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A Survey of a Study on the Reasons Responsible for Student Dropout from the Bachelor of Science Programme at Indira Gandhi National Open University

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Abstract

This paper presents a report on students who decided to drop out of the BSc programme offered by Indira Gandhi National Open University (IGNOU). This study was designed to determine the reasons leading to students' decisions to withdraw from the programme. Identified and reported in this study are nine major reasons leading to drop out. Results of this study lead to several suggestions for improving current instructional and delivery strategies of IGNOU's BSc Programme. Following such suggestions could help to reduce students' dropout rate for this particular programme through implementation of timely interventions at different critical stages of their learning journey.

Keywords: dropout; withdrawal; open distance learning; interventions; student retention; student support system

Introduction

Open Distance Learning (ODL) is now considered as a reputable method of education as evidenced by the establishment of numerous ODL institutions worldwide and increasing enrollment of students in these institutions. In India, currently 22 percent of the total number of students enrolled in India's higher education system are enrolled in ODL institutions (Dikshit, 2003, VC Report 2004). Concomitant with the growth of ODL, there is the problem of high rates of student dropout. Research has shown that ODL student dropout rates are typically higher than student dropout rates in conventional, face-to-face forms of higher education (Barefoot, 2004; Kember, 1995; Wojciechowski & Palmer, 2005). In this paper (which views dropout issues from different perspectives such as student retention, student persistence) the terms dropout and withdrawal are used synonymously.

Dropout studies are of major interest for distance education researchers, because high dropout is one indicator of teaching quality (DEST, 2005). In the United Kingdom, public funding for higher education is now based on the number of students who successfully complete courses (Simpson, 2005). If a large number of students fail to complete their programmes or courses,

there is a possibility that ODL institutions historically reliant on public funding may face withdrawal or reduction of such funding. As such, in North America a centre for the study of college student retention (see http://www.cscsr.org/) was established to provide retention resources to individuals and the educational community and arm them with the latest findings on the retention of students in higher education. This centre also started Journal of College Student Retention: Research Theory and Practices (see http://www.cscsr.org/retention_journal.htm) in 1999 to provide deeper insight to this area.

Nonetheless, in some cases, dropout can be viewed as a positive action. Studies conducted at Open University of UK indicate that students use their Open University study to enter full-time education elsewhere (Ashby, 2004). When viewed in this light, open learning institutions should not be always blamed for high dropout rates.

On the other hand, students may opt for ODL because they think these programme/ courses will be easier (Carnevale, 2000); however, this is not the case. Often students' expectations are shattered when they realized that ODL programme/ courses requires the same efforts – if not more – than traditional programme/ courses (Fozdar & Kumar, 2006).

The purpose of this study was to determine the reasons that influence students' decisions to dropout. We suggest some effective remedies that we feel might improve student retention. The findings presented here are based on a survey of students who elected to dropout from the Bachelor's Degree Programme (BSc) at Indira Gandhi National Open University (IGNOU).

Context

About IGNOU's BSc Programme

In this section, we will briefly outline the teaching and learning model used in IGNOU's Bachelor's Degree (BSc) programme. IGNOU offers a BSc in various science disciplines such as Chemistry, Physics, Mathematics, Botany, and Zoology. Two important objectives of the BSc programme are to provide higher educational opportunities to those who may have missed out on formal education (i.e., working persons, people living in rural or remote areas, housewives, and the disadvantaged). To complete the BSc programme either as general or major in any of the science disciplines on offer at IGNOU, learners must earn 96 credits (one credit = approximately 30 hours of learning activity), out of which 24 credits must be devoted to foundation courses, and eight to 16 credits to applied courses. The remaining 56 to 64 credits are subject-specific. It takes students a minimum of three years to complete IGNOU's BSc programme. Students enrolled in the year 1991 and 1992 were allowed between three to a maximum of eight years to earn 96 credits towards their BSc degree. Students enrolled after 2003, however, must complete BSc programme in no less than three years to a maximum of six years. At IGNOU, students are permitted to study at their own pace after they complete their first or second year of study, subject to a ceiling of 48 credits earned and a term-end examination used to measure students' mastery of the subject matter. If a learner has mastered the subject then they may proceed at their own pace.

Methods of Instruction

Instructional methods used in IGNOU's BSc programmes differ from those used by the conventional higher education systems. Most learning materials are disseminated through distance rather than face-to-face communication, as is true of any distance education course

offering. Because IGNOU is in the process of embracing a learner-centred approach to education, students are encouraged to become active participants in their own teaching and learning process. To this end, a variety of course learning materials are used, from multimedia to print. Other educational modalities used include audio and videocassettes (available from IGNOU's study centres), audio-video programmes broadcast via the National Network of Doordarshan and All India Radio (at selected stations), face-to-face classes held at IGNOU's study centres, assignments, laboratory work, teleconferencing, interactive radio counselling and video programmes through Gyan Darshan and EDUSAT Channels. While compulsory for laboratory-based courses, students are not compelled to attend the counselling sessions for theoretically-based courses.

BSc students must engage in compulsory laboratory components of their coursework at IGNOU's Study Centres located throughout India. Laboratory course components are typically offered to students during summer and autumn months, so that they can attend during their vacation. These courses are equivalent to two or four credits each. A typical two credit laboratory course requires students to attend full-time at the IGNOU Study Centre for a minimum duration of seven days. During this seven-day period, students typically invest 60 hrs or more to study. Of this 60-plus hours, students devote approximately 40 hours to practical experiments, while the remainder of their time is expended on calculations, preparing records, and viewing/ listening to the video and audio programmes. Unlike theoretical courses, attendance in the face-to-face laboratory courses is compulsory for all students. Experiments, which are guided by instructors and evaluated daily, comprise 70 percent of students' course weight, while an unguided assignment (i.e., term-end exam) carries 30 percent of the course weight. For theoretical courses, continuous assessment is weighted at only 30 percent, while term-end exams carry 70 percent of the course weight.

Examination of admission and registration patterns over the past six years shows that, on average, only 51.7 percent of IGNOU's BSc students enrolled go on to the second year of study; of this, approximately 71.8 percent of students will further enrol1 their third year of study (see Table 1) (Annual Reports 1998-99 to 2002-2003). After the first year, 37.1 percent of students chose to enroll in the third year of the programme. This means a large number of students (62.9 %) are not registering for the full length of the programme. This data suggests that IGNOU's BSc programme's dropout rate is very high and hence, the retention rate is unsatisfactory.

Table 1. Admission and Subsequent Registration Pattern for the Last Six Years

Year of Admission	B.Sc. First Year	B.Sc. Second Year	B.Sc. Third Year
1998-1999	2348	1322 (56.3%)	968 (73.2%)
1999-2000	2334	1208 (51.7%)	900 (74.5%)
2000-2001	3959	2008 (50.7%)	1349 (67.20%)
2001-2002	4396	2115 (48.1%)	1532(72.4%)
2002-2003	5235	2701 (51.6%)	--
2003-2004	4678	--	--

N.B.: Data in brackets indicate % re-registration in subsequent years

Literature Review

A number of ODL institutions have carried out dropout studies. Some notable studies have been undertaken by the British Open University (Ashby, 2004; Kennedy & Powell, 1976; Tresman, 2002; Woodley, 2004); Canada's Athabasca University (Powell, 1991); Korea National Open University (Shin & Kin, 1999); and Australia's Deakin University (Brown, 1996). Different models have been used by these researchers to describe the factors found to influence student achievement, course completion rates, and withdrawal, along with the relationships between variable factors. U.S. researchers have taken the lead in developing a wide range of models that attempt to explain key factors that contribute towards student withdrawal from higher education (Tinto, 1975, 1993; Bean, 1980, 1983; Bean & Metzner, 1985; Astin, 1977, 1985; Braxton, 2000). One British researcher, Woodley (2004), has also discussed the strengths and weaknesses of some important models such as Tinto's model (Tinto, 1975), Sweet's model (Sweet, 1983), and Kember's model (Kember, 1995). These models are widely used by ODL researchers to predict which students are more likely to dropout, and identify interventions aimed at decreasing student dropout rates (Bernard & Amundsen, 1989). Such theoretical approaches have limitations, however, especially when applied to different contexts and situations (Woodley, 2004; Woodley, Delange, & Tanewski, 2001; Yorke, 2004). According to Woodley (2004) most dropout research falls into one of two categories: surveys seeking to find out students' reasons for dropping out (Davies & Elias, 2003; Woodley & Parlett, 1983; Yorke, 1999), or studies that look at students' progress in relation to likely predictive variables of dropout (Johnes & Taylor, 1989). In conclusion, Woodley (2004) suggests that rather than pursuing an elusive general model of student retention, researchers should aim to conduct large-scale controlled experiments. In doing so, Woodley suggests that researchers can only then determine whether or not it is more cost-effective to increase social integration by, say, putting students in touch with each other, or to increase academic integration by improving feedback on assignments, for instance. Otherwise, Woodley cautions, we are likely to descend into a tautological situation wherein we say that lack of integration leads to student dropout and that students who drop-out are not integrated.

The most commonly cited model of dropout studies is one developed by Tinto (1975). According to Tinto's Model, withdrawal process depends on how students interact with the social and academic environment of the institution. In an ODL context, researchers tend to place more emphasis on the influence of external environment, such as student's occupation and support from their family, while the concept of social integration into an ODL institution's cultural fabric, is given less weight (Kember, 1995). Students enrolled in ODL are typically adults, attend part-time, and may be full-time jobholders who are also shouldering family responsibilities (McGivney, 2004). For such students, factors such as 'lack of time,' 'poor guidance,' 'lack of feedback on assignments,' 'time management,' 'unrealistic expectations,' and so on, all contribute to withdrawal (Garland, 1993; Ostman & Wagner, 1987). Other factors also reported include 'lack of guidance and information prior to registering and enrollment,' 'lack of support from faculty,' and difficulty 'contacting faculty' (Brown, 1996; Cookson, 1989; Pierrkeas, Xenos, Panagiiotakopoulos, & Vergidis, 2004; Tresman, 2002).

In examining and following the literature on student dropout, we developed a questionnaire designed to elicit and measure students' opinion on 20 reasons/ factors they felt as being responsible for their decision to withdraw from IGNOU's BSc programme. Emphasis was placed on three broad areas: 'the personal,' 'programme-related,' and 'student services'. Collected data was analysed using percentages.

Survey Method

A structured questionnaire was developed that consisted of 21 items. The survey sample consisted of BSc students enrolled in the 1991 and 1992 academic years. All students were required to complete the BSc programme within eight years.

Previous research has shown that in countries like Australia, Canada, the United Kingdom, and the United States, distance learners typically attend college part-time, and many never intend to complete an entire programme of study (Ashby, 2004; Grayson, 1997; Yorke, 2004). For this reason, research on student drop-out in distance education in these countries, typically focuses on individual course completion rates, rather than on whole programme completion rates. Unlike in these countries, however, IGNOU's students are registered in an entire programme of study – not piecemeal in discrete courses that may, or may not, be applied to a final degree programme as is the case elsewhere. Unlike these other countries that require students to complete pre-requisite courses prior to the next level of the programme, INGOU's BSc students have the flexibility to attempt any course related to the programme during the maximum time-period allowable.

In light of this feature of India's ODL system, we elected to start our survey in 2001-2002 for students who had originally registered in IGNOU's 1991 and 1992 academic year, and had completed their maximum period of their study (eight years). For the years 1991 and 1992, IGNOU admitted 1,224 and 1,477 students respectively. Of these combined numbers, 250 students who were found to be representative of all regions and who had not completed the BSc programme with eight years, were randomly selected. The questionnaire was administered to 250 students who dropped out after reaching various stages of the 96 credit programme (e.g., students who completed 0-30 worth of credit courses (n = 80); students who had completed 30-60 worth of credit courses (n = 80); and students who had completed greater than 60 credits (n = 90 students). The questionnaire was mailed by post in November 2001. One follow-up reminder was mailed via post, six months later. By late May 2002, a total of 68 student drop-outs (25.6%) had completed the questionnaires. As more responses are preferable, further attempts were made in late 2002 and 2003, but we were unable to elicit any further response from our pool of subjects. It is determined that such low response rates may be attributable to address changes or perhaps students were simply not willing to participate. The data collected from students was analysed using percentages.

Research Findings and Discussions

The sample comprised of 85 percent males and 15 percent females. This compares to an average ratio of 70 percent male: 30 percent female for all students registered in the last five years in all the programmes of IGNOU (Annual Reports, 1998-1999 / 2002-2003). The different ratio in terms of sex might be due to the over representation of males in random selection of the sample. Respondents were in the age group of 17-40 years. The mean age of the sample was 23.5 years. As per IGNOU's programme admission requirements, all respondents must have prior educational qualifications of 10+2 (XII standard) in Science.

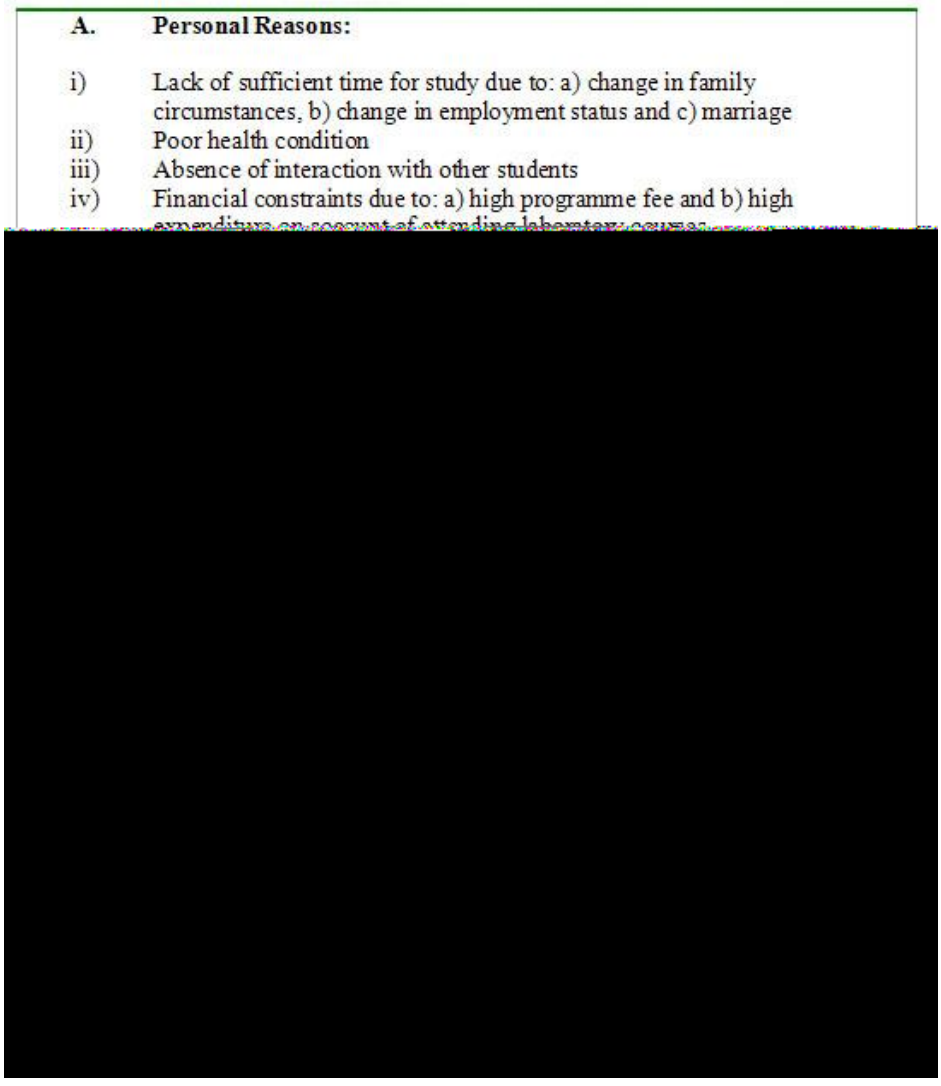
The distance of the Study Centre from the residence of learner varied from three km to 450 km, yielding a mean distance of 136.5 km. Of our sample of 68 respondents, 50 percent indicated they were married and 50 percent indicating they were unmarried. In terms of urban versus rural split, 41.18 percent indicated they were from the rural backgrounds, compared to 58.82 percent from urban backgrounds. In terms of prior education, 52.94 percent indicated they had graduated from

high school (XII pass), while 47.06 percent had earned a diploma or other qualifications in addition to completing high school (XII pass). The majority of respondents (64.71%) were employed; 35.29 percent were unemployed. Most indicated that they had resumed study of BSc after average period of 4.7 years. The total number of credits completed by students before deciding to dropout ranged from a low of eight credits to a high of 90 credits. Students had taken anywhere from one to eight years before deciding to withdraw from IGNOU's BSc Programme.

Reasons for Discontinuing

Base on a review of the literature, 20 reasons were identified for the measuring 'relative importance' of student drop out. These 20 reasons were then broadly grouped in to three basic categories: 1). personal reasons (*n* = 6 factors); 2). programme/ course related reasons (*n* = 7 factors) ; and 3). Student-support related reasons (*n* = 7 factors) (see Figure 1).

Figure 1. Categories of reasons for discontinuing BSc Programme



Personal Reasons

Personal Reasons, such as changes in status of employment or family circumstances, play an important role in determining withdrawals (Brown, 1996). Problems cited such as 'lack of time' are particularly acute, especially in cases where students are employed and/ or must shoulder domestic commitments. Such students, therefore, may not be in a position to balance their personal obligations and their educational pursuits, and are often left with little or no choice but to dropout (McGivney, 2004).

The students' responses for the factors under the category of 'personal reasons' for their withdrawal are in Table 2. Note that consideration has been given to the fact that the questionnaire allowed students to select more than one reason for withdrawal. In this survey, results regarding 'personal reasons' indicated that the main reasons students gave for withdrawal were: absence of interaction with fellow students (47.06 %), high cost of attending to laboratory work (38.24 %), lack of time due to changing family circumstances (35.29 %), followed by changes in employment status (35.29%). Other personal factors found to effect students' decision to withdraw included marriage obligations (8.82%), poor health conditions (8.82%), high programme fees (8.88%), admission to similar programme (2.94%), and admission to some professional programme (5.82%).

Table 2. Personal Reason as response for withdrawal (expressed as a percentage of total number of respondents)

	Factor	Percentage
i)	Lack of sufficient time for study due to:	
	a) Change in family circumstances	35.29
	b) Change in employment status	35.29
	c) Marriage	8.82
ii)	Poor health condition	8.82
iii)	Absence of interaction with other students	47.06
iv)	Financial constraints due to:	
	a) High programme fee	8.88
	b) High expenditures on account of attending laboratory courses	38.24
v)	Admission of B.Sc. Programme of the conventional system	2.94
vi)	Admission to some professional programme	5.88

Ostman and Wagner (1987) found 'lack of time' to be the single most commonly cited reason given by distance education students for dropping out. Similarly, Tresman (2002) suggested 'lack of time' as the most significant factor influencing students' decision to withdraw. However, as per Table 2, along with 'lack of time,' other significant factors leading to students' decision to withdraw include 'absence of interaction with fellow students' and 'financial problems because of the laboratory courses.' In conventional university settings, students are brought together to interact face-to-face on various activities such as classes, seminars, group activities, etc. Such opportunities in ODL settings are very limited, however. In IGNOU's BSc programme, students interact with fellow students at their regional Study Centre during face-to-face classes and

laboratory sessions. On the other hand, few students attend face-to-face theory classes, as attendance is not compulsory. Because of this, students feel isolated and decide to dropout (Utley, 2002). The IGNOU feedback survey reported here, however, found that students who had taken Biochemistry as their chemistry elective, cited two major reasons for not attending their scheduled classroom sessions: 'lack of information regarding schedules of classroom sessions from the university' and 'the distance of the Study Centre from their residence.' Forming local study groups or circles and providing timely information regarding any face-to-face sessions could thus help mitigate students' feelings of isolation.

'Costs associated with attending laboratory courses' was the second highest personal reason for withdrawal. Laboratory courses, however, are difficult to offer – if not impossible – in alternative modes of study. BSc laboratory courses are intensive programmes of study that take place over one to two weeks' duration at local study centres. Attendance in laboratory courses is compulsory. If the student does not live in the same city as the study centre, the cost of staying for a week or more is often very difficult, and in some cases impossible, for students to bear. This problem was cited as 'very acute' among students surveyed and who were registered in IGNOU in 1991 and 1992; at that time, however, IGNOU only had 32 study centres. Today, IGNOU's BSc programme is now offered at 152 study centres, and increases in expansion will likely address the problem of 'proximate access' to a much greater extent.

Programme/ Course Related Reasons

Programme/ course related issues like 'workload' and 'difficulty' are the issues that might compel ODL students to withdraw. These issues become much more critical when science programmes like IGNOU's BSc is on offer, as many courses within the larger programme of study deal with difficult concepts. To maintain high academic standards and quality, course syllabi can be difficult to master. For example, previous research examining students' experiences of one physics course revealed that they spent more time studying the course materials than they expected (Garg, Vijayshri & Panda, 1992).

Table 3. Programme/ Course related reasons as response for withdrawal (expressed as a percentage of total number of respondents)

S. No.	Reasons	Percentage
(i)	Difficulty in learning science through distance mode on account of concepts of high difficulty level	47.06
(ii)	Expectatic[redacted]	[redacted]
(iii)	[redacted]	[redacted]

In terms of the factor of programme/ course, students indicated their reasons for withdrawal were: 1). the programme contained too much material and was thus too time consuming (55.88 %); 2). difficulty of learning science via distance (47.06 %); and 3). difficulty in completing the term-end examination paper or test (47.06 %). Other factors like 'difficulty in doing assignments' (35.21

%); 'the student's expectations of the programme as not being' (23.53 %); and 'unavailability of the programme in the student's mother tongue' (5.88 %) were also cited as reasons for withdrawal (see Table 3). These findings are supported by an OUUK end-of-course survey conducted in November 2002; in this survey, the most common reason cited by students leading to their withdrawal was 'workload'. Students indicated that they fell behind with the course work. Over 50 percent of students in this British survey indicated that they spent more time studying than expected (Ashby, 2004). In light of this previous research and data from our survey, it becomes very clear that IGNOU's BSc course contents and workload must be rigorous, but not to the point of overwhelming students. Further, the faculty must provide workload maps/ detailed schedules to help students to manage their time more effectively.

The second important issue in this category is 'studying science via distance education.' IGNOU provides information about the courses and specialized distance delivery of the programme. Understanding students' – often unrealistic or misguided – perceptions about ODL and the effort it takes to be a successful student is central to IGNOU's communication strategy. As such, IGNOU's goal is to inform and fine-tune students' expectations about the realities of studying at a distance using programme brochures both prior to and during their studies via the course website, face-to-face academic counselling at the study centres prior to, and at the beginning of the programme.

Difficulty in term-end examination paper was third important reason of this category for withdrawal. This problem could be because students were appearing for term-end examination without much preparation. To tackle this, students should be advised to attend counselling sessions regularly and student should do assignments before appearing in the term-end examination. These steps will help the students in their preparation for the term-end examinations and may improve their retention in the system. Some researcher suggested that supplement tutoring could also provide similar and enhanced benefits (Castles, 2004; McCracken, 2004).

Student Support Related Reasons

To provide effective student support, IGNOU has established study centres all over the country. Students are assigned to one study centre based on their place of residence or work. Study centres provide students with: 1). course-specific academic counselling; 2). audio-listening, video-viewing, and tele-conferencing facilities; 3). library facility; 4). submission and evaluation of assignments; 5). information services; 6). laboratories for conducting experiments; 7). final, term-end examinations. Activities of the Study Centres are monitored through IGNOU's Regional Centres. Student support services have a very important and vital role to play in helping students successfully complete their programmes of study (Peach, 2005). Counsellors at a IGNOU Study Centre shoulder the responsibility of providing timely and quality feedback to students via written evaluations or verbal comments on assignments, and overseeing students' lab work. Clearly, ongoing feedback forms a crucial and critical link between teacher and student learning outcomes in distance education contexts. Feedback along with face–to-face counselling by teachers is considered to be an important component that can positively influence on bottom-line student retention. These activities overcome students' sense of distance, a factor that may challenge and isolate students.

The survey results indicated that the major reasons leading to students decision to withdraw were the distance of study centre from their residence (64.70%) and insufficient academic support from the study centre (58.82%). This finding proves that many students were not getting full benefits of student support services provided by IGNOU. Students reported that they encountered

problems in attending the laboratory sessions due to distance (52.94 %). Overall reasons regarding student support were given in Table 4.

Table 4. Student support related reasons as response for withdrawal (expressed as a percentage of total number of respondents)

S. No.	Reasons	Percentage of responses
(i)	Insufficient academic support from study centre	58.82
(ii)	Study Centre too far from residence	64.70
(iii)	Insufficient counselling sessions	47.06
(iv)	Difficulty in attending lab sessions due to following reason(s):	
	a) Personal	5.88
	b) Family	2.94
	c) Employment	38.24
	d) Distance	52.94
(v)	Lack of proper intimation regarding theory and lab counselling sessions	29.41
(vi)	Lack of responses from	
	a) Study Centre	47.06
	b) Regional Centre	20.59
	c) Head Quarters	35.29
(vii)	Non receipt of :	
	a) Course material	38.23
	b) Assignment	35.29
	c) Other relevant information	41.17

Other reasons students cited as leading to their decision to withdraw are: insufficient counselling sessions (47.06 %); lack of responsiveness from study centre (47.06 %); and difficulty in attending laboratory session because of employment (38.24 %).

For students enrolled in IGNOU's BSc programme, distance from the study centres seems to be a crucial issue. As reported earlier, the mean distance of the study centre from the residence of student is 136.5 km. This indicates that for students to benefit from the facilities and services provided by IGNOU -- even for basic information -- many must travel considerable distances to reach their nearest Study Centre. This factor becomes more critical, especially for women students (Hramiak, 2002). Most of IGNOU's students are employed (64.71%), and therefore they face considerable time constraints. Clearly, a long commute would only serve to exacerbate this situation. In fact, some students, even after they have earned many credits towards their degree, elect to dropout rather than endure more travel and costs associated with travel.

Possible explanations for high responses for the factor (i), (iii) and (vi a) outlined in Table 4, are that students are enrolling in IGNOU programmes after an average gap of 4.7 years between their prior education and enrolling in IGNOU; as such, these students are informed by their prior experiences in the formal educational system and thus have little familiarity with the demands of studying via ODL. Such students discover, often to their dismay, that they are not receiving same amount of support as they were accustom to receiving in their previous face-to-face learning environments. This finding is supported by earlier research by McGivney (2004). In IGNOU's BSc programme's instance, 47.06 percent of respondents cited 'insufficient counselling sessions.'

Science courses, however, generally demand high perseverance on the part of students, and therefore they typically need much more guidance and counselling.

Summary

From this study, nine main reasons for withdrawal have been identified. These nine main reasons comprised 45 percent of the responses received. They are listed below in decreasing order:

1. Study Centre too far from residence (64.70 %)
2. Insufficient academic support from study centre (58.82 %)
3. Programme was too time consuming to study all the courses (55.88 %)
4. Difficulty in attending lab sessions due to distance (52.94 %)
5. Absence of interaction with other students (47.06 %)
6. Difficulty to study science through distance (47.06 %)
7. Difficulty in term-end examination paper (47.06 %)
8. Insufficient counselling sessions (47.06 %)
9. Lack of responsiveness from Study Centre (47.06 %)

Conclusion

This study suggests that out of the top nine reasons cited by students for their withdrawal, three factors (1, 4, and 5) involved distance, specifically the distance students must travel to their closest Study Centre. Because of this distance, students find it very difficult to obtain student support system available at their local IGNOU Study Centre. Indeed, this is the often the only place where students can interact with fellow students, take part in face-to face counselling sessions, and generally be acculturated into IGNOU. Being not able to come to the study centres to attend various counselling sessions, such students indicated they felt isolated and thus triggered their decision to withdraw from IGNOU's BSc programme. By increasing the number of study centres throughout India, and providing information in advance about upcoming counselling sessions, help students to anticipate problems related to travel and time management. Factors 2 and 9 could be addressed by proper monitoring to improve the management of the larger Study Centre network. As Woodley and colleagues (2001) point out, ODL is dependant on effective management. As such, effective management becomes doubly important for universities like IGNOU, where student enrollments currently stand at more than 1.4 million students, registered at 1,500 Study Centres located across India, and even abroad. In this, our era of market economies and increasing globalization – where students are our bridge to a brighter, more prosperous and stable future – we cannot afford to leave them behind. Students are major stakeholders in the ODL equation, so we need to provide the best services and student support to help students succeed.

The BSc programme related-problems, such as content and workload, could be best tackled through provision of more systematic information, study guides, encouraging motivation at

different levels of their study via the establishment of study goals, and supplemental counselling, particularly for difficult courses.

IGNOU's dropout rate among BSc students can be further reduced by providing better student support at the study centres, by increasing the number of study centres available to students, providing programme-related information on a timely basis, by strengthening the study guide, and by setting and suggesting study goals. Below are some suggestions, which emerged out of the survey analysis, and which aim to decrease student dropout rates at IGNOU's BSc programme:

Science faculty must play a proactive role. Faculty should be in contact with students through email, postal mail, the EDUSAT network, etc. Faculty must consistently seek feedback from students, assess students' performance, and address programme-related problems promptly. Doing so, will help increase students' sense of belonging to their local Study Centre, to the larger institution, and more importantly, to themselves as students. Such actions will clearly work to decrease students' sense of isolation.

Counsellors must provide timely feedback on students' academic performance via their assignments. Timely feedback and assessment will not only motivate students' but also prepare them for their term-end, final exam.

Students must have a clear idea about the course content and workload requirement. As such, in-depth and comprehensive information about the BSc programme must be made available to students before they enroll.

IGNOU must work to improve and widen the scope of their student support system, so that students can obtain full benefit of the counselling sessions available, and can participate in peer group interactions needed to help allay students' feelings of isolation and build sense of community. Intensive orientation of the academic counsellors should also be undertaken from time to time so that they can effectively transact the BSc programme.

Course materials and information describing and outlining laboratory courses and other course related information, should also reach the student well before they commence their course work.

Students' successful completion of the BSC programme is not only in the best interest of the institution, but also in the best interests of the students. Non-completion not only can lead to financial loss to both the students and the institution, at times it can lead to psychological distress. Some fragile students may feel they have personally failed, when in reality it is the system that may have failed them. Dropout studies, such as that reported here, help to inform the design of effective information and course materials, laboratory components, and overall implementation of the programme. Such studies can also help inform the design of interventions that anticipate stages that students tend to drop-out, and pre-empt such decisions (Simpson, 2004).

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