p<.05$). Non-significant correlation exists between left-brained thinking styles and performance in skills in teaching ($r_{d2} = -.038$). Similar to the right-sided learning styles, right-brained thinking styles of distance teacher trainees have non-significant correlation with all the three variables of academic performance ($r_{d1} = -.092$, $r_{d2} = .130$, and $r_{d3} = -.028$, $p>.05$).

Study Habits and Academic Performance

With regards to the correlation of Study Habits of distance teacher trainees with each of the three variables of Academic Performance i.e. marks in theory papers, skills in teaching and aggregate, the results entered in Table: 2 disclose that three measures of their study habits, viz. budgeting time ($r_{d1}=.218$, $p<.01$), learning motivation ($r_{d1}=.163$, $p<.05$), and overall study habits ($r_{d1}=.254$, $p<.01$) have positive and significant relationships with performance in theory papers, whereas conditions for study have a negative correlation ($r_{d1}=-.548$, $p<.01$) with performance in theory. The results indicate that good time management skills, higher learning motivation and better study habits of the trainees in distance education increase their achievement in theory papers but conditions for study are inversely related to their marks in theory papers.

Table: 2
Product Moment Correlation between Study Habits
Of Secondary Teacher Trainees in Distance Education
and three variables of Academic Performance

Areas of Study Habits	AP1	AP2	AP3
	'r_{d1}'	'r_{d2}'	'r_{d3}'
Budgeting Time (SH_1)	.218**	.068	.194*
Conditions for Study (SH_2)	-.548**	-.230**	-.519*
Reading ability (SH_3)	-.092	-.079	.109
Notes Taking(SH_4)	-.037	.055	.011
Learning Motivation(SH_5)	.163**	.006	.113
Memory(SH_6)	.083	.190*	.083
Taking Examination(SH_7)	.059	-.014	.051
Healthy Habits (SH_8)	.013	.323**	.022
Overall Study Habits (OSH)	.254**	-.049	.129

For performance of these trainees in skills in teaching examination, two measures of study habits, namely, memory ($r_{d2} = .190$, $p<.01$) and healthy habits ($r_{d2} = .323$, $p<.01$) have positive and significant relationships but conditions for study ($r_{d2} = -.230$, $p<.01$) again has a negative but significant relationship with the performance in skills in teaching. It implies that whereas good memory and healthy habits are likely to increase the marks in skills in teaching examination, fussiness about conditions for study may lower down these marks.

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As to the overall academic performance, budgeting time (r_{d3}=.194, p<.01) has a positive and significant correlation but condition for study (r_{d3}=-.519, p<.01) has a highly negative correlation with the overall academic performance of this group of trainees. The other sub-measures of Study Habits, namely, reading ability (r_{d1}=-.092, r_{d2}=-.079, r_{d3} =.109, p>.05), notes taking (r_{d1}=.-037, r_{d2}= .055, r_{d3} =.011, p>.05), taking examination (r_{d1}=.059, r_{d2}= -.014, r_{d3} =.051, p>.05) have non-significant relationship with all the three variables of academic performance.

Achievement Motivation and Academic Performance

The values of 'r' in Table 3 with respect to relationships of Achievement Motivation with variables of academic performance of distance trainees, elucidate that out of the sixteen sub-measures of achievement motivation, only two sub-measures, namely, achievement anxiety and interpersonal relations has significant relationship with all the three variables of academic performance. Out of these, achievement anxiety among distance trainees has negative and significant relationship with all the three variables of academic performance i.e. in theory (r_{d1}=-.139, p<.05), skills in teaching (r_{d2}=-.295) and overall performance (r_{d3}=-.206, p<.01). In contrast to this, positive relationship exist between interpersonal relations and performance in theory (r_{d1}=.280, p<.01), skills in teaching (r_{d2}=.234, p<.01) and overall academic performance (r_{d3}=.332, p<.01). In other words greater is the anxiety to achieve, lesser is the achievement and better are the interpersonal relationships with peers and faculty members higher is the performance in theory papers, skills in teaching and in aggregate.

Table: 3
Product Moment Correlation between Achievement Motivation of Teacher Trainees in Distance Education and three variables of Academic Performance

Factors of Achievement Motivation	AP1	AP2	AP3
	'r_{d1}'	'r_{d2}'	'r_{d3}'
Academic motivation	.039	-.092	.031
Need for Achievement	.170*	.353**	.021
Academic Challenge	.220**	.378**	.098
Achievement Anxiety	-.139*	-.295**	-.206**
Importance of Grades	.054	-.116	.062
Meaningfulness of Task	.044	.076	.060
Relevance of College for future goals	-.073	-.007	-.050
Attitude towards Education	-.136	-.047	-.067
Work Methods	.108	.069	.082
Attitude Towards Teachers	.004	.100	.010
Interpersonal Relations	.280**	.234**	.332**
Individual Concerns	-216**	-.303**	.102
General Interest	.147*	-.107	.088
Dramatics	.149*	.114	.190**
Sports	-.155*	.104	-.143*
Overall Achievement Motivation	.202**	-.124	.158*

Further, two factors i.e. need for achievement (r_{d1}=.170, p<.05 & r_{d2}=.353, p<.01) as well as academic challenge (r_{d1}=.220, & r_{d2}= .378, p<.01) have significantly positive relationship with performance in theory and skills in teaching. The variable of individual concern among distance trainees has a significantly negative relationship with their performance in theory (r_{d1}=-.216, p<.01) and skills in teaching (r_{d2}=-.303, p<.01). It implies that distance trainees with greater need for achievement, higher acceptance of the academic challenges, and with lesser individual concerns achieve higher marks in theory papers and skills in teaching exam.

The factors of dramatics and overall achievement motivation have positive and significant association with performance in theory with values of r equal to 0.149 and 0.202 respectively and with overall academic performance with r equal to 0.190 and 0.158 respectively. Relationship of sports with performance in theory (r_{d1}=-.155, p<.05) and with overall academic performance (r_{d3}= -.143, p<.05) is negative but significant.

These results illustrate that the distance trainees with higher overall achievement motivation and motivation for dramatics, obtain higher grades in theory papers and also in aggregate but the involvement of these trainees in sports seems to reduce these grades, possibly due to their paucity of time. General interests, of distance trainees another factor of the achievement motivation has a significantly positive correlation with their performance in theory papers (r=.147, p<.05). The values of r (vide Table 3) for remaining factors depict that academic motivation, meaningfulness of tasks, relevance of college for future goals, attitude towards education, attitude towards teacher and work methods have non significant relationships with all the three variables of the academic performance.

Thus, in all, nine measures of achievement motivation have positive and significant associations with the performance of distance trainees in theory papers, out of which six variables, namely, need for achievement, academic challenge, interpersonal relations, general interest, dramatics and overall achievement motivation.

These anchor well to increase the grades in theory papers but three measures, namely, high achievement anxiety, more individual concerns and more participation in sports tend to reduce the marks in theory.

Higher is need for achievement, academic challenge and good interpersonal relations, more the marks in skills in teaching exam, conversely more is achievement anxiety and individual concerns lesser are these marks.

The overall academic performance of these trainees is positively associated with good interpersonal relations, involvement in dramatics, and higher overall achievement motivation but achievement anxiety and sports orientedness are associated negatively with total marks of distance trainees in B.Ed.

Attitude towards Teaching and Academic Performance

The obtained statistically significant values of 'r' between the attitude of teacher trainees in distance education towards teaching and each of the three variables of academic performance demonstrate that only one measure of Attitude Towards Teaching, namely, "teachers" has positive and significant correlation via their performance in theory papers (r_{d1}=.205, p<.01).

Table 4:
Product Moment Correlation between Attitude towards Teaching of Trainees in Distance Education and three variables of Academic Performance

Variables	AP1	AP2	AP3
	r_{d1}	r_{d2}	r_{d3}
Teaching Profession	-.078	.383*	-.121
Classroom Teaching	.002	.233*	.030
Child-centered Practices	.060	.315*	-.023
Educational Process	-.027	.244*	-.107
Pupils	.116	.323*	.038
Teachers	.205**	.303*	.096
Overall Attitude towards Teaching	.037	.336*	-.028

The performance of these trainees in theory papers is not significantly correlated with any other measure of attitude towards teaching, namely, teaching profession (r_{d1} =-.078, p>.05), classroom practices (r_{d1}=.002, p>.05), child-centered practices (r_{d1} = .060, p>.05), educational process (r_{d1}=-.027) and pupils (r_{d1}=.116, p>.05) and not even with overall attitude towards teaching (r=.037). In case of the performance in skills in teaching of these trainees, all the seven measures of attitude towards teaching, namely, attitude towards teaching profession (r_{d2}=.383), classroom teaching (r_{d2}=.233), child-centered practice (r_{d2}=.315), educational process (r_{d2}=.244), pupils (r_{d2}=.323), teachers (r_{d2}=.303) and overall attitude towards teaching (r_{d2}= .336) have significant relationships with performance in skills in teaching at .01 level.

As far as the correlations of these variables with overall academic performance of these trainees are concerned, none of the seven measures of attitude towards teaching has reached even the .05 level of significance.

These results indicate that
- ➤ The distance trainees who have favorable attitude towards teachers, they obtain higher marks in theory papers.
- ➤ The trainees who have more favorable attitude towards teaching as a whole, and also more favorable attitude for teaching profession, classroom teaching, child-centered practice, educational process, pupils, and teachers and achieve higher grades in skills in teaching.

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➢ **The overall academic performance is not correlated significantly with any of the seven measures (six dimensions & overall attitude) of attitude towards teaching.**

Perception about B.Ed. Course and Academic Performance

There exist positive and significant relationships between overall perception about B.Ed. course of distance trainees and their performance in theory papers (r=.168, P<.05) and as well as their achievement in respect of aggregate marks (r=.179, p<.05).

The performance in skills in teaching is not significantly correlated with the overall perception of these trainees about their B.Ed. course.

On examining the relationships of sub-measures of perception about B.Ed. course with their three measures of academic performance of distance trainees, it was observed that perception of distance teacher trainees in just one measure i.e. relevance of course content of theory papers is positively and significantly correlated with their performance in theory (r=.151, p<.05) and also with overall academic performance (r=.141, p<.01). Non-significant relationships have been reported between remaining measures of perception about B.Ed. course with each of the three variables of academic performance among distance trainees.

Table: 5
Product Moment Correlation between Perceptions about B.Ed. Course of Teacher Trainees in Distance Education with three variables of Academic Performance

Variables	AP1	AP2	AP3
	'r_{d1}'	'r_{d2}'	'r_{d3}'
Relevance of Course content of Theory papers	.151*	.099	.141*
Curriculum Transaction	.121	.066	.103
Development of Teaching skills and attitude	.078	.018	.045
Teachers' Behavior	.131	-.066	.086
Relevance of School Experience Programme/ Practical work	.129	.106	.119
Evaluation Procedure	.102	.091	.118
Personality Development	.045	.053	.033
Overall Perception (OPR)	.168*	0.103	.179*

Regression Analysis

A total of 72.1% of the variance towards the criterion variable of Performance in theory papers was explained by fourteen independent variables which include one background variable of Age of distance trainees which had a predictive efficiency of 2.3% and thirteen measures of their personal characteristics that includes, three measures of Study Habits, namely, conditions for study (30.1%), budgeting time (2.5%), learning

motivation (2.0%), eight measures of Achievement Motivation viz. academic challenge (10.3%), interpersonal relations (8.9%), dramatics (3.2%), sports (2.5%), general interests (1.9%), overall achievement motivation (1.8%), need for achievement (1.4%), and attitude towards teachers (1.0%), two measures of SOLAT i.e. left-hemispheric learning styles (2.3%) and left-hemispheric thinking styles (1.9%). Whereas the predictors that had surfaced out as effective

Eleven independent variables which included ten variables of personal characteristics and one background variable had a tendency to explain a total of 63.5% variance in Performance in Skills in Teaching. The Socio-Economic Status, a background variable, accounted for 5.1% variance. Ten measures of personal characteristics of distance teacher trainees had emerged as potential predictors of performance in skills and conjointly contributed 58.5% variance towards the criterion variable, out of which 14.7% was explained by attitude towards teaching profession followed by individual concerns (10.6%), interpersonal relations (8.1%), need for achievement (6.6%), Socio-Economic Status (5.1%), attitude towards pupil (4.0%), left-hemispheric learning styles (3.9%), memory (3.4%), overall attitude towards teaching (3.0%), conditions for study (2.9%), and attitude towards education process (1.3%).

In Overall academic performance, a total variance of 62.8% was explained by nine variables (one background and eight variables of personal characteristics). The background variable of Age of distance teacher trainees had emerged with a predictive efficiency of 2.3% towards aggregate marks. The variables of personal characteristics of distance trainees together accounted for 60.5% variance {conditions for study (26.9%), interpersonal relations (13.6%), sports (5.3%), left-hemispheric thinking styles (4.0%), dramatics (3.9%), left-hemispheric learning styles (2.4%), budgeting time (2.4%), and achievement anxiety (2.0%)} towards aggregate marks. The strongest predictors of marks in theory papers of distance trainees were conditions for study, academic challenge and interpersonal relations, for marks in skills in teaching were attitude towards teaching profession and interpersonal relations and for aggregate marks, strongest predictors includes conditions for study and interpersonal relations for B.Ed. correspondence students

DISCUSSION

The results reveal that the distance trainees with left-hemispheric learning and thinking styles achieve higher marks in theory papers as well as in aggregate. Even, performance in skills in teaching of these trainees has a positive association with their left-sided learning styles. But their right-hemispheric styles of learning and thinking do not have any significant relationship with any of the three criterion variables. According to Gadzella (1995), left-hemispheric students achieve higher grades than right-hemispheric ones.

It can be stated that those trainees in distance education who prefer verbal and structured content for their learning and have convergent and analytical thinking achieve higher marks in theory papers, skills in teaching examination and in aggregate. Smith (2000) stated that left-brain strategies are most often used in classrooms. These styles match adequately with the content transaction during PCPs where teachers with a view to finish the syllabi focus on structuring the content and solving the problem through examples. Most of the teaching activities and teaching behavior that goes into the classrooms remain convergent in nature.

Creativity and innovativeness, inspite of being emphasized in researches and theories of teaching methodology, does not find much place in teaching-learning. This traditional system of teaching seems to obviously go in favor of those who are inclined to be left-hemispheric.Even learning material provided to distance trainees are also well-structured where specific facts are presented which again goes well with their learning styles. Koc (2005) also reported that performance of distance learners is related to how they learn, consequently, they learn more effectively when taught with their preferred methods. The correlation between study habits and academic performance clearly lead to infer that:

> ➢ Overall study habits of distance trainees are significantly related to their performance in theory, better are study habits, greater is the achievement in theory papers.
> ➢ While budgeting time facilitates marks in both theory and aggregate; motivation to learn is conducive to higher achievement in theory only; and memory as well as healthy habits assist in achieving better marks in skills in teaching alone.
> ➢ Conditions for study consistently and significantly correlated negatively with all the three variables of academic performance i.e. theory, skills in teaching and total.
> ➢ Reading ability, notes taking, taking examination is not correlated significantly with any of the three variables of academic performance.

Zimmerman and Martinez-Pons (1986) too reported that distance learners being self-regulated learners are proactive in managing not only their study time, but also their study environment. They are sensitive to their environment and resourcefulness in altering or changing it is necessary. Since they do not study in a structured and controlled classroom context, distance learner must be able to structure their own physical learning environment, whether at home or elsewhere.

If learners are unable to restructure their learning environment at home, it may affect their academic performance. Roblyer (1999) noted that students who have difficulty managing time are more likely to achieve less in a distance course or drop out altogether. 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.

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 solo study arrangements that distance education most commonly affords are clearly not suited to everyone. Students are often required to find far greater reserves of self-discipline and time management skills than in prior educational experiences (Calder and McCollum, 1998; Candy, 1991).

Achievement motivation is the tendency to endeavor for success and to choose goal oriented activities. Being motivated keeps one to remain dynamic. High achievement motivation among learners include high desire to learn, greater need to excel in academics, ability to accept and solve the academic problems, low nervousness about accomplishments, favorable attitude towards education and teachers, interest in widening knowledge, orientation towards dramatics and sports etc.

Need for achievement (*n* Ach) refers to individual's desire for significant accomplishment, mastering of skills, control, or high standards. People high in need for achievement are characterized by a tendency to seek challenges, academic challenges is related with accepting difficulties and taking risks, interpersonal relations involves interaction with faculty and peers for guidance to improve, general interest include widening the mental horizon through exposure to the world of knowledge and dramatics are related to liking for dance, music or cultural activities.

These factors go a long way in facilitating the acquisition of learning inputs through persistent efforts both in theory and practice of teaching, thereby further leading to higher achievement in academics. As to the overall academic performance, it is noted that theory papers contributes 80% marks to the aggregate marks thus it is likely that these factors which enhance performance in theory may also increase the aggregate marks of distance trainees.

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. *n*-Ach and internal locus of control have both been identified as factors that work together to increase student success and persistence in the distance environment (Cooke et al., 1995). Risk taking was found as a distinct characteristic of successful distance learners by Latanich, Nonis & Hudson, (2001). Students' interaction with their classmates in a distance learning environment was found to contribute to learning positively by Moore & Kearsley, (1996). Likewise, Fredericksen et al (2000) while examining asynchronous learning, found that students who reported greater interaction with other students in distance education stated higher levels of perceived learning.

Strong interpersonal ties shared by the learners increase the feeling of trust and spirit which enhance the courage and willingness to share information and resources and also to support each other with encouragements and confirmations in times of need ([Rovai, 2001](#); [Haythornthwaite, Kazmer, Robins, 2000](#); [Wegerif, 1998](#)). Motivation is an important variable related to adult distance learner success and is often cited in the professional distance education literature (Moore & Kearsley, 2005). Knowles (1980) theorized the primacy of motivational processes in successful adult learning. The distance trainees who have favorable attitude towards teachers, they obtain higher marks in theory papers:

> ➢ The trainees who have more favorable attitude towards teaching as a whole, and also more favorable attitude for teaching profession, classroom teaching, child-centered practice, educational process, pupils, and teachers and achieve higher grades in skills in teaching.
> ➢ The overall academic performance is not correlated significantly with any of the seven measures (six dimensions & overall attitude) of attitude towards teaching.

The results show that the B.Ed. correspondence student who feel the theory papers in their course have application in actual classroom situations, have a tendency to obtain higher marks in theory papers and in aggregate. These results are understandable in view of the fact that the distance trainees being teachers can relate the theory with practice. Those trainees, who draw out the relevance of theory taught to them with actual classroom teaching, are likely to absorb the pedagogical concepts so as to link these with pedagogic practice these in real situations. Thus, this linkage possibly helps them to achieve higher marks in theory papers. Vermunt (1992) 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.

It is to be mentioned here that, the measure of the study habit namely, conditions for the study has emerged as the strongest predictor (with an efficiency of 30.1%) to determine the performance in theory. As already indicated that the trainees in distance education are in-service teachers and have to study wherever and whatever time they get but if become very selective about their physical environment for their study, i.e. calm and non disturbing settings all the time, or wait for the conducive environment to be provided to them, cannot study with concentration as these conditions are not always available to them and are likely to show lower performance in their theory papers. On the contrary, if they restructure their environment and feel comfortable to concentrate in those settings at any time, then they can expect to achieve high in theory papers.After the study habits, the second major predictor is academic challenge (a measure of achievement motivation) which contributed 10.3% towards the criterion variance. The predictive efficiency of this variable may be due to the fact that the trainees in distance education have joined the course with the intention to get promotion or to secure a regular job.

Thus the trainees are expected to take the B.Ed. course as a challenge for them as they have to get through it, inspite of their busy schedule both at job and home. Those trainees, who take the academic activities as challenge, put lots of efforts to complete the B.Ed. course and devote time to study, are thus supposed to get good marks in their theory papers. The third major predictor in the row with efficiency of 8.9% to account for the criterion variance is again the measure of achievement motivation i.e. interpersonal relations.

The trainees in distance education come in contact with each other and the faculty only for a short duration (during Personal Contact Programmes only). They interact with the faculty to remove their academic difficulties, thus are likely to attain higher marks in their theory. Beside these, the distance trainees who prefer left-hemispheric styles of learning and thinking, properly manage their time, like to involve in dramatics but not much in sports, interested in general knowledge, possess higher need for achievement along with high achievement motivation and learning motivation, favorable attitude towards teachers probably secure higher marks in their theory papers of B.Ed.Merisotis and Phipps (1999), in a review of the distance education literature, suggested that the most important factors influencing student success are student motivation, the nature of the learning tasks, learner characteristics, and the instructor.

Threlkeld and Brzoska (1994), in writing about distance education, noted that maturity, high motivation levels, and self-discipline have been shown to be necessary characteristics of successful, satisfied student. Oxford, Young, Ito, & Sumrall, (1993); Schwittman, (1982) reported that student motivation as the single most important predictor of student success in distance education.

CONCLUSIONS

The findings that budgeting time, conditions for study and interpersonal relations serve as strong predictors of success in teacher training may be considered both by the teacher educators and guidance workers in the field to enable the distance trainees to restructure their physical environment whether at home or elsewhere for study rather than to wait for the availability of conducive environment. They also need to be oriented in the time management skills. Their ability of establishing interpersonal relations can be utilized in building up strong networking with faculty and co-learners. These efforts may help the mature learners to obtain basic skills and knowledge they need to become rigorous students. The interactivity between the distance learners and faculty could also be strengthened by providing them access to the facilities available at the nodal centers. This will also enable the distance teacher trainees to learn how to access 'on-campus' facilities such as library and laboratories at the study centers.

Predicting success is particularly important for new students that have entered in distance education for the first time. Identifying students with low probability of success allows support to be targeted on them. 141

The predictive modeling of teacher trainees' academic performance in distance education, as done in the present study, is worth using by the faculty, and counselors for targeting support onto vulnerable students.

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