THE SUPPORT SYSTEM IN DISTANCE EDUCATION:
Factors Affecting Achievements Among Women Learners

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ABSTRACT

Distance education has the potential to contribute to the enhancement of women's development by overcoming not only temporal and spatial barriers but familial commitments as well. It brings education to their home and allows women to learn at their individual pace, seek skills for individual development and at the same time, enables them to fulfill family responsibilities. An important element of distance education is the provision of the learner support system that provides students the access to learning resources and means of communication that would facilitate the array of educational activities and exposure to various other guidance and advisories.

This paper reports on the study undertaken to elucidate the dimensions of the support system provided by the School of Distance Education (SDE), Universiti Sains Malaysia (USM) to its women learners that would have significant impact on their achievements. The factorial analysis conducted revealed that the role of the faculty is the main contributing factor affecting these achievements, followed by the provision of the intensive course, the electronic portal, video conferencing and to a much lesser extent, the existence of the regional centres. The implications of this study are discussed with the view of improving the support system provided by the institution and the need to put into action the necessary strategies to further improve the achievement of the women learners.

Keywords: Distance education, women learners, Universiti Sains Malaysia, factorial analysis, video conferencing, the support system.

INTRODUCTION

In general, women have various constraints and disabilities compared to men in terms of time, space and resources. The advent of open and distance learning (ODL), however, has widened the opportunities for women and has helped to make education and training more accessible to them as they can now study within their homes. It allows them to study at their individual pace and seek and acquire skills for individual development while at the same time, it enables them to fulfill family responsibilities (Brunner, 1991).

Open and distance learning involves the provision of a support system by the institution to fulfill the possible range of needs presented by distance education learners and ensures the ready access to adequate learning resources and services that can stimulate the mind as well as encourage the total growth and development of the students (Sewart, 1993; Simpson, 2000; Tait 2000). Simpson (2000) defined a learner support system as all activities beyond the production and delivery of course materials that assist in the progress of students in their studies. These include the academic support which deals with supporting students with the cognitive, intellectual and knowledge issues of specific

35

courses or sets of courses. There is also the support of students in the effective and organisational aspects of their studies.

A vital ingredient in the support system is that the students have ready access to learning resources and means of communication that not only facilitate the array of educational activities but also provide the broad exposure to various other guidance and advisories (Phillips et al., 1998).

The support system is imperative in order to facilitate the learning needs of women distance learners, more so because of their distinct characteristics. The majority of them spend most of their time at home and are isolated. They also come from diverse backgrounds, economically, socially and educationally and inevitably, possess a multitude of family and household responsibilities. The support system provided must therefore take into account women's requirements that can minimise the negative effects of isolation and the lack of regular personal contact. Besides that, the support system must enable them to resolve any gender-related learning and administrative problems that may arise. The support system must also be accessible to all students once the access is gained to ensure equalities in the learning outcomes regardless of gender (Hipp, 1997).

The importance of the support system in relation to the achievement among women distance learners has been of considerable interest (Hipp, 1997; Burge, 1988; Faith, 1988; Kirkup & Von Prummer, 1990; Burge & Lenskyi, 1990, Taplin & Jegede, 2001). Kirkup & Prummer (1990) revealed that women distance learners demonstrate a much stronger desire for connection with others during the course of their studies. They overcome a variety of practical difficulties in order to spend time with other students and engage in shared learning. This finding is supported by Hipp (1997) who found that women learners are most satisfied with their learning when a high degree of connected teaching is apparent and when there is an opportunity for reflection and critical thinking. The women learners also achieve meaningful learning when they can overcome the isolation and share their learning experiences through interaction and collaboration with peers and faculty. The communication between peers and faculty enables them to establish a strong identity within the university culture and helps them to acknowledge their role as a student (Hipp, 1977). Hipp (1997) further added that for a variety of reasons including schooling and personal experiences and societal mores, many women distance learners exhibit an extreme lack of confidence when returning to tertiary studies. The faculty was found to be effective in establishing and enhancing these students' confidence by providing positive encouragement and constructive feedback on their work (Hipp, 1997). The study by Taplin & Jegede (2001) revealed gender differences in factors that contribute to successful achievements in distance education and these include the areas of organisation and the use of study materials, confidence about studies and independent versus collaborative studies. They suggested the provision of different but appropriate support systems for women and men distance learners.
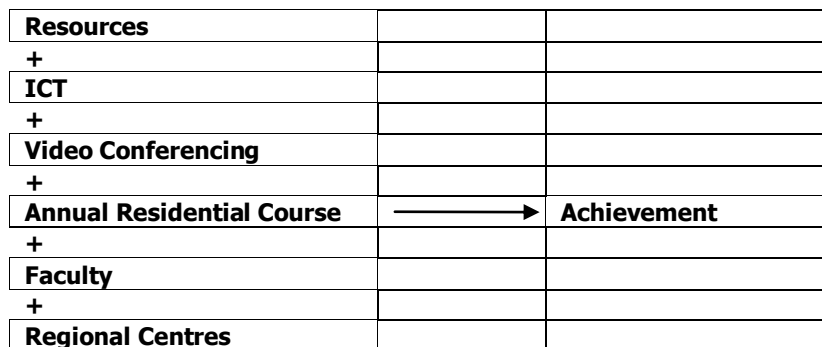
The focus of this study is on the academic support services, which are basically a cognitive function of the support system, and their effects on the achievements of women distance education learners. These services include the annual residential intensive course (a three-week compulsory on-campus residential school), the video conferencing sessions, the access to information and communications technology (ICT) usage for computer mediated communication and linkage to Web resources, and the academic services provided by the 12 regional centres located throughout Malaysia (which include facilities for group studies and a mini-library) and the role of the lecturer/course manager in course facilitation.Many studies have been conducted to investigate how these support services benefit the students academically. Studies on the effects of tutorial services (Amundsen & Bernard, 1989; Naylor et al., 1990; Morgan & Morris, 1994; Stevenson & Sander, 1998), video conferencing sessions (Robson, 1996; Konx, 1997; Daud et al.,

36

2000) and the use of ICT (Zhang 1998; Navarro & Shoemaker, 2000) vis-a-vis the students' achievements have shown that such services result in positive learning outcomes.

However, how and to what extent these services affect women distance education learners are not fully understood.

The importance of the regional centres (Kember & Dekkers, 1987; Cole & Coats, 1989) and the role of the faculty members (Olcott & Wright, 1995) in the students' academic achievements have also been investigated. Kember & Dekker (1987), for instance, suggested that the regional centres are a valuable academic support which facilitates remediation problems with study materials through the provision of tutorials by lecturers, study group meetings and resources such as the library, the computer centre and the accessibility to audio-visual materials and equipment. Kirkup & Prummer (1990) revealed that women distance education learners register a higher attending rate to the regional centres than men despite various obstacles such as transport-related difficulties, work pressure and commitments faced by them.

The role of the faculty as an academic support is also essential as it plays a key role in interpreting the meaning of a course and resolving difficulties through collaborative activities. The faculty has the expertise that provides the access to quality instructional materials, thus ensuring a high level of learnability that leads to the improvement of learning among distance education learners (Olcott & Wright, 1995). Hipp (1997) and Kirkup & Prummer (1990) stressed the importance of the faculty in facilitating learning among women distance education learners. The faculty has a role to play in enhancing self-confidence, overcoming the sense of isolation and helping the students to establish a sense of belonging to the university.

Resources		
+		
ICT		
+		
Video Conferencing		
+		
Annual Residential Course	⟶	Achievement
+		
Faculty		
+		
Regional Centres		

Figure: 1
The proposed model of the learner support system that
influences women students' achievements

Based on the above literature review, this study proposes six contributing factors, namely, the resources, ICT, video conferencing, the annual residential intensive course and faculty and regional centres as factors that contribute to the academic achievement of the women learners in distance education. The proposed model of the learner support system that influences achievements is depicted in Figure: 1. This study investigates the extent of the contribution of each of the proposed factors in affecting the achievements of women learners. The degree of contribution of each factor will provide useful information to institutions offering distance education and these institutions would accordingly be able to take the appropriate steps to ensure that such factors are given emphasis and priority during the process of planning and development. The institutions could also ensure the necessary improvement of the academic support services to

37

appropriately meet the important needs of women learners. Enhancing and improving these vital services would not only help to improve the women learners' academic achievements but at the same time, also help to increase their knowledge retention, reduce the attrition rate and the sense of isolation as well as improve the sense of institutional belonging among them.

METHODOLOGY

Based on the above model, structured research was designed to look into factors influencing or affecting the women learners' achievements. The operation towards this model involved developing the relevant statements under each of the six categories proposed by the model. The category and the corresponding number of the statements under each category are depicted in Table: 1. All the expected six factors consisted of a total of 40 items and these items were randomly built into the questionnaire with no obvious separation between categories.

Table: 1
Categories of the support system and number of items

Category	Number of Items
Resources	5
ICT	5
Video Conferencing	11
Annual Residential Course	6
Faculty	7
Regional Centres	6
TOTAL	40

The questionnaires were administered to 374 second, third and final year women students enrolled in the arts and science academic courses at the School of Distance Education, Universiti Sains Malaysia (USM) during the annual residential three-week intensive course for the 2003/2004 academic session.

A total of 145 questionnaires were returned representing a rate of return of 38.8%. From the 145 women students returning the questionnaire, 79.4% (115) of them were high achieving students who had obtained a CGPA of 3.00 and higher in the previous academic session's final examination.

The other 20.6% (30) were the low achieving students who had performed poorly in the examination with a CGPA of 2.00 or lower. The analysis was taken only from data of the high achieving students so the results reflect the factors contributing to the achievement as perceived by them.

Factorial analysis utilizing the principal components was chosen based on the assumption that the factors involved in the analysis were not correlated with each other. Based on this assumption, the orthogonal factor approach was chosen. Kaiser's Criteria were used to maintain the eigen values higher than 1.0.

RESULTS AND DISCUSSION

The analysis of the respondents' demographic details revealed that their ages ranged from 31 to 45 years old. The distances to the nearest regional centre were primarily in the range of 0-40 km (59.8%). Most of the students (94.4%) had a computer at home with 68.7% of them possessing Internet connectivity.

38

A total of 68.4% among them were married and the majorities (48.7%) have 1-3 children. Most of them (42.6%) spent a total of 6-10 hours a week on their studies.The exploratory factorial analysis was used to determine the factors affecting the achievement of women learners enrolled in distance education.

The items in the questionnaire were analysed in the factorial fashion which was based on the component principle with a varimax rotation. The analysis yielded six main factors with eigen values greater than 1.0 as shown in Table: 2.

Table: 2
Factorial analysis of items in the questionnaire

Factor	Eigen value	% Variance	% Cumulative
1	4.243	10.607	10.607
2	4.118	10.295	20.902
3	4.071	10.177	31.079
4	3.691	9.227	40.306
5	2.734	6.835	47.141
6	2.632	6.581	53.722

Table: 2 shows that the results of the exploratory factorial analysis yielded six factors which explained 53.7% of the variance, a sufficient value for social science studies with these six factors being consistent with the number of categories as proposed in Figure: 1

The matrix form of the responses after the varimax rotation is shown in Table: 3. In Table: 3, the measure of the internal consistency evaluated based on the composite reliability technique is shown. A high value of Cronbach Alpha was achieved for each factor indicating the multi-dimensional characteristics of the data. Items with high loading factor of greater than 0.40 are shown in the table.

Table: 3 also shows that Factor 1 explains the highest variance at the percentage of 10.6% with 7 items including *Faculty readily provide assistance, I received responses from the faculty, The responses form the faculty help me in my assignment, The faculty is readily accessible*, etc. as shown in the various activities involving the faculty emerged through these items. Thus it is evident that the high achieving women distance learners regarded the faculty as the main contributory factor in their learning activities leading to their achievements.

The role of faculty in enhancing meaningful learning among women distance learners is well documented (Hipp, 1977; Kirkup & Von Prummer, 1990, Taplin & Jegede, 2001). Connected and collaborative learning with the faculty appears to fit many women students' learning needs.

Examples of such learning are from the feedback and constructive comments the students received on assignments, video conferencing, online forum board communication, e-mails and face-to-face tutorials and personal coaching and facilitation they received during the annual intensive course.

39

for high							

Through these collaborative activities, the faculty facilitates women learners via the interpretation and meaning of a course and resolves difficulties through collaborative activities.

The collaborative activities with the faculty also enhance the self-confidence and self-esteem of the women distance learners so that they can find a stronger voice in their studies.

They can begin to do more than simply give what the faculty wants and start integrating their own knowledge with what the faculty and peers are saying and writing. In this way, their learning becomes more insightful, challenging and rewarding (Hipp, 1977).

40

achieving women distance learners No	Item	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Cronbach Alpha
1	lecturers are willing to help me in my studies	.845						
2	I obtain feedback from lecturers when I contact them.	.843						
3	The lecturers' feedback on the assignments helps mein my studies.	.741						.8921
4	The lecturers are easily contacted.	.687						
5	The lecturers are considerate about my status as an adult.	.677						
6	The lecturers advise me when problems arise in my studies.	.658						
7	I regularly make contact with lecturers to help me in my studies.	.409						
8	The intensive course improves my understanding of the study materials.		.816					
9	The face-to-face tutorials during the intensive course help me in my studies.		.801					
10	The intensive course facilitates understanding of the study materials.		.797					.8755
11	The lecturers help me in my studies during the intensive course.		.790					
12	I have discussions with my course mates during the intensive course.		.780					
13	I use the library duringthe intensive course.		.538					
14	I look for information relevant to my course through the Internet.			.881				
15	The information in the Internet helps me in my studies.			.825				
16	I use e-mail to contact my lecturers.			.787				.8515
17	The materials from the Internet help me in my studies.			.752				
18	I use the Internet to have discussions with my friends regarding our studies.			.608				
19	I use the computer to complete my assignments and reports.			.541				
20	I revise the materials discussed during the video conferences for exams and tests.				.839			
21	I note all the materials discussed during the video conferences.				.764			
22	I put emphasis on materials discussed during video conferences when revising.				.746			.8403
23	I pay full attention to lessons during the video conference sessions.				.709			
24	I attend all the scheduled video conference sessions.				.618			
25	The materials discussed during the video conferences help me in the exams and tests.				.402			
26	I read and prepare before attending the video conferences.					.774		
27	I make preparations as stipulated in the agenda before attending the video conferences.					.774		.7554
28	I actively take part in the discussions during video conferences.					.659		
29	I frequently make contact with the lecturers to help me in my studies.					.460		
30	I use the facilities at the regional centre's mini library.						.732	
31	I use the multimedia materials available at the regional centre.						.665	
32	I know who my resident tutor at my regional centre is.						.635	.7878
33	Past years' tests and examination questions available at the regional centre help me in my studies.						.633	
34	I use the regional centre as a venue to have discussions with my friends.						.476	

41

Factor 2 which explains 10.3% of the variance can be categorised as an annual residential intensive course. All of the items in this category such as *The intensive course enhances my understanding of the course content, The face-to-face tutorials during the intensive course help my learning, The faculty helps my learning during the intensive course, I discuss issues with peers during the intensive course* relate to the activities carried out during such a course. The annual residential intensive course consists mainly of face-to-face tutorial sessions with the lecturer for course content facilitation. Personal face-to-face academic assistance outside the classroom tutorials is also provided by the lecturer to mediate problems related to the course contents. Students also have the opportunity to form study groups for the purpose of collaborative discussions and the exchange of learning experiences. All these activities are perceived important by the women distance education students in enhancing their academic performances. The intensive course also provides a platform for women learners to overcome their sense of isolation, and assist them where socialising issues are concerned through sharing their experience with peers; it also creates a sense of belonging to the institution.

Factor 3 that explains 10.2% of the variance can be categorised as ICT. All the items in this category such as *I find information relevant to my course in the Internet, The information in the Internet helps me in my studies, I use the e-mail to communicate with the faculty, The materials in the Internet help me in my studies, I use Internet to discuss issues regarding the course with my peers* are all related to the usage of ICT in their learning. Universiti Sains Malaysia has made available the electronic portal that allows not only the posting of the regular course announcements but also retrieval of course-related information and resources. And most importantly, the portal also allows the asynchronous communication between student and peers and student and faculty to facilitate learning. It is evident from this finding that the women high achievers utilised this technologically advanced support service to assist them in their learning and that the usage of the electronic portal has some significant bearing on their achievements.

Factor 4 and Factor 5 that explain 9.2% and 6.8% of the variance respectively can be categorised as video conferencing. Out of 10 items in these two categories, all items except one relate to the video conferencing activities. Factor 6 which explains 6.6% of the variance could be categorized as the regional centre. All the items in Factor 6 relate to the activities at the regional centres.

The factorial analysis as depicted in Table 3 reveals that the various items can be categorized into six categories but upon detailed analysis of the items, only five factors emerged and these are the faculty, the intensive course and ICT with an almost equal percentage variance between them. The last two, with a lower percentage variance each, are the video conferencing and the regional centres. One cannot draw hard and fast conclusions from the findings of this study but the analysis does show some distinct patterns regarding the factors that effect the achievement of women distance learners and they provide insight into their needs which have to be resolved in order to enable them to succeed.

CONCLUSION and SUMMARY

This study on the dimensions of the support system provided by the School of Distance Education (SDE), Universiti Sains Malaysia (USM) to its women learners reveals that the role played by the faculty, the provision of the intensive course, the electronic portal, video conferencing and to a much lesser extent, the role played by regional centres, affect their achievements. However, in order to ascertain the support that is appropriate to resolve their needs, one has to know more about their experiences in education and learning, self-image, personal changes as well as the perceived catalyst for change and impediments to growth. There is a need to be consistent in the approach taken by the

institution to its women distance education learners so that it is not simply left to chance whether or not the support is available to them.

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REFERENCES

Amundsen, C.L. & Bernard, R.M. (1989). Institutional support for peer contact in distance education: an empirical investigation. *Distance Education*, 10(1), 7-27.

Brunner, C. (1991). Gender and distance learning. *The Annals of American Academy*, 514, 113-145.

Burge, E. (1988). Forward. In K. Faith. (Ed.). *Toward New Horizons for Women in Distance Education: International Perspectives*. UK: Routledge, Chapman and Hall
Burge, E. & Lenskyi, H. (1990). Women studying in distance education: issues and principles. *Journal of Distance Education*, 5(1), 20-37.

Cole, S.& Coats, M. (1989). The role of regions in the Open Univeristy. *Open Learning*, 4(1), 27-32.

Daud, S.M., Hashim, Y. & Saleh, M. N. (2000). Factors influencing the effectiveness of teaching and learning through the video conferencing in distance education (in Malay). *Malaysian Journal of Distance Education*, 2(1), 67-90.

Faith, K. (1988). Gender as an issue in distance education. *Journal of Distance Education*, 13(1), 75-79.

Hipp (1997). Women study at a distance: What do they need to succeed? *Open Learning*, 12(2), 41-49.

Kember, D. & Dekkers, J. (1987). The role of study centers for academic support in distance education. *Distance Education*, 8(1), 4-17.

Kirkup, G. &Von Prummer, C. (1990). Support and connectedness: the needs of women distance education students. *Journal of Distance Education*, 5(2), 9-31.

Knox, D. M. (1997). A review of the use of video conferencing for actuarial education – a three-year case study. *Distance Education*, 18(2), 225-235.
Navarro, P. & Shoemaker, J. (2000). Performance and perceptions of distance learners in cyberspace. *The American Journal of Distance Education*, 14(2), 15- 35.

Naylor, P., Cowie, H. & Stevenson, K. (1990). Using student and tutor perspectives in the development of open tutoring. *Open Learning*, 5(1), 9-18.

Morgan, C.& Morris, G. (1994). The student view of tutorial support: report of a survey of Open University Education students. *Open Learning*, 9(1), 22-33.

43

Olcott, D. & Wright, S.J. (1995). An institutional support framework for increasing faculty participation in postsecondary distance education. *The American Journal of Distance Education*, 9(3), 5-17.

Phillips, M., Scott, P. & Fage, J. (1998). Towards a strategy for the use of new technology in students' guidance and support. *Open Learning*, 13(2), 52-58.

Robson, J. (1996). The effectiveness of teleconferencing in fostering interaction in distance education. *Distance Education*, 17(2), 304-324.

Sewart, D. (1993). Student support system in distance education. *Open Learning*, 8(3), 3-12.

Simpson, O. (2000). *Supporting Students in Open and Distance Learning*. London: Kogan Page.

Stevenson, K. & Sander, P. (1998). How do Open University students expect to be taught at tutorials? *Open Learning*, 13(2), 42-46.

Taplin, M & Jegede, O. (2001). Gender differences in factors influencing achievement of distance education students. *Open Learning*, 16(2), 133-154.

Tait, A. (2000). Planning student support for open and distance learning. *Open Learning*, 15(3), 287-299.

Zhang, P. (1998). A case study on technology use in distance learning. *Journal of Research on Computing in Education*, 30(4), 398-419.