

STUDENT SATISFACTION AS DETERMINANT OF ACADEMIC SUCCESS OF DISTANCE LEARNERS: A STUDY ACROSS DISTANCE LEARNING COURSES

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Abstract: Distance learning programs gives opportunity for higher education to all who are otherwise not able to enrol on-campus due to various reasons but seeks knowledge. Being the heterogeneous group, distance learners' may have different expectation from distance learning system which consequently may affect their success in distance learning. This study was planned to find out the influence of learners' satisfaction in distance education in determining academic success of distance learners in undergraduate, post-graduate and professional courses. For the purpose, sample of 493 distance learners was selected from these three categories of courses and administered with Student Satisfaction Scale which had six dimensions. The findings of the study indicated that student satisfaction was a significant determinant of academic success of distance learners across the courses but different dimensions of student satisfaction were found to be related with their success in undergraduate, post-graduate and professional courses.

INTRODUCTION

Distance education open the doors of higher education to all those who are otherwise not able to enrol on-campus due to socio-economic conditions, family circumstances, physical disabilities, geographical barriers or those who drop-out from the conventional systems for some reasons. Garrison and Shale (1987) write that the distinguishing feature of distance education is that it can "extend access to education to those who might otherwise be excluded from an educational experience". For such students distance education offers a flexible learning setting in terms of time and location.

Students in distance education spend considerable time and money; as well as exert substantial effort to obtain education thus expect successful course completion. Being heterogeneous group with diverse backgrounds these learners may have their own expectations from the learning process in distance education. There may be differences in how these learners view the learning process in distance education and prefer it to take place. Jaffee, (1998) espouses that many of the learners may seek learning conditions similar to traditional classrooms since they are familiar and comfortable with the face-to-face, instructor-centered classroom experience, which minimizes the students' responsibility for their own learning. But, distance learning is very different from traditional on-campus learning in terms of social and psychological learning environment and its pedagogical components. Many distance learners feel bad when instructors did not participate in discussions or responded to questions within a very limited time (Zhang & Perris, 2004). Similarly, Yang and Cornelius (2004) found that students became frustrated when their courses were poorly designed. Many other factors, such as the infrastructure, quality of content, support systems, assessment, and peer support may influence their learning experiences (Arbaugh, 2000; Areti, 2006; Bender, Wood, & Vredevoogd, 2004).

Sahoo (1985) believe that academic and economic factors mostly motivated students to join their studies whereas instructional factors, management factors, utilitarian factors and personal factors come in the way of completion of courses. For this matter the distance learning format may not be satisfying to all the students (Carr, 2000; Rivera & Rice, 2002). These aspects may pose a lot of challenges for the academic success of distance learners.

For their success, besides, owning the responsibility, the distance learners expect effective support and services from the distance education institutions as cited by Major and Levenberg (1999) "the successful mastery of academic content, once viewed entirely as the learners' responsibility, is now considered a shared responsibility between three major players: the student, the instructor, and the educational institution. Moreover, the rising demand and growing consumer experience with flexible education programs to support career development and lifelong learning has

increased people's expectations for quality instruction, effective educational outcome (Debourgh, 1999). The quality of all aspects of the educational program reflects from learners' satisfaction and educational outcomes i.e. success of distance learners may depend upon how they feel about the different aspects/ components of distance education and (Sloan, 2011).

Therefore, it becomes imperative to investigate those aspects of distance education which satisfies them and consequently influence their academic success so as to make distance education effective for learners. The literature (Levin & Wadmany, 2006; White, 2005) also emphasizes the importance of research into student learning for professional practices of course designers and for improving students' distance learning experiences.

Student satisfaction in distance education

Student satisfaction has long been recognized as a "core element for higher education institutions serving traditional-age, on campus students" allowing institutions to "strategically and tactically target areas most in need of immediate improvement" related to academic, registration and customer service areas (Noel-Levitz, 2006). According to Elliott and Healy (2001), student satisfaction is a short-term attitude based on an evaluation of their experience with the education service supplied. Moore and Kearsley (1996) opine that students feel satisfied when they are pleased with their experience with different components of distance education and consequently their satisfaction becomes important indicator of learning as also endorsed by Horvat, Krsmanovic and Djuric (2012).

There are certain components of distance learning that are its integral parts and the course material is most important of these because this is the main source by which teachers connect with remote students who study at home. The well designed course material constitutes the mainstay of the system and satisfaction of learners with course material is most crucial for effectiveness of distance education programme. Besides course material, Personal contact programmes (PCP) are regarded as an added feature of traditional distance education in the form of lectures, tutorials, seminars and discussions. Singh, (1995) cites "the personal contact programmes through intensive classroom instruction, individual guidance and counselling help in giving a proper orientation to the students, add to their motivation, encourage regular study habits and instil confidence in them". Teachers' behaviour during PCP or otherwise also may determine the satisfaction of learners in distance education as their availability and willingness to help the students to resolve their academic queries may lead to pleasing experiences. In addition to academic support, the administrative support is equally important because issues and concerns related with admission, enrolment, examination and results are sorted out by administration. Thus administrative support may also contribute towards explaining students experiences in distance education. As these aspects form the backbone of distance education system therefore learners' experiences about these may be key to their success.

In literature of distance education, these factors along with some other factors have been found to constitute the student satisfaction. Satisfaction of distance learners for Print material, contact classes, evaluation system, (Reddy, 1994; Srivastva, 1995) course utility and administrative services (Kaur, 1995) have emerged as important factors for determining student satisfaction.. Inman, Kerwin and Mayes (1999) found that support materials provided by the instructor were the most important factor correlated with student satisfaction. Besides, interaction with instructors, active discussion among course participants and clarity of course design relates with students' satisfaction (Swan, et al., 2000). Gallogly, (2005) revealed that administrative services being accessed by learners were providing a high level of satisfaction. Phipps and Merisotis (1999) opined that providing student support for access to institutional resources and responsiveness from the teachers may be a determinant of student satisfaction in distance learning. Valasidou and Bousiou (2006) advocated importance of interaction in student satisfaction. According to them, distance learners' satisfaction include information about the modules and other introductory and personal discussions and mainly upon the level of effectiveness of these meetings with the instructor and, specifically, the issues that are discussed during the meetings. Powell (2007) gave a another set of factors, namely, clarity and accuracy of information regarding course objectives, requirements and grading procedures, consistency of grading with stated criteria, usefulness of assignments and activities for learning and understanding subject, reasonableness of instructors expectations concerning course work, preparedness of instructor and presentation of the subject which may be used to assess the students' perception about course and teacher effectiveness. Colorado and Eberle (2010) precisely gave three elements of student satisfaction which included course offerings, student and faculty support services and allocation of resources. Tinto (2011) proposed four aspects i.e. expectation, support, assessment and feedback, and involvement which cause persistence which led to success in distance learning system. Sandhu and Kappor (2014) found student's satisfaction in terms of instructor support, student's interaction, student autonomy. Adapa (2015) propounded that innovative teaching resources, assessment tools and feedback systems foster

students' overall satisfaction. Khan and Iqbal (2016) revealed that learner-content interaction and Learner- Instructor interaction were significant predictors of general satisfaction.

Student satisfaction with distance learning courses is thus a key aspect to measure the effectiveness of distance learning (Levy, 2003). Researchers (Keller, 1983; Pike, 1993) espoused that the more students are satisfied, the more likely they are to do well in the course. Biner, Dean and Mellinger (1994) contended that student satisfaction played an important role in determining the success of distance-education courses. High satisfaction leads to lower attrition rates, higher persistence in learning, and higher motivation in pursuing courses (Allen & Seaman, 2008; Schreiner, 2009).

Rationale of the Study

Students' success is vital for any institution to sustain itself (Atchley, Wingenbach & Akers, 2013). Moreover, out of the aims of education, the academic success of a student continues to be the primary concern and the most important goal of education. In case of distance education it has become even more crucial to study the factors contributing towards learners' success because distance learners faced a lot obstacle in terms of achieving success in their learning (Aderinoye, 1992). Thus, it becomes imperative to be aware of student satisfaction with distance-learning courses and see how it shapes up the academic success of the distance learners.

Though a number of studies are available as mentioned above which evidenced that student satisfaction has a positive influence on success of the students but in these studies either a few aspects of satisfaction were taken or the course coverage were limited. i.e. either undergraduate or postgraduate or professional students were taken. No study was found wherein academic success of learners pursuing different types/categories of courses was examined in relation to their satisfaction in distance education.

In the present study, the rationale behind taking these three groups of courses separately lies in the fact that the learners' profile at three levels of course is altogether different. The students at undergraduate level come from school system and are novice in higher education system and most of them are new in distance education too. This transition may pose more challenges for them in the system. Therefore, investigation of the dimensions of their satisfaction in distance learning is very important so as to know which factors facilitate them in getting success and cause failure. In case of distance learners in postgraduate courses, they have learning experiences of higher education system as well as many of them already may have acclimatization with distance education system but this group is comprised of many employed persons and others unemployed (especially females) who could not pursue their education in regular mode. Due to their experiences and different sets of aspirations, their expectations from distance learning may be different which consequently determines their success. Talking about professional courses, here most of the learners are employed which is pre-condition to enter in most of these courses. These students have goal clarity and high expectations from the course as they enter professional courses after a tough competition as seats are limited in professional courses. These attributes of learners in professional courses may entail for certain services of distance education and their satisfaction for these may decide about their success in distance education. Besides these there could be a number of other intervening variables which may be affecting their satisfaction in distance education and consequently their success. Keeping this in mind it was felt that the issue needs to be analyzed. With this background, the study was conducted with following objectives:

OBJECTIVES

- To determine the differences in student satisfaction between successful and unsuccessful distance learners in undergraduate, postgraduate and professional courses.
- To examine the correlation between student satisfaction and scores of successful distance learners in examination of undergraduate, postgraduate and professional courses.
- To find out those aspects of distance education for which satisfaction of distance learners relate with academic success of the learners across the courses i.e. undergraduate, postgraduate and professional.

METHODOLOGY

The focus of the study being on determining the relationship of student's satisfaction in distance education with their academic success across the courses, three major categories of courses, namely, undergraduate courses, post graduate courses and professional courses were included. Keeping the intent of the study in view, descriptive method was employed involving comparisons and relationships.

SAMPLE

The participants of the study were taken from Distance learning department of Panjab University Chandigarh who were pursuing undergraduate, post-graduate and professional courses in year 2013-14. A total of 493 distance learners were selected by employing Multi stage sampling technique At the first stage, by simple random technique (i.e. lottery method) the courses under three categories were selected. Amongst undergraduate courses, Bachelor of Arts as well as Commerce were chosen and from four post-graduate courses (Masters of Arts in History, Political Science, Public Administration and Sociology) were selected. Out of various professional courses, two courses, namely, M.Ed. and M.B.A. were selected. After selecting these courses, at the second stage, the sample of students from the courses were drawn by non-random sampling method. Purposively, the students of second year of distance education courses who came to attend the Personal Contact Programmes were selected because these students had experienced the services offered by the distance education institution. A total of 191 Undergraduate students, 193 Postgraduate students and 199 Professional students completed the Student Satisfaction Scale. Amongst these students, semester/year end examination was declared for 493 students (which included 165 Undergraduate students, 157 Postgraduate students and 171 Professional students) and remaining 90 students either dropped the examination or the result was not declared due to some reasons (like lower class result, any other such default). Thus, the final sample of the study included 493 students in total who completed Student Satisfaction Scale and had semester/year-end result (either pass or fail, if pass then marks obtained).

Data Collection Instrument

Student Satisfaction Scale

In the present study, Student satisfaction was conceived as level of contentment of learners with distance education services offered during the course i.e. starting from the entry till completion of the course and perceived significance of this education. Therefore, six important aspects of distance education, namely, Administrative support, Learning Material, Teachers' behavior, Personal contact programme (PCP), Evaluation System and Usefulness of course, were taken as the major factors/dimensions of student satisfaction. A five point scale was constructed to assess the student satisfaction on these six dimensions of distance education with response options as Very much satisfied, Satisfied, Not concerned, Unsatisfied and Very much unsatisfied.

Content validity was found out with experts' opinion and item validity was determined by employing item analysis technique. Point biserial coefficient were calculated to ascertain the discriminatory power of the items of the scale, and the items with pbr .254 or more were retained in the final scale. The reliability (internal consistency) of the 'Student Satisfaction Scale', was found out by using Cronbach's alpha. Kline (1999) rule was adopted to determine acceptance of values of Cronbach's α for each dimension of the scale. The values are given below:

<u>Dimensions of the Scale</u>	<u>Cronbach's alpha</u>	<u>Internal Consistency</u>
Administrative Support	.778	Acceptable
Learning Material	.847	Good
Teachers' behavior	.706	Acceptable
Personal contact programme	.903	Excellent
Evaluation System	.853	Good
Usefulness of the course	.751	Acceptable

These values indicated towards the internal consistency of the Student Satisfaction Scale. The final scale consisted of 40 items which were distributed in six dimensions.

Official Records for Academic Success

In the present study, academic success of the distance learners was considered at two levels. Firstly, success refers to *getting through the semester/ year end examination in first attempt* i.e. passing the examination successfully. The learners who passed the examination were grouped as *successful learners* and those distance learners who either got reappear in examination or got failed were considered as *unsuccessful*. Thereafter the *level of success* of successful learners was taken in terms of the marks obtained by the successful learners in their semester/ year end examination. This data about students' academic success was obtained from the official records of the distance education institute.

Data Analysis Techniques

t-test technique was used to see the significance of difference between successful distance learners and unsuccessful distance learners (separately for undergraduate, post-graduate and professional courses) in their satisfaction whereas Product moment correlation was worked out between marks obtained by the successful students and the scores on students' satisfaction scale for determining if the satisfaction emerges as the correlate of achievement level of distance learners. The minimum level of significance was fixed at 95% confidence limit. The 95% confidence level was marked with * and 99% level of confidence with ** in the results of t-test and correlation.

DELIMITATIONS

The study was delimited to:

1. The study was delimited to one distance learning institution only which offer print based correspondence education mainly.
2. Satisfaction was studied with respect to only six major dimensions (administrative support, learning material, personal contact programme, teachers' behavior, evaluation system and usefulness of the course) of aforementioned distance education system.
3. The sample was selected from those learners who came to attend the personal contact programme.

RESULTS

The sample consisted of 60% females and 40% males, out of which 70% were married and 29% unmarried and 1% divorced. Among these 36% belonged to rural areas and 64% from urban localities and 25% of them had full time employment, 21% were employed as part time workers and 54% were unemployed.

With regards to academic success, it was found that 165 Undergraduate students included 127 successful students and 38 unsuccessful. Among 157 students in Post graduate courses, 117 were successful and 40 were unsuccessful students whereas out of 171 students from Professional courses whose results were declared 132 became successful and 39 remained unsuccessful.

To examine the relationship between distance learners' academic success and their satisfaction, the difference in the satisfaction of successful learners and unsuccessful learners was found out in all the three types of courses i.e. undergraduate, post-graduate and professional. Subsequently, degree of correlation between marks obtained by successful learners in their semester/year-end examination and their scores obtained on the Student Satisfaction Scale was ascertained.

Relationship between academic success and satisfaction of distance learners in undergraduate courses

The scores obtained by successful and unsuccessful students on satisfaction scales were compared by employing t-test. The values are given in table 1.

Table 1: Values of t-test for mean score difference in Satisfaction of successful and unsuccessful undergraduate distance learners

Dimensions of Satisfaction	Undergraduate learners	N	Mean	Std. Deviation	SE _D	t- value	Remarks
Administrative Support	Successful	127	26.098	3.952	0.671	2.716**	.008
	Unsuccessful	38	24.277	3.524			
Study material	Successful	127	31.153	4.612	0.808	.231	.84
	Unsuccessful	38	31.34	4.295			

Teacher Behavior	Successful	127	12.006	1.679	0.356	.375	.646
	Unsuccessful	38	11.872	1.996			
PCP	Successful	127	26.405	3.931	0.924	1.22	.112
	Unsuccessful	38	25.277	5.278			
Evaluation system	Successful	127	13.626	2.950	0.659	1.561	.069
	Unsuccessful	38	12.596	3.734			
Usefulness of the course	Successful	127	6.02	.936	0.178	2.503*	.027
	Unsuccessful	38	5.5532	.974			
Overall Satisfaction	Successful	127	115.29	12.119	2.161	2.023*	.041
	Unsuccessful	38	110.91	11.555			

It is evident from the values of *t* given in table 1 that successful and unsuccessful students in undergraduate courses differed significantly on two dimensions of student satisfaction, namely, administrative support ($t=2.716$, $p<0.01$) and Usefulness of the course of the course ($t=2.503$, $p<0.05$). Along with these, *t*-value for overall satisfaction also came out as significant ($t=2.02$, $p<0.05$) between the two groups. On the remaining variables, namely, satisfaction with study material ($t=.231$), teacher behavior ($t=.375$), personal contact programme ($t=1.22$) and Evaluation system ($t=1.561$), the values of '*t*' did not come out as significant at .05 level. While looking at the mean scores of successful and unsuccessful distance learners in these two dimensions where significant differences have been obtained it becomes evident that successful distance learners were more satisfied ($M_1= 26.098$) than unsuccessful distance learners ($M_2=24.277$) with administrative support offered during distance education. Similarly, with respect to the Usefulness of the course, successful distance learners had higher level of satisfaction ($M_1 = 6.02$) than unsuccessful distance learners ($M_2=5.5532$). Overall satisfaction was also found to be significantly higher among successful learners ($M=115.29$) than unsuccessful learners ($M=110.91$).

Based on these findings, it may be said that satisfaction of undergraduate students in distance education determine whether they succeed in examination or not as those students who became successful had higher levels of overall satisfaction along with two aspects i.e. administrative services, and Usefulness of the course of the course as compared to those who couldn't succeed in their examination.

Correlation between marks obtained by undergraduate distance learners and their satisfaction

To find out whether the marks obtained by successful distance learners correlate with their satisfaction in distance education, the product moment correlation was worked out. The co-efficient of correlation are given in table 2:

Table 2: Product moment correlation coefficient between marks obtained by Successful Undergraduate distance learners with their Satisfaction scores

Dimensions of Satisfaction	N	r	p-value
Administrative Support	127	.200*	.041
Learning Material	127	.182*	.049
Teachers' Behavior	127	.083	.519
Personal Contact Programme	127	.245*	.032
Evaluation system	127	.132	.156
Usefulness of the course	127	.270**	.009
Overall Satisfaction	127	.382**	.000

As shown in table 2, there came out to be significant positive correlation between marks obtained by successful undergraduate students with scores on five dimensions of student satisfaction i.e. administrative support (.200, $p<.05$), learning material (.182, $p<.05$), personal contact programme (.245, $p<.05$), usefulness of the course (.270, $p<.01$) and overall satisfaction (.382, $p<.01$). This signifies that levels of students' achievement increases with increase in their satisfaction with administrative support, learning material, personal contact programme, usefulness of the course and overall satisfaction.

Overall, satisfaction of undergraduate learners in distance education emerged as a significant determinant of their academic success.

Relationship between academic success and satisfaction of distance learners in Post-graduate courses

In case of post-graduate courses also, the difference in satisfaction between successful and unsuccessful distance learners was found out by employing t-test and values are given in table 3:

Table 3: t-values for mean score difference in satisfaction between successful and unsuccessful distance learners in PG courses

Dimensions of Satisfaction	Learners in PG courses	N	Mean	Std. Deviation	SE _D	t- value	p-value
Administrative Support	Successful	117	26.094	4.110	0.686	3.001**	.003
	Unsuccessful	40	23.900	3.615			
Learning Material	Successful	117	31.393	4.601	0.844	.259	.796
	Unsuccessful	40	31.175	4.613			
Teachers' Behavior	Successful	117	12.205	1.684	0.352	.723	.432
	Unsuccessful	40	11.950	1.999			
Personal Contact Programme	Successful	117	26.666	4.301	0.742	1.025	.307
	Unsuccessful	40	25.875	3.962			
Evaluation system	Successful	117	13.658	2.986	0.648	1.514	.132
	Unsuccessful	40	12.775	3.711			
Usefulness of the course	Successful	117	6.034	.955	0.171	2.499*	.013
	Unsuccessful	40	5.600	.928			
Overall Satisfaction	Successful	117	116.05	12.18	2.08	2.189*	.030
	Unsuccessful	40	111.27	11.07			

The values of t given in table 3 depict that successful and unsuccessful students in postgraduate courses differ significantly in their overall satisfaction ($t=2.189$, $p<0.05$) as well as on two dimensions of student satisfaction, namely, satisfaction with administrative support ($t=3.001$, $p<0.01$) and usefulness of the course ($t=2.499$, $p<0.05$) as in case of undergraduate students. On the remaining variables, namely, satisfaction at learning material ($t=.259$), teachers' behavior ($t=.72$) and personal contact programme ($t=1.025$) and Evaluation system ($t=1.514$) the values of 't' are not significant at .05 level.

The mean scores of successful distance learners in their overall satisfaction ($M=116.05$) being higher than unsuccessful learners ($M=111.27$), illustrate that the former were more satisfied in distance education than latter. On the two dimensions where significant differences had been obtained, the same trend has been found, that successful distance learners obtained higher mean score than unsuccessful distance learners for satisfaction with administrative support offered during distance education as well as for usefulness of the course of the course thus the successful students in postgraduate course were more satisfied with administrative services and perceived usefulness of the course than the unsuccessful students.

Correlation between marks obtained by successful distance learners in PG courses and their Satisfaction scores

To find out whether the marks obtained by these successful distance learners correlate with their satisfaction in distance education, the product moment correlation was worked out. The co-efficient of correlation are given in table 4:

Table 4: Correlations between marks obtained by successful distance learners in PG courses with their Satisfaction

Dimensions of Satisfaction	N	Pearson Correlation (r)	p-value
Administrative Support	117	.066	.479
Learning Material	117	.040	.669
Teachers' Behavior	117	.038	.687
Personal Contact Programme	117	.025	.793
Evaluation system	117	.117	.211
Usefulness of the course	117	.025	.785
Overall Satisfaction	117	.020	.831

The co-efficient of correlation (r) presented in table 4 indicate that no significant correlation had emerged between marks obtained by postgraduate distance learners with dimensions of student satisfaction, namely, administrative support (.066), learning material (.040), teachers' behavior (.038), personal contact programme (.025), Evaluation system (.117), Usefulness of the course (.025) and overall satisfaction (.020).

The findings related academic success and satisfaction of learners in post-graduate courses show that overall satisfaction of learners determines their success in examination i.e. there exist significant difference in the levels of satisfaction of successful and unsuccessful learners. But for successful learners in postgraduate courses, their extent of satisfaction with different dimensions of distance learning has not come up as a correlate of their level of achievement in examination. In other words it may be said that certain level of satisfaction is crucial to become successful in post-graduate course but further increase in satisfaction do not account for enhancement in the level of success i.e. marks.

Relationship between academic success and satisfaction of distance learners in professional courses

A comparison was made between successful and unsuccessful students in semester end exam of professional courses for their satisfaction in distance education by employing t-test. The values are given in table 5

Table 5: t-values for mean score difference in satisfaction between successful and unsuccessful learners in Professional Courses

Dimensions of Satisfaction	Learners in Professional courses	N	Mean	Std. Deviation	S.E _D	t- value	p-value
Administrative Support	Successful	132	26.723	3.630	0.701	2.79**	.009
	Unsuccessful	39	24.76	3.908			
Learning Material	Successful	132	31.347	4.956	0.804	0.828	.538
	Unsuccessful	39	30.68	4.239			
Teachers' Behavior	Successful	132	12.366	2.081	0.373	1.412	.258
	Unsuccessful	39	11.84	2.034			
Personal Contact Programme	Successful	132	26.753	3.683	1.119	1.351	.129
	Unsuccessful	39	25.24	6.697			
Evaluation system	Successful	132	13.436	3.593	0.720	2.714**	.003
	Unsuccessful	39	11.48	4.053			
Usefulness of the course	Successful	132	5.9901	1.269	0.226	1.016	.416
	Unsuccessful	39	5.76	1.234			
Overall Satisfaction	Successful	132	116.61	14.63	2.352	2.914**	.001
	Unsuccessful	39	109.76	12.35			

The t values given in table 5 show that in professional courses, successful learners differ significantly from unsuccessful students in their overall satisfaction in distance learning programme ($t=2.914, p<0.01$) and also in their satisfaction with administrative support ($t=2.799, p<0.01$) as well as evaluation system ($t=2.714, p<0.01$). No significant differences were found between these two groups of learners on the remaining dimensions of satisfaction, namely, satisfaction with learning material ($t=.828, p>.05$), teachers' behavior ($t=1.412, p>.05$), personal contact programme ($t=1.351, p>.05$) and Usefulness of the course of the course ($t=1.016, p>.05$).

While looking at the mean scores of these successful and unsuccessful distance learners where significant differences have been obtained, it became evident that successful distance learners were more satisfied with administrative support offered ($M1= 26.723$) as well as with evaluation system ($M1= 13.43$) than unsuccessful distance learners ($M2=24.76$ and 11.48). On a whole also, the successful learners had higher satisfaction than unsuccessful learners in professional courses.

In other words, those students who succeed in the semester end exams are those who had higher levels of satisfaction with their distance learning programmers (along with two aspects i.e. administrative support, and evaluation system) as compared to those who couldn't succeed in their first attempt in their examination. Thus, satisfaction of students in distance education has emerged as a determinant of their success in distance education.

Correlation between marks obtained by successful learners and their Satisfaction

The co-efficient of correlations (r) between the marks obtained by successful learners in professional courses and their satisfaction score in distance education are given in table 6

Table 6: Correlation coefficients between satisfaction and marks obtained by successful learners in Professional Courses

Dimensions of Satisfaction	N	Correlation coefficients (r)	p-value
Administrative support	132	.330**	.000
Learning Material	132	.223*	.018
Teachers' Behavior	132	.196*	.040
Personal Contact Programme	132	.191*	.044
Evaluation system	132	.289**	.002
Usefulness of the course	132	.151	.114
Overall Satisfaction	132	.318**	.001

The co-efficient of correlation as shown in table 6 indicate that marks of successful students (in professional course) were correlated significantly with their overall satisfaction in distance education ($.318, p <0.01$) along with its five dimensions i.e. administrative support ($.330, p<0.01$), learning material ($.223, p<0.05$), teacher behavior ($.196, p<.05$), personal contact programme ($.195, p<0.05$) and evaluation system ($.289, p <0.01$). The perceived usefulness of the course was not found to have significant correlation with marks ($r=.151, p>.05$).

The positive correlation signifies that levels of students' success increases with increase in their satisfaction with administrative support, learning material, teachers' behavior, personal contact programme, evaluation system and overall satisfaction.

These findings elucidate that satisfaction in distance education determine the academic success of distance learners in professional courses.

Common aspects of students' satisfaction as determinants of academic success across courses

It may be comprehended from the findings that irrespective of the course levels, overall student satisfaction is an important determinant of their success. In case of undergraduate and post-graduate courses, satisfaction with administrative support and usefulness of the course ascertain their success in examination whereas in professional courses, besides administrative support another factor is satisfaction with evaluation system. As far as relationship of satisfaction with level of success is concerned, some differences have been found across the courses. As in case of

undergraduate and professional courses, all the factors of satisfaction emerge as significant correlate of marks in examination except evaluation system for undergraduates and usefulness of the course for learners in professional courses. On contrary, none of the factors of satisfaction was found to be correlated with achievement scores at students in post-graduate level examination. The common determinant of success at all the three levels of courses is satisfaction with *administrative support* as well as *overall satisfaction in distance learning*.

DISCUSSION OF THE RESULTS

The findings of the present study illustrate that student satisfaction is significant determinant of academic success of distance learners in all types of courses i.e. undergraduate, post-graduate and professional. These results showed congruence with the findings of many researchers (Keller, 1983; Seirup & Tirotta, 2010; Siqueira & Lynch, 1986; Sloan, 2011) who also found a positive correlation between satisfaction and achievement of distance learners. This relationship may be understood by considering the explanation forwarded by researchers. Sahin and Shelley (2008) cite that 'student satisfaction with their distance education experience may lead to further engagement in class activities, and eventually in higher levels of use of distance learning environments,' and as Pike (1993) believed, the enhanced engagement in academic generally lead to student success

Further, besides overall satisfaction, one factors that surfaced out as significant determinant of student success in distance education irrespective of the type of the courses is satisfaction with administrative support. This is an important finding as till now in the literature of student satisfaction emphasis was placed on teacher, teaching, peer, course content, learning resources etc (Areti, 2006; Colorado & Eberle, 2010; Letcher & Neves, 2010; Rotham, Romeo, Brennan & Mitchell, 2011; Horzum, 2015) and only few studied talked about importance of student satisfaction with administrative support in distance education. In distance education, there a number of issues for which learners have to depend on the administrative staff like queries for deadlines of admission, fee submission, examination schedule, issuing of examination roll number, results, study material distribution etc. and if they do not get required information in time or their administrative problem is not resolved, many of them may miss the examination or sometimes drop out from the system. Wood (1996) pointed that many distance learners faced problems in contacting administrative staff due to geographical distances and face the associated practical difficulties. It has been observed that many distance learners have to come to their nodal centers from distant places near their examination to settle the objections like submission of some documents, deposition of fee or such other problems which consume their lot of time. The timely support save the time of distance learners from roaming around the offices to settle their issues and the same time may be utilized for their preparation for examination as many of them have already have limited time due to their job or family responsibilities. In case such help is not received, then many learners drop out of the system out of their frustration. Therefore, appropriate administrative support is important in distance education as it not only ascertains student retention to some extent but also may determine success.

Besides, perceived satisfaction with usefulness of the course is also important variable for success in undergraduate and post graduate courses. It is believed that if students feel that the distance education course is useful then they enjoy and accept it which further may lead to engagement in class activities, and eventually in higher levels of use of distance learning environments (Lee, Cheung & Chen, 2005; Mitchell, Chen & Macredie 2005; Sahin & Shelley, 2008)

Along with this, among students in professional courses, satisfaction with evaluation system also came out as important determinant of their success and achievement. In professional courses, there is lot of practical work and weightage of internal assessment is very high and the internal marks are deciding factor for the aggregate marks thus success in the examination. It may be that those students who got low internal scores were not satisfied with the examination system and because of their low internal score either they did not get through the examination or passed but with low aggregate score. Because of this, the satisfaction with evaluation system emerged as determinant of success among students of professional courses. In case of undergraduate/postgraduate course internal weightage is very less, thus students success do not much depend on it and therefore satisfaction with evaluation system did not play role in determining their success. This aspect need to be studied qualitatively to find out the aspects of evaluation system with which students in professional courses satisfied/not satisfied as rightly observed by Gibson (1996) who stated that awareness of the learners' attitudes is essential to make them efficient distance learners.

IMPLICATIONS

Of course the academic success of distance learners depends upon the hard work and efforts which they put on their distance education course but the findings of the present study indicated that satisfaction of learners with distance education experiences also influence their success. Thus, Student satisfaction has important implications as suggested by other researchers like Pike (1993) who recommended implication of student satisfaction for teaching due to its bidirectional associations with student engagement and achievement.

The results of present study bring forth that student satisfaction especially with administrative support was the most significant factor of student success across the courses (undergraduate, postgraduate and professional). Therefore, the special attention should be given to the administrative services offered to the distance learners. Firstly, the website of the institution offering distance education should have all the necessary information that is required by the distance learners related with course structure, fee, admissions, examinations, assignments, important deadlines etc. Along with this, there should be one window system where all the queries of distance learners may be handled. The grievance redressal cell should work actively to timely resolve the administrative problems of the distance learners. There is an urgent need to train the administrative staff for improving their dealings with distance learners. Gallogly (2005) also recommended that ‘attention should be devoted to improving administrative services to enhance the efficiency and effectiveness of course delivery’.

Further, the findings of the study call for proper orientation of distance learners before the commencement of the courses especially for those students who join distance education course for the first time in the higher education institutions. They should be acquainted with the distance education system, about the relevance of the course and its significance for their future life. Along with this, the teachers should be available for the students’ academic queries either online or in person so that distance learners may not feel frustrated (as found by Zhang & Perris, 2004) at any stage. The personal contact programmes should be properly designed keeping in view the needs of the learners. By enhancing satisfaction, their success may be ensured to some extent. In case of professional courses, it was found that satisfaction with evaluation system also affect their success. In this regard, the distance educators should acquaint the learners with evaluation system and counsel them so that their anxiety is reduced. More transparency should be brought in the system and other modifications as per the requirements of the learners should be made in the evaluation system so that their dissatisfaction with evaluation system may not affect their success. Subotzky and Prinsloo (2011) also opined that student and institution must exercise joint responsibility to facilitate the students’ “walk” through essential processes such as choice of programme, admissions and learning activities that leads to success.

The findings of the study provide an insight to course designers for revitalization of the services according to the expectation of the distance learners in order to enhance their student satisfaction. Naaj, Nachouki and Ankit (2012) advocate that it is imperative to meet or even exceed the distance learners’ expectation to make distance education successful as it not only satisfy them but also lead them to become advocates who provide a free promotion source for the university.

The present study examined satisfaction only but there could be a number of other factors in the way to success of distance learners. It becomes imperative to ascertain the obstacles in their learning process and strategies to overcome these so as to enhance the academic success of distance learners. For this a continuous effort should be made by distance education institutions may be in the form of action research for need analysis of the learners or for identifying the personal or other factors influencing their success. Defining these characteristics may help the institutions to make decisions about course designs and delivery system.

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