Online Community and Its Impact on E-Learners' Commitment To Stay in their Programmes

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Abstract: Attrition rate has been found to be higher in non traditional universities compared to traditional universities. Feeling of isolation has been identified as one of the key factors that cause attrition. Thus many universities developed the Learning Management System (LMS) to increase contact hours for their learners as well as providing learning support. This tool if managed well can silently trigger the creation of an Online Community and engage learners, tutors and management staff. This paper focuses on the impact of Online Community on learners Commitment to stay in their programmes. Data analysis on 1,116 respondents from Open University Malaysia found that there was a strong correlation between the Sense of Community, Satisfaction, Motivation and their Commitment to stay in their programmes. Sense of Community, Satisfaction and Motivation explains 68 percent of their Commitment to stay.

Introduction

Open University Malaysia (OUM), Malaysia's first open and distance learning (ODL) institution started its operation in 2001. Today it has grown by the leaps and bounds and has emerged as the largest private university in Malaysia with enrolment exceeding 85,000 students, with more than half taking undergraduate programmes (Latifah, Sungri & Ramli 2009). As an ODL institution it is also faced with attrition problems. Many efforts have been taken to address these problems in order to ensure that it achieves its target of becoming a mega university by 2010. OUM has spent millions of ringgit to set up its state-of-the-art Learning Management System (LMS) to support learning by providing its learners a platform to communicate with each other, with their lecturers and the management staff. The LMS also provides access to online modules and abundant of e-books and journals.

OUM is also actively looking into ways to manage the factors that have contributed to attrition. Among the efforts include a) making it compulsory for new students to attend the Learning Skills workshop, b) conduct pre-tutorial mathematics workshop for students taking mathematics subjects, c) organise exam workshops for students before they sit for their final exams, d) set up the Math Resource Centre to help provide its learners with various resources to improve their Math, e) introduce Collaborative Online Learning (COL) and most recently, f) introduce mobile learning to alert its learners with new information available in the online discussion forum.

Apart from mobile learning, the usage of Web 2.0 and social network tools such as Facebook, Blogs, YouTube and Twitter has also been adopted by OUM to engage its learners. According to Figallo (1998), the interactive community component can win loyalty and 'fanhood' and even attract new learners if company's expertise and personality are extended into the Web.

The Centre of Student Management (CSM) of OUM has also taken proactive approach by setting up the Learners Services Centre and CRM Management tracking system to assist learners with administrative and personal problems. It has also set up the Counselling Unit to provide counselling and help organise activities to assist students who are classified as At-Risk (those with Cumulative Grade Point Average or CGPA below 2.0). According Latifah, Sungri and Ramli (2009), OUM has an attrition rate of 12.5 percent calculated on a semester to semester basis. The cumulative attrition rate as at 2009 involving all courses is 42.5 percent. This means that OUM has a retention rate of 57.5 percent.

Other retention efforts being taken by OUM include providing quality education, quality support services, quality infrastructure and quality technology (Latifah & Mansor 2007). But having good quality technology does not guarantee success in retention efforts if it is not managed well. The LMS system can provide a means for

learners to communicate with other learners, the faculty members and management staff through the use of Online Discussion Forum, Email, LMS Announcement System, E-Customer Management, E-Services and Online Community.

Problem Statement

Researches carried out earlier have shown that the attrition rate is higher among distance learners compared to learners from traditional universities (Martinez & Bunderson 2001). According to Angelino, Williams and Natvig (2007), attrition rates among non-traditional learners are generally higher by between 10 to 20 percent compared with traditional universities. They however noted that there is no concrete evidence to prove these figures. Among the reasons for attrition include learning styles, demography, student integration and engagement, learning communities and online student services. One common factor is the feeling of isolation because distance learners generally have very minimum contact hours with their faculty members and also with fellow course mates. Distance learners are usually working adults who also face other problems such as lack of time and financial support. Some may find it difficult to cope with their studies due to other challenges include problems with their families or workplace.

As a result, learning providers are looking at LMS as an alternative to bring learners and faculty members closer by reducing the barriers of space and time at their convenience. However, such arrangement may back fire if it is not managed effectively. Learners who lack understanding about the purpose of the system will see the system more of a barrier than bringing benefits to them. Some may find more obstacles and may not be able to cope with it causing them to drop out of their programmes midway. Tutors and staff who are not familiar or have minimum ICT skills may not be effective in engaging learners.

The remoteness due to the distance learning mode has resulted in learners ever wanting to interact with each other (Brigham 1998). According to Reisman (2003) and Fong et al. (2005), learners who feel isolated will most probably dropout of their programmes. An online community can help bring these learners, tutors and staff together and get them engaged to the system if it is managed effectively.

The problem with most online learning providers is that the LMS has not been fully utilised as a tool to build online communities to engage their learners, tutors and staff, which can help reduce isolation and increase retention. Some providers may not see it necessary and important to have an online community. A useful and expensive tool such as LMS, besides providing learning support to learners, can also be used to create an online community through interaction between learners and learners, learners and lecturers and learners with management staff. According to Kollock (1999), people are motivated to participate in the online community because of three reasons; anticipated reciprocity, increased recognition and sense of efficacy. With proper support from the top management through organization integration, lecturers in particular, can help trigger participation and engagement of learners so that learners are motivated to participate to form an online community.

Objective of the Paper

The objective of this paper was to investigate the impact of online community on learners' Sense of Community, Satisfaction, Motivation and Commitment to stay in their programmes. The research is based on the assumption that learners who used the LMS to receive learning support will form an Online Community over a period of time. OUM was chosen for the research setting as it has one of the most well developed LMS systems and its attrition rate is lower than the average attrition rate of non-traditional universities. The findings of this research can help the booming non-traditional universities to increase retention using online community.

Literature Review

Earlier researches suggested that distance learners often felt isolated and wanted to interact with other learners (Reisman 2003). When learners feel isolated, they are unable to optimise their learning experience (Richardson & Hansen 2002). There are many who dropped out as a result of such isolation (Reisman 2003, Paloff & Pratt 1999). According to Richardson and Hansen (2002) the modern technology which supports e-learning provides a means of building bridges between learners and learners, learners and faculty members and learners with

management staff, in creating an online community. They opined that most people are successful in an e-learning environment because the system keeps them simultaneously engaged with the instructional content and also with fellow learners. In a learning environment where learners are separated one another by distance and time such feeling of community creates a bridge to overcome feelings of isolation, which can lead to dropout and learning failure.

An online community is a group whose members are connected by means of information and communication technologies typically the Internet (Rheingold 2000). An online learning community aims to achieve certain learning outcomes or effects (Barab, Kling, & Gray 2004). According to Wang and Fesenmaier (2003), for online community to evolve and prosper and brings benefits to its members, members of the community must participate actively and contribute by asking questions, providing information and expertise, and sharing ideas. In their research on online community, they found that efficacy is a major factor affecting member's active online participation besides instrumental and expectancy. Interaction is the key to online learning.

While setting up the LMS and providing information and materials via Internet were thought to be able to reduce the feeling of isolation, not many providers have succeeded. According to Rheingold (2000), online community does not grow automatically. It must be properly designed and nurtured. According to Zemke and Connellan (2001), retention is not just a result of a user-friendly website. It is about the function of providing service right the first time and getting learners to go through that experience. Such experience will enable learners to keep coming back and form part of the online community. The longer these learners can be kept in the Online Community the more valuable these learners are to the business as they can lead to retention, reduced operating cost and increased quality referrals through the power of word of mouth. Providers must also be committed in terms of providing ongoing resources, support and empowerment to the faculty members and staff in order to foster close relationship with learners. Learning providers should shift their focus from learners' attrition to learners' retention using the Online Community.

The Social Learning Theory emphasises the interaction between people with other people and also with the environment. The level of social presence that is the perceived consciousness of another person in an interaction is the main driver in learning (Bandura 1977). Dueber and Misanchuk (2001) pointed out that one of the most prevalent reasons given for dropping out of distance education courses is a sense of isolation. They noted that "while the complex mechanisms underlying such phenomenon are poorly understood at best, the correlation between high dropout rate and a feeling of isolation is fairly established." (p. 4). They suggested that one potential way to increase retention is through the formation of a learning community in developing sense of belonging.

Research carried out by Blanchard and Markus (2002) on virtual communities in comparison with physical communities, found some evidence of similarity except that in virtual communities members found the electronic communication very challenging. They suggested that a much simpler and more powerful creation and maintenance of a process model of sense of virtual community to overcome such challenges to make it a success. According to them, the concept of sense of community, that is the feeling of connection and belonging to a social grouping, can lead to important outcome such as satisfaction, commitment and involvement in community activities and problem focus coping behaviour.

Research Methodology

This research investigated the level of Sense of Community, Satisfaction and Motivation of learners of OUM, and the impact on their Commitment to stay in their programmes based on the conceptual model in Fig. 1. The hypothesis adopted in this model is that the intensity or benefits derived from the online community can help learners increase the level of Sense of Community (SCI), Satisfaction (JDI) and Motivation (SDT), which will have impact on Commitment to stay in their programmes (TCM).

A 59-item questionnaire was developed through the amalgamation of four established tools; the Sense of Community Index (Rovai 2002), Job Description Index (Smith, Kendall & Hulin 1969), Self Determination Theory (Deci & Ryan 1986) and Three-Commitment Model (Meyer & Allen 1991). Pilot test conducted on this instrument has yielded a high internal consistency.

The questionnaire was administered randomly on 1500 learners of OUM selected randomly from different cohorts, located throughout Malaysia. It was set in two languages – English and Malay, to enhance understanding and to give respondents their language preference so as to increase response rate. Data obtained based on a Likert scale of five (Strongly Agree) to one (Strongly Disagree) were entered into Microsoft Excel before they were analysed using the Software Package for Social Sciences (SPSS) version 11.5 for Windows.

Note: M = Management, L = Learners, T = Tutors
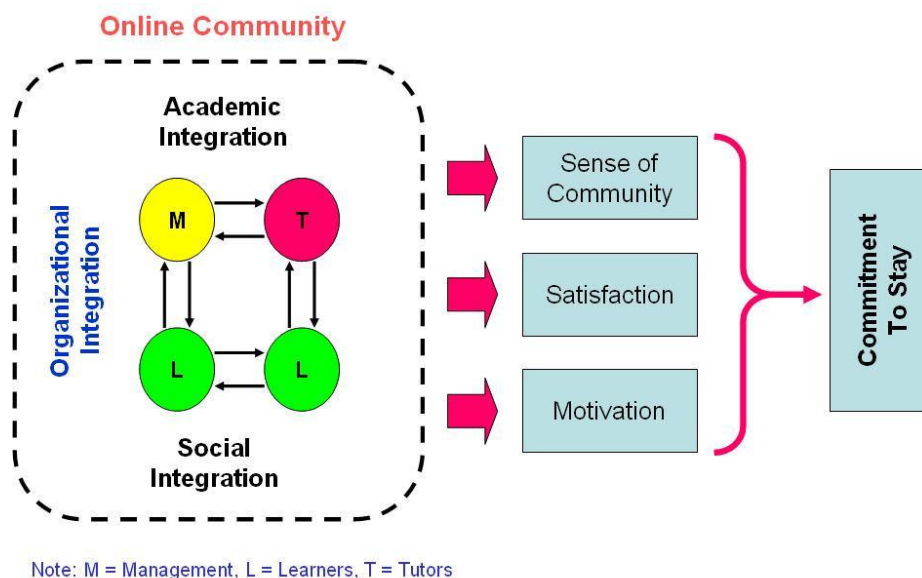
Figure 1: Conceptual Model of the research

Results

Samples

From the 1,500 samples targeted, 1116 valid responses were received yielding a response rate of 74.4 percent. The distribution of samples for each category is shown in Table 1. Overall there were 37 missing data found. Since the number was relatively small and insignificant they were dropped from the analysis as suggested by Garson (2006).

A correlation was then established using the mean scores of SCI, JDI, SDT (independent variables) and TCM (dependent variable). The Independent Samples T-Test was used to find if there was a statistical significant difference in the mean scores of SCI, JDI and SDT between respondents who are committed to stay compared with those who are not. Multiple Regression analysis was also carried out in order to analyse the relationships among the variables.

*Category	Targeted Number	Actual Number	Response Rate
Year 1	300	372	124.0%
Year 2	300	221	73.7%
Year 3	300	214	71.3%
Year 4	300	165	55.0%
Final Year	300	144	48.0%
Total	**N = 1,500**	**N = 1,116**	**74.4%**

* Category refers to the current Academic year of respondents

Table 1: Distribution of respondents according to category – Target versus Actual

Demography

Male made up of 461 respondents or 41 percent compared with female respondents of 655 or 58.7 percent. The largest age group of respondents were those between the ages of 21 to 30 with 476 respondents or 42.7 percent. This is followed by the age group of between 31 to 40 with 443 respondents or 39.7 percent. The third group were between the age group of 41 to 50 with 157 respondents or 14.1 percent. Malays made up the biggest ethnic group of respondents with 726 respondents or 65.1 percent followed by Indians with 181 respondents or 16.2 percent. Chinese were the third biggest ethnic group with 162 respondents or 14.5 percent. The demography of respondents was consistent with the findings of Latifah, Sungri and Ramli (2009).

Of the 1116 respondents, 714 of 64 percent made up of learners who were married and 372 or 33.3 percent were single. 981 or 87.9 percent were found to be working learners and the remaining learners were jobless. There were 372 or 33.3 percent of the total respondents in academic Year 1, 19.8 percent in Year 2, 19.2 percent in Year 3, 14.8 percent in Year 4 and 12.9 percent in the final year.

Data Analysis

The frequency distribution and mean scores of the SCI, JDI, SDT and TCM obtained are as shown in Table 2. The internal consistency obtained for this research was 0.866.

		SCI	JDI	SDT	TCM
N	**Valid**	1116	1116	1116	1116
	Missing	0	0	0	0
Mean		3.8622	3.6052	3.6348	3.8027
Std. Deviation		.42871	.41900	.32175	.50295
Variance		.18379	.17556	.10353	.25296

Table 2: Descriptive statistics of SCI, JDI, SDT and TCM

Table 3 shows the results of the Pearson Correlation of the mean scores of SCI, JDI, SDT and TCM. The results showed that there was a very strong correlation between the mean scores of these variables.

	SCI	JDI	SDT	TCM
SCI	1	.587(**)	.709(**)	.798(**)
JDI	.587(**)	1	.717(**)	.609(**)
SDT	.709(**)	.717(**)	1	.693(**)
TCM	.798(**)	.609(**)	.693(**)	1

** Correlation is significant at the 0.01 level (2-tailed).

Table 3: The Pearson Correlation of the mean scores of SCI, JDI, SDT and TCM.

Using the cut off point of 3.5 for TCM based on the Likert scale of five (strongly agree) to one (strongly disagree), the mean scores of SCI, JDI, and SDT obtained are as shown in Table 4.

Table 5 shows the results of Independent Samples T-Test on the four variables; SCI, JDI, SDT and TCM. As the sig. (2-tailed) values are all less than 0.05, hence the null hypothesis was rejected. Thus there was a statistical significant difference in the mean scores of SCI, JDI and SDT between respondents who were committed to stay and those who were not.

The model summary of the multiple regression analysis carried out is as shown in Table 6. The analysis of variance (ANOVA) in Table 7 produced a significant F value of 780.106. The results showed that the predictors; SCI, JDI and SDT, explains 68% of TCM.

	TCM	N	Mean	Std. Deviation	Std. Error Mean
SCI	>= 3.50	837	4.0030	.34046	.01177
	< 3.50	279	3.4398	.38706	.02317
JDI	>= 3.50	837	3.7106	.37810	.01307
	< 3.50	279	3.2889	.37462	.02243
SDT	>= 3.50	837	3.7253	.27088	.00936
	< 3.50	279	3.3631	.30950	.01853

Table 4: Mean scores of SCI, JDI and SDT using TCM as the grouping variables with cut off point of 3.5

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference		Lower	Upper
SCI	Equal variances assumed	7.232	.007	23.101	1114	.000	.5632	.02438		.51537	.61104
	Equal variances not assumed			21.670	430.365	.000	.5632	.02599		.51212	.61428
JDI	Equal variances assumed	.006	.938	16.172	1114	.000	.4217	.02608		.37058	.47291
	Equal variances not assumed			16.247	480.422	.000	.4217	.02596		.37074	.47275
SDT	Equal variances assumed	8.439	.004	18.647	1114	.000	.3622	.01943		.32413	.40036
	Equal variances not assumed			17.449	428.796	.000	.3622	.02076		.32144	.40305

Table 5: Results of Independent Samples T-Test on SCI, JDI and SDT between those who are Committed to stay and those who are not.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.823(a)	.678	.677	.28583

a Predictors: (Constant), SDT, SCI, JDI

Table 6: Model Summary of Regression Analysis of Predictors on TCM

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	191.202	3	63.734	780.106	.000(a)
	Residual	90.850	1112	.082		
	Total	282.052	1115			

a Predictors: (Constant), SDT, SCI, JDI
b Dependent Variable: TCM

Table 7: ANOVA Table with SCI, JDI and SDT as predictors of TCM

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.466	.098		-4.761	.000
	SCI	.699	.029	.596	24.370	.000
	JDI	.162	.030	.135	5.453	.000
	SDT	.271	.044	.173	6.104	.000

a Dependent Variable: TCM

Table 8: Coefficients of SCI, JDI and SDT

Table 8 above shows the coefficients of the predictors of TCM. Note that SCI has the highest beta value which means that it has the most impact on TCM.

Discussion and Recommendations

Based on the population of 60,000 undergraduate learners at OUM as at 2009 according to Latifah, Sungri and Ramli (2009), the sample size of 1116 is large enough to generalise the results of this research with a confidence level of 95 percent and confidence interval of three percent. As mentioned above, the demography obtained was very much similar to the findings of Latifah, Sungri and Ramli (2009) on OUM's retention study which indicates that the distribution of the samples for this research is consistent with the general population.

The Sense of Community Index developed by Rovai (2002) to measure the Classroom Community was the best instrument so far to measure the level of sense of community of learners in the online community. Based on the Likert scale of one to five, it was found that the mean score of SCI in Table 2 is 3.8622. This indicates that the SCI for the online community is high at OUM. High SCI scores also leads to higher score in Satisfaction and Motivation. Together, the three variables with mean scores above 3.5 indicate a high intensity of the online community. This is because learners' involvement in the community whether through the support services rendered by the university or academic support given by their peers and faculty members will result in higher sense of community. This finding was consistent with the findings of Tinto (1993), Pascarella and Terenzini (2005) and Roberts and Styron (2010). It was also found that the independent variables; Sense of Community (SCI), Satisfaction (JDI), Motivation (SDT) and Commitment to stay (TCM) were strongly correlated to each.

Independent Samples T-Test conducted confirmed that there is a statistical significant difference in the mean scores of SCI, JDI and SDT between respondents who were committed to stay (TCM) in their programmes and those who were not. Thus SCI, JDI and SDT have positive impact on TCM. This was supported by the multiple regression analysis carried out using stepwise approach which shows that the three independent variables SCI, JDI and SDT explained 68 percent of the dependent variable TCM.

Thus an online community of high intensity has positive impact on learners' commitment to stay in their programmes. LMS if managed well through organisational integration, which empowers faculty members and staff, in motivating and triggering participation of learners, can be a tool to create an effective online community in engaging learners. Learners who are engaged will less likely to drop out of their programmes. These learners can also help to bring in new referrals to the university through the power or word of mouth. Thus an effective online community can become a powerful retention and referral tool.

The research has its limitation because it was conducted based on samples taken from only one university. It assumes that OUM has one of the best LMS. It also assumes that higher Sense of Community is due to activities that take place in the LMS when it can also be due to other retention efforts. Thus further research should be carried out involving samples from other ODL institutions by taking into consideration the antecedents involved in providing academic and administrative support to their learners. Nevertheless, this quantitative research on online community was among the first if not the first that indicates the importance of online community in retention management of distance learners. It is also recommended that further research be conducted to measure the intensity of an online community so that it can used to correlate with Sense of Community, Satisfaction, Motivation of learners and the impact on their Commitment to stay in their programmes.

Conclusions

LMS is a tool that has been used by many non traditional universities to provide administrative and learning support to their learners. This tool can actually help to create online communities indirectly if they are triggered by constant communication and discussion among learners, faculty members and management staff. Unless it is managed properly with specific objective of retaining learners, expensive LMS does not guarantee success in learners' retention. Learners, who participate whether as active participants or lurkers in the community, can help increase their sense of community, satisfaction and motivation. A high sense of community, satisfaction and motivation of learners will have positive impact on their commitment to stay in their programmes. Commitment to stay is a strong predictor of retention. This is depicted clearly in the conceptual model in Fig. 1.

References:

Angelino, L. M., Williams, F. K. and Natvig, D. (2007). Strategies to engage online students and reduce attrition rates. *The Journal of Educators Online*. 4(2).

Bandura, A. (1977). *Social learning theory*. New York: General Learning Press

Barab, S., Kling, R., & Gray, J. (2004). *Introduction: Designing for virtual communities in the service of learning. Cambridge.* UK: Cambridge University Press.

Blanchard, A. L., & Markus, M. L. (2002). Sense of community – Maintaining the experience of belonging. Proceedings of the 35th Hawaii International Conference on System Sciences, 2002. IEEE. In Emerald (OUM Digital Collection)

Brigham, D. E., (1998). *An electronic peer network for adult learners*. Saratoga, NY: Empire State College

Deci, E. L. & Ryan, R. M. (2000). Self determination theory and the facilitation of intrinsic motivation, social development and well-being. *American Psychologist.* 55(1), 68 – 78.

Dueber, B. & Misanchuk, M. (2001). Sense of community in a distance education course. Paper presented at the Mid-South Instructional Technology Conference in Murfreeboro, TN. April 8-10, 2001. In Emerald (OUM Digital Collection)

Figallo, C. (1998). *Hosting web communities: Building relationships, increasing customer loyalty, and maintaining a competitive edge*. New Jersey: John Wiley & Sons

Fong, S. F., Ng, W. K., Ong, S. L., Hanafi, A. & Rozhan, I. (2005). Research in e-learning in a hybrid environment: A case for blended instruction. *Malaysian Online Journal of Instructional Technology*. 2(2), 124 – 136

Garson, G. D. (2006). Data imputation for missing values. [Online]. Retrieved: March 1, 2010 from http://faculty.chass.ncsu.edu/garson/PA765/missing.htm

Kollock, P. (1999). The Economies of Online Cooperation: Gifts and Public Goods in Cyberspace in Smith, Marc; Kollock, Peter. *Communities in Cyberspace*. London: Routledge. pp. 220–239.

Latifah, A.L., & Mansor, F. (2007). Retention initiatives at Open University Malaysia: Past, present and future. Paper presented at the AAOU International Conference on October 31, 2007 held at the Putrajaya Marriot Hotel, Malaysia

Latifah, A.L., Sungri, S., & Ramli, B. (2009). Managing retention in ODL institutions: A case study on Open University Malaysia and Sukhothai Thammathirat Open University. *ASEAN Journal of Open and Distance Education.* 1(1).

Martinez, M. & Bunderson, C. V. (2001). Foundations for personalized web learning environments. *Journal of Asynchronous Learning Networks*, 4(2). [Online]. Retrieved: Oct 5, 2005 from: http://www.aln.org/publications/magazine/v4n2/burdenson.asp

Meyer, J. P. & Allen, N. J. (1991). A three-component conceptualisation of organisational commitment. Human Resource Management Review. 1, 61 - 69

Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace.* San Francisco: Jossey-Bass.

Pascarella, E.T., & Terenzini, P.T. (2005). *How college affects students: Vol. 2 A decade of research*. San Francisco: John Wiley & Sons, Inc.

Reisman, S. (2003). *Electronic learning communities: Issues and best practices.* Greenwich, CT: Information Age Publishing. In Books24x7 (OUM Digital Collection)

Rheingold, H. (2000). *The virtual community: Homesteading on the electric frontier.* Cambridge, MA: MIT Press

Richardson, C. A. & Hansen, E. A. (2002). Building e-learning communities: Using online collaborative tools to reduce learner isolation. Proceedings of the 6th World Multi-conference on Systemic, Cybernetics and Informatics. 8, 208-211.

Roberts, J. & Styron, R. (2010). Student involvement/engagement in higher education based on student ratio. *Research in Higher Education*. 7

Rovai, A.P. (2002). Development of an instrument to measure classroom community. *Internet and Higher Education.* 5, 197-211

Smith, P. C., Kendall, L. M., & Hulin, C. L. (1969). *The measurement of satisfaction in work and retirement.* Chicago: Rand McNally.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.

Wang, Y. and Fesenmaier, D. R. (2003). Understanding the motivation of contribution in online communities: An empirical investigation of an online travel community. [Online]. Retrieved: October 24, 2005 from:
http://www.ttra.com/pub/uploads/011.pdf#search='understanding%20the%20motivation%20of%20contribution%20in%20online%20communities'

Zemke, R. & Connellan, T. (2001). *E-service: 24 ways to keep customers.* USA: Amacom. In Books24x7 (OUM Digital Collection)