AN EXPLORATION OF STUDENT-STUDENT CONNECTEDNESS AND ITS RELATIONSHIP TO LEARNING IN ONE ENVIRONMENTAL HEALTH SCIENCE COURSE, NATIONAL UNIVERSITY OF LESOTHO

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ABSTRACT: *Connectedness between students positively impacts the overall student experience and performance in higher education. This study aims to establish the perception of student-student connectedness and explore how connectedness relates to learning in a cohort of second year environmental health students at the National University of Lesotho. A descriptive cross-sectional study design was used, applying the mixed methods approach to collect data through a self-administered questionnaire and semi-structured key informant interviews. The population (n=31) responded to the questionnaire while stratified random sampling was used to select a 13% interview sample. Bivariate analysis results show that connectedness increased at the end of the semester. Furthermore, at the beginning of the semester, weak positive and negative relationships existed between connectedness and teaching-learning activities while stronger positive relationships dominated at the end of the semester. Teaching and learning methods should be varied and collaborative to improve connectedness among students.*

KEYWORDS: Student-student connectedness, Teaching and learning.

INTRODUCTION

Background

Students enrol in higher education institutions for education that leads to a qualification; however, the teaching and learning experience is important. Factors such as encouragement, humour, honesty, interactive exercises and individual speeches help with student bonding and motivation, and impact the overall higher education experience (Glaser, 2009). Teaching and learning occur within and outside the confines of classroom walls and occur not only between the instructor and student but also among peers (Hirschy & Wilson, 2002); consequently, unity and connectedness are crucial in ensuring students remain motivated to study independently or aided by their instructors. The classroom, which can be seen as a community setting, comprises multiple interpersonal relationships which contribute to the construction of a unique community (Frisby & Martin, 2010).

Rovai (2002) broadly defines connectedness as the feeling of belonging and the creation of bonding relationships. A connected class demonstrates strong bonds among participants and allows students to express themselves openly and freely. Scholars like Xerri (2018) and Lizzio (2006) have emphasised the importance of the quality of the relationships a student develops with their peers and staff and justified that connectedness impacts on their well-being and experience at university. This study therefore aimed to establish the perception of connectedness between students and explored how connectedness relates to the teaching and learning approaches and activities used in the course.

Rationale for the Study

The study was conducted following reports from new students who had gained indirect entry into the programme's second year—that they felt isolated and disconnected from the rest of the class. In an effort to improve the scholarship of teaching and learning, the instructor/teacher of the course regarded this as justification to research the reports and thus devise interventions for improved teaching that will promote connectedness. Furthermore, since the university exists in a developing country where resources are limited, connectedness can be studied to explore it as a mechanism that can boost student outcomes in learning.

LITERATURE/THEORETICAL UNDERPINNING

Connectedness has foundations on relationships and creation of bonds and these relationships can be between student-student and teacher-student (Xerri, 2017). Connectedness among students exists in both academic and social spheres beyond scholarly confines. Connectedness can be viewed as a social capital, that is, resources embedded in an individual's social network (Hendrickson, 2011); the capital can be generated from students' social relations with their peers, teachers and parents, and it contributes to students' academic success. It therefore follows that being connected improves the sense of belonging, decreases feelings of isolation and this is positively related to positive learning outcomes. Pym (2011) described the need for a range of activities and teaching pedagogies throughout a degree programme that are necessary and valuable in enhancing connectedness. Students further recognized and valued acts of friendliness—such as shared humour, openness, honesty, genuineness, vulnerability, helping one another, and compassion—to help them connect (Glaser, 2009). Connectedness that

facilitates teaching and learning proves to be equally important in and out of the classroom setting.

The importance of connectedness in higher education cannot be overemphasised both in systems that are problematic (negative) and those working well (positive). In positive systems, connected students with higher quality relationships become knowledgeable about classroom tasks (Sollito, 2013), report less learning loss (Prisbell et al., 2009), and foster learning (Kuh, 2001) as cited in Prisbell et al. (2009). In negative systems, connectedness mitigates behaviours that may be detrimental to learning, such as inconsiderate and harassing "misbehaviours" posed by students and instructors (Sidelinger et al., 2011).

Through student-to-student connectedness, learning is supported because students work together and support one another, becoming more academically engaged (Kuh, 2001). Furthermore, connectedness mitigates negative behaviours among students and teachers that have eroding effects on student participation and learning. Prisbell et al. (2009) emphasised that connectedness in the classroom results in lower public speaking anxiety among students, leads to students learning more course content, and enhances affective learning in connected classes while Rosenthal et al. (2007) argued that connectedness is associated with the general well-being of students. Findings by Kember (2004) and Mottet et al. (2005) discovered that student-student connectedness is effective in reducing students' negative perceptions of workload; Xerri et al. (2017) argued the contrary. Course instructors also benefit from student-student connectedness such that an instructor may feel more relaxed and use greater amounts of humor and nonverbal immediacy in their teaching, thus enhancing the student experience in a course (Sidelinger et al., 2012). The majority of authors thus agree that student-student connectedness has a positive bearing on learning.

A number of factors that influence connectedness among students have been outlined, including collaborative learning activities, campus connectedness (Laux et al., 2015), students' sense of social acceptance by peers and instructors (Freeman et al., 2007), instructor care, disciplinary policies and practices, the presence of guidance and counselling programs, and opportunities for development of talents (Yeun et al., 2011). Studies by Prisbell et al. (2009) explained that the behaviours of students themselves affect how they connect. Behaviours regarded as inconsiderate and those that are harassing diminish relationships among students and even between students and teachers (Glaser, 2009). Such behaviours can also be observed among teachers and they impinge on open, functioning classroom atmospheres (Sidelinger et al., 2011).

Effective and appropriate instructor communication behaviours aid students in developing connectedness. Sidelinger et al. (2012) pointed to a need for instructors to closely examine their own behaviours, as well as the behaviours occurring among their students because they have communication behaviours in the classroom that assist students to develop a sense of connectedness with their peers.

Other scholars have identified that furthermore, teachers' misbehaviours erode student learning and negatively impact students' evaluations of instructors, student motivation (Goodboy & Bolkan, 2009; Zhang, 2007), and trustworthiness (Banfieldet al., 2006). It is therefore imperative that as student-student connectedness is investigated, teacher-student factors are also factored in, in order to have a holistic understanding. One of the ways a teacher can build connectedness among students is to vary the methods of teaching such that students collaborate

and share ideas, thus forming a bond; such methods may be participatory. A study by Glaser (2009) asserted that any activity that required the students to interact helped them get to know one another and seemed to have deepened their sense of connectedness. Such collaborative activities could include speeches and oral presentations. This is attested by Frisby and Martin (2010) who succeeded to link student-to-student connectedness to oral participation in the classroom, suggesting that the supportive classroom environment may allow for students to overcome fears about speaking up in the classroom.

Time also affects connectedness such that over time, students feel more connected to one another (Sidelinger et al., 2012). The approach of peer-mentoring, as investigated by (Chester et al., 2016), has also been demonstrated to increase a sense of connectedness among students; however, it is noteworthy that the mentor has to be more knowledgeable and skilled that the mentee, which may not be common in a classroom.

As a departure point, connectedness in the learning environment will rely on environmental, instructor and student factors; thus, these need to be investigated as they impact on the overall learning outcome and student success, as depicted in Figure 1.
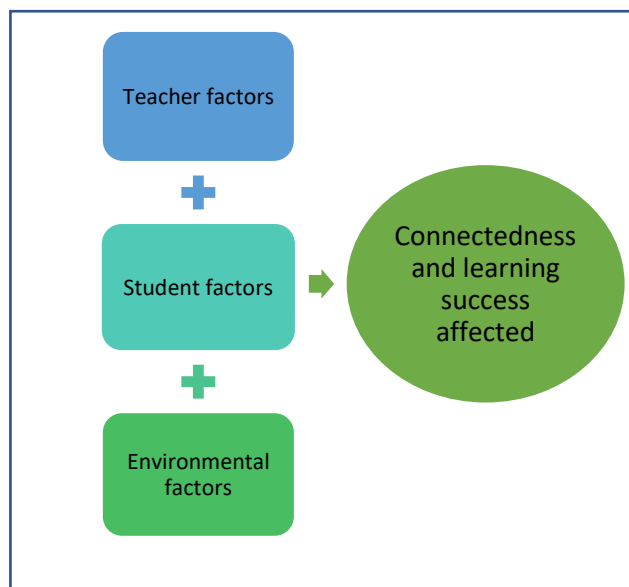

Figure 1: Relationship between connectedness and student and teacher factors.

METHODOLOGY

A descriptive cross-sectional study was designed to abstract answers about the current situation from respondents, giving a snapshot view of the situation. The study population was the class of students registered for the course EHS208 (Environmental Hazards and Disasters) at the National University of Lesotho.

The study was conducted in April–May 2019 which marks the end of the second semester. The mixed methods approach was applied to collect qualitative and quantitative data. Data was collected using a self-administered, semi-structured questionnaire, administered to the population (n=31) together with informed consent forms. Face-to-fate key informant interviews were also held with 13% (n=4) of the population. The key informants were selected through stratified random sampling and represented the students' activities in 12 months prior to registering for the course. The two strata were students who were enrolled in the NUL's common year 1 of science studies while the other strata were students who were studying elsewhere outside the NUL.

Data was collected, transcribed and coded. Qualitative data was thematically analysed. Not all questions were answered by respondents; those answered were retained for data, thus denominators varied accordingly per question. The data was then entered into Microsoft Excel 2010 for analysis. The data was subjected to both univariate and bivariate statistical analyses and interpretation was undertaken.

RESULTS/FINDINGS

Connectedness among Students

The students' understanding of connectedness and perception of the class segregation (disconnection) was as follows:

Table 1: Students' understanding of connectedness

Criteria for connectedness	No.	Percentage
Trusting students to give academic support	1	6.3%
Ability to talk to students about academic and non-academic topics	7	43.7%
Ability to receive care and support from classmates	0	0%
A sense of belonging and togetherness with the class	5	31.3%
A sense of being responsible for the academic success of myself and my peers	2	12.5%
Ability to influence learning in the space I share with my peers	1	6.25%
A feeling that my participation is needed and used	0	0%
Total	**16**	**100%**

Students identified the ability to talk to other students about all issues (43.7%) and a sense of belonging and togetherness (31.3%) as the main criteria for being connected. Despite earlier verbal reports from the students that the class was unconnected, only 41% of the class felt they

were segregated at the time of the study. Additional information from the informant interviews revealed that the group was initially segregated, especially in the first semester, but some activities such as sport, formation of discussion groups and communicating via Whatsapp have led to more unity among the members.

Despite the lower segregation, Students perceive themselves to be dissociated into groups that are based on gender, friendship, academic and non-academic activity.

Table 2: Identified student groupings

Sub-groups existing within the class	No.	Percentage
Secret discussion group(s)	2	13%
Students who studied at NUL in the past 12 months	1	7%
Students who studied at LAC in the past 12 months	1	7%
Friend groups	2	13%
Boys' group	2	13%
Girls' group	3	20%
Students who were repeating year 1 at NUL in the past 12 months	2	13%
Students who were new entrants at NUL in the past 12 months	2	13%
Total	**15**	**100%**

The major groupings that students perceived to exist in the class were gender-based groups (20%). Students also expressed other major segregating criteria to be secret discussions, friend groups and study activities in the previous 12 months (13%). Among the group that studied at NUL in the past 12 months, there are further divisions of those who were new entrants and those who were repeating the year. Despite the identified groups, only 39% accepted belonging to the groups.

Table 3: Reasons for interaction outside the classroom

	No.	Percentage
Sports clubs	5	26%
Sharing clubs	4	21%
Religion group	2	11%
Lifestyle clubs	2	11%
None	5	26%
Discussions	1	5%
Total	**19**	**100**

Interactions outside the classroom span both social and academic purposes. Students associate mainly for sports clubs (26%), while another 22% only interact within the classroom. Contrary to the findings from the interviews, respondents who said they associate in sports clubs mentioned that their academic work did not benefit from sporting interactions.

Table 4: Behaviours that negatively affect connectedness

Behaviours	No.	Percentage
Seclusion	2	13.3%
Failure to admit mistakes	1	6.7%
Anger when corrected	2	13.3%
Make others feel unimportant	1	6.7%
Quarrels	2	13.3%
Belief that others are more intelligent than others	1	6.7%
Talking during lectures	1	6.7%
Selfish in sharing knowledge	2	13.3%
Violence/Fights	1	6.7%
Drug use during lectures	1	6.7%
None	1	6.7%
Total	15	100.0%

Behaviours among students affect their learning experience, of which connectedness is a part. Students cited seclusion, selfishness in sharing knowledge and quarrelling (13.3% each) as the main behaviours that negatively affect the students' experience. An important finding from interviews was the discovery that some students used substances and/or drugs during lectures to the annoyance of other students. The instructors were unaware of such behaviours.

Attributes of the teacher also impact on connectedness among students.
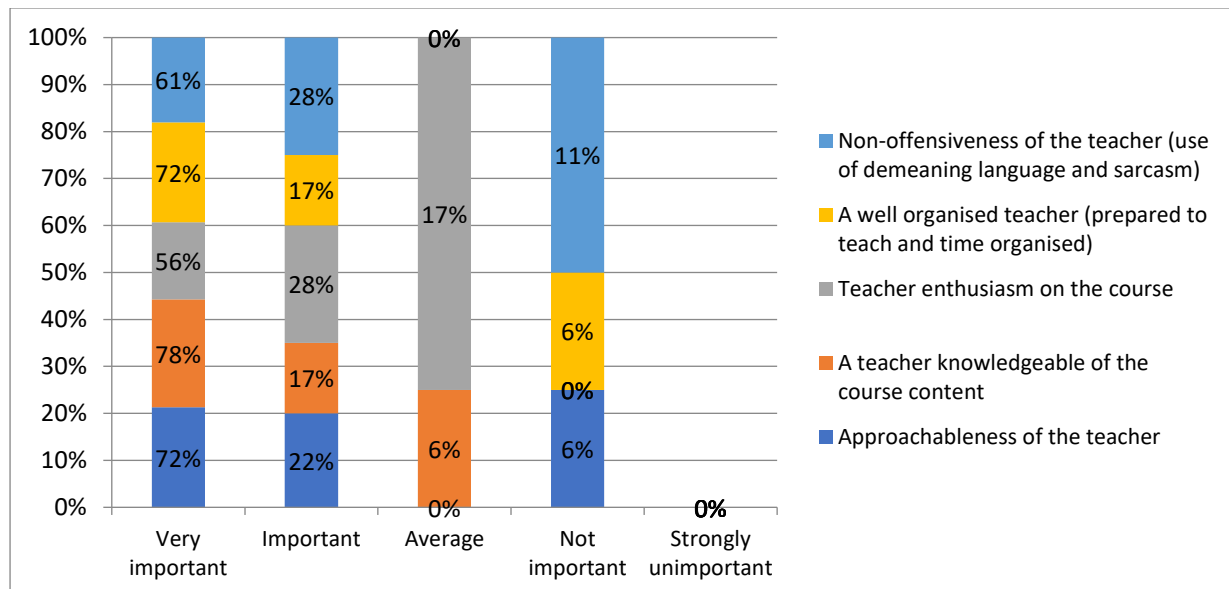

Figure 2: Students' ranking of teacher attributes that are important for connectedness

None of the teacher attributes were perceived to be unimportant by the students. Among the most important attributes, a striking top-ranked attribute is a teacher who is knowledgeable of the course (78%), followed by the teacher's approachableness (72%). What students mostly deem as not important is the offensiveness of the teacher (11%), although under very important, the same attribute was ranked 4th by 61% of the students. This may be contradictory.

Table 6: Students' perceptions on the connectedness in the class

	Very unconnected	Unconnected	Neutral	Connected	Very connected	**Total**
Beginning of semester	0%	11%	61%	28%	0%	**100%**
End of semester	6%	0%	35%	53%	6%	**100%**

From Table 6, it is evident that the majority of the students (61%) started the semester feeling neither connected or disconnected while at the end of the semester, the majority of the students (53%) felt connected. The extremes of being connected or disconnected are observed only at the end of the semester.

Relationship Between Connectedness and Learning Activities

Figure 3 specifies teaching and learning strategies favoured by students for connectedness. Methodologies that students identified to promote connectedness are shown in Figure 3.
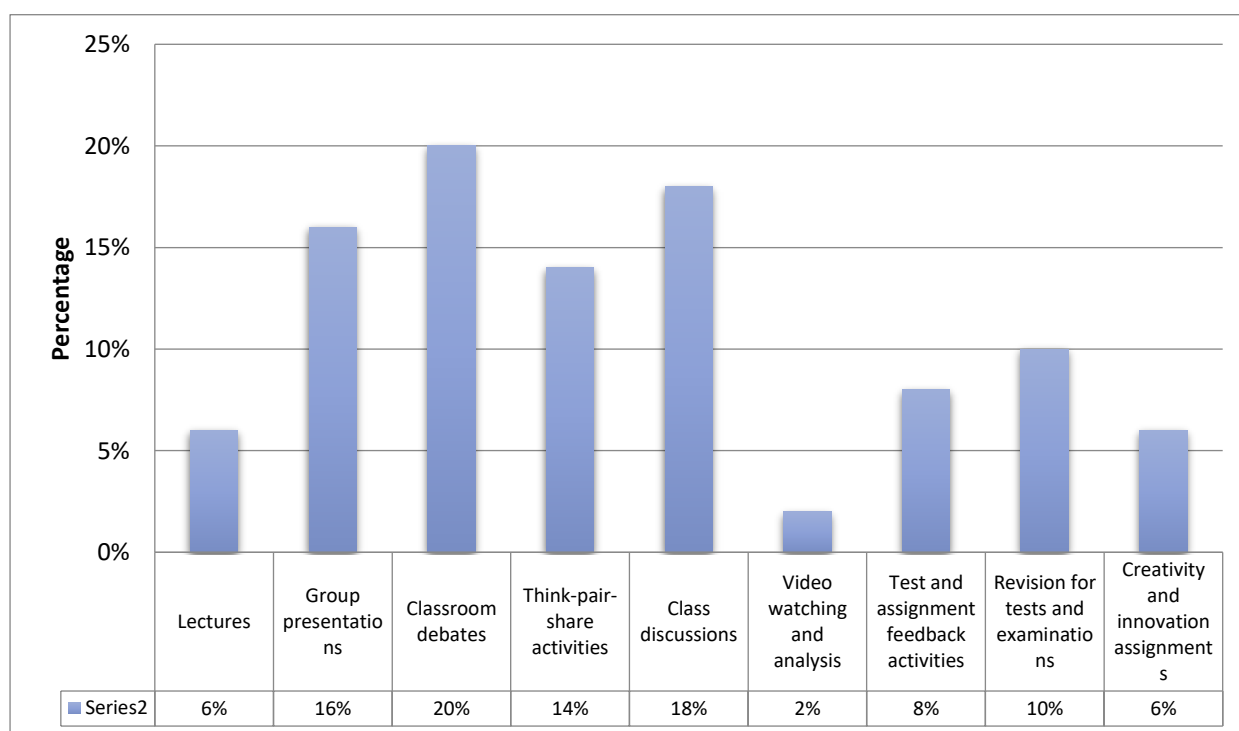

Series2	Lectures	Group presentations	Classroom debates	Think-pair-share activities	Class discussions	Video watching and analysis	Test and assignment feedback activities	Revision for tests and examinations	Creativity and innovation assignments
	6%	16%	20%	14%	18%	2%	8%	10%	6%

Figure 3: Students' perceptions of teaching methodologies/strategies that promote connectedness

The majority of the students perceived classroom debates (20%) and classroom discussions as the most connectedness-promoting while the least were creativity and innovation activities (2%), video analysis (2%) and lecturing (6%).

Table 7 summarises the bivariate analysis of data undertaken to find the relationship between students' learning activities at the beginning and end of the semester. Table 8 outlines the strength of relationships at the beginning and end of the semester.

Table 7: Correlation between connectedness and learning activities and strategies

Correlations with connectedness	Beginning of semester (r value)	End of Semester (r value)	Beginning of semester (p value)	End of Semester (p value)
Students' class participation	0.22	0.82	0.378	0.00003
Students' class attendance	-0.053	0.23	0.244	0.008
Students' sharing of learning material	-0.14	0.50	0.764	0.184
Students' group assignments participation	0.34	0.35	0.717	0.174
Students' group revision for assessments	0.20	0.63	0.421	0.005
Students' tendency to seek academic help	0.28	0.58	0.252	0.011

At the beginning of the semester, all the relationships were weak (r<0.34) for all parameters, except for connectedness and group assignment participation which was moderate at r=0.34. The weakest relationship was between connectedness and class attendance (r=-0.053) and sharing of learning material among students (r=-0.14). The p-value range of 0.244–0.764 is high and indicates that at the beginning of the semester, the relationships between connectedness and all the learning activities were random and insignificant.

At the end of the semester, the relationships ranged between weak and high (between 0.23 and 0.82). There were no negative relationships at the end of the semester. The strongest relationship at the end of semester was between connectedness and student participation in class (r=0.82) while the weakest was between connectedness and class attendance (r=0.23). This indicates that over time, relationships between connectedness and learning activities among students strengthened. Overall, the relationship that did not show a major change was the one between connectedness and student participation in group assignments which changed from 0.34 to 0.35 at the end of the semester.

The p-values at the end of the semester ranged between 0.00003 and 0.184. The weak positive relationship between connectedness and student class participation (r=0.378, p=0.00003) shows the highest significance among the relationships, followed by connectedness and student group revision for assessment (r= 0.421, p= 0.005) which shows a stronger relationship. Generally, the significance of the data set is higher at the end of the semester than at the beginning.

Table 8: Summary of the strength of relationships at the beginning and end of semester

	Weak relationships with connectedness (r<0.34)	Moderate relationships with connectedness (0.34≤r<0.68)	Strong relationships with connectedness (r>0.68)
Beginning of semester	● Students' class participation ● Students' class attendance ● Students' sharing of learning materials ● Students' revision for assessments ● Students' tendency to seek academic help	● Students' participation in shared assignments	-
End of semester	● Students' class attendance	-	● Students' participation in shared assignments ● Students' sharing of learning materials ● Students' participation in shared assignments ● Students' revision for assessments ● Students' tendency to seek academic help

The trend shown in Table 8 depicts that at the beginning of the semester, there were mostly weak relationships while at the end of the semester, the majority of relationships between connectedness and learning activities were strong; thus, coefficients increased for all at the end of the semester except for sharing assignments. At the end of the semester, connectedness and all the learning activities showed a positive relationship, meaning as connectedness increases, the use of learning activities also improves.

DISCUSSION

The study reveals that students' perception of the term connectedness has a strong reliance on communication (ability to talk to students about academic and non-academic topics, 43.7%), followed by a sense of belonging (31.3%). This aligns with Dwyer et al. (2004) whose definition of connectedness was based on perceptions of a supportive and cooperative communication environment while Rovai (2002) characterized connectedness as a sense of belonging to a group. Since students are in the group to learn, it is imperative that communication mechanisms are open and clear. Thus, the associated teaching and learning strategies and activities need to promote clear communication and should avoid segregating the group; this was further asserted by Rovai (2002). Glaser and Bingham (2009) discovered that feedback is also a communication mechanism that students acknowledge to promote connectedness.

While the teaching of the course does not separate students into any specific groupings, students themselves acknowledge that segregation lines are present mainly based around the sex of the group members. Of similar importance are the groupings of secret discussion groups, activities in the past 12 months and friend groups (all at 13%). The existence of friendship is viewed as a source of motivation (Glaser, 2009), a protective factor against depressive disorders among students (Pittman & Richmond, 2018) and is associated with a sense of belonging (Chipuer, 2001). The secrecy of group discussions may affect learning where those who are lagging behind in the course may feel they cannot connect with those who are succeeding if group discussions are secretive and isolate other students. Furthermore, many of the students who gain indirect entry are diploma-holders from other academic institutions and commonly they could not meet the higher pass standard of gaining direct entry into the university. The course instructor may consider using teaching and learning strategies that allow students to have access to one another despite the group they may belong to. An advantage can also be taken from the fact that students have other social clubs such as sports (26%) and sharing clubs (21%) that can be used as platforms to promote connectedness in class. Teaching and facilitation methodologies can adopt the themes of such sports to motivate students to attend classes and to improve the enjoyment of learning knowledge and skills, as suggested by Lucardi (2014).

It is important that selfishness in sharing knowledge (13%), quarrels among students (13%), anger when corrected (13%) and seclusion (13%) are recognised and addressed by both the students and the teacher to promote a connected class. Glaser and Bingham (2009) established equally that behaviours such as being supportive and accessible are favoured by students. While lecturing is a common teaching approach in institutions, one of its limitations is highlighted by the striking observations that students are able to use substances and/or drugs in classrooms, and such behaviours are not noted by the teacher. It is imperative that visual contact and other sensory mechanisms are engaged to monitor classroom behaviours; this aids the teacher to develop behaviour interventions and strategies that guide students to behave appropriately.

A teacher/instructor being knowledgeable of the course (78%) and being approachable (72%) were ranked as very important teacher attributes for connectedness. This is significantly close to the findings of Sander (2010) and Mustapha (2010) where the highest-rated qualities of a good teacher were 'teaching skill' followed by 'approachability' as the most important. The offensiveness of the teacher (11%) was not deemed as important by students. This

contradictory observation required more in-depth research. In the findings of Glaser and Bingham (2009), students valued when the teacher talked to them in a relaxed and laid-back manner, shared experiences with them and finally pointed out similarities among them.

With regards to the students' perception of connectedness, most students felt neutral (61%) at the beginning of the semester but there was a significant change of the majority of students feeling more connected to one another (53%) at the end of the semester. This implies that some factors were able to foster some relations over the course of the semester. The learning approaches can be attributed to this as well, which is commensurate with the findings of Glaser and Bingham (2009) asserting that collaborative class activities tend to deepen their sense of connectedness. This study elaborates that students find classroom debates (20%), and classroom discussions as the activities that best promote connectedness while the least were creativity and innovation activities (2%), video analysis (2%) and lecturing (6%). Lecturing's effectiveness is still even questionable as Freeman et al. (2014) reported that students in classes with traditional lecturing were 1.5 times more likely to fail than students in classes with active learning. Coupled with this lower effectiveness is the current study's findings that students do not see lecturing as a connectedness promoter. It is therefore imperative that teachers should find alternative approaches that ensure students can acquire knowledge, skills and the required attitudes in the courses they instruct.

Lastly, the correlation between connectedness and various teaching and learning strategies generally changed from weak ($r=-0.0053$ to 0.34) at the beginning of the semester to strong ($r=0.23$ to 0.84) at the end of the semester. Over time, the teaching and learning strategies may have contributed to students' connectedness which is consistent with the observations of Sidelinger et al. (2012). Inversely (Kuh, (2001), cited in Prisbell et al. (2009), attributed better learning to greater connectedness among students. Ultimately, students with higher quality peer relationships experience greater feelings of connection with their classmates and are knowledgeable about the tasks they need to perform in the classroom (Sollito, 2013).

IMPLICATION TO RESEARCH AND PRACTICE

Student-student connectedness has been studied by many scholars over the years. This study has applied connectedness to a low-resource setting in a developing country. Regardless of the setting, students continue to value connectedness among one another; thus, efforts should be made to emphasise this through the use of promotive teaching and learning strategies. Teachers should therefore continue to hone their skills of instruction and delivery of curricula through attending seminars and workshops and participating in the scholarship of teaching and learning research. Further research can focus on investigating the factors of connectedness in low-resource settings and preferred methods of learning among students. Innovative techniques can be explored to suit the resource setting. Studies can further focus on expanding the population and scope of the study to include different courses and academic institutions.

CONCLUSION

The results indicate that connectedness has improved over time in the semester, leading to positive effects on the learning experience. It is recommended that students should engage socially and academically to improve the chances of establishing bonds. Furthermore, there are strong relationships between connectedness and various learning activities such as students' sharing of learning material, tendency to seek academic help, participation in shared assignments, revision for assessments, class attendance, and participation in class. These relationships tend to become stronger at the end of the semester. To utilise this tendency, teachers should increase their application of teaching methods that require collaboration among students to promote connectedness among students. Lastly, teachers with higher knowledge of the course content and who are approachable are assets towards building connectedness.

REFERENCES

Chester A., Burton L.J., Xenos S. , Elgar K. (2013). Peer mentoring: Supporting successful transition for first year undergraduate psychology students. *Australian Journal of Psychology,* 65: 30–37. doi: 10.1111/ajpy.12006

Chipuer H.M. (2001). Dyadic attachments and community connectedness: Links with youths' loneliness experiences. Journal of Community Psychology,29 (4), 429-446

Drum DJ., Chris Brownson, Elaine A. Hess, Adryon Burton Denmark & Anna E. Talley (2017) College Students' Sense of Coherence and Connectedness as Predictors of Suicidal Thoughts and Behaviors, Archives of Suicide Research, 21:1, 169-184,

Dwyer, K. K., Bingham, S. G., Carison, R. E., Prisbell, M., Cruz, A. M., & Fus, D. A. (2004).Communication and connectedness in the classroom: Development of the connected climate inventory. Communication Research Reports, 21, 264_272.

Freeman T. M., Anderman L.H. Jensen J.M. (2007). Sense of Belonging in College Freshmen at the Classroom and Campus Levels, The Journal of Experimental Education, 75(3), 203-220, DOI: 10.3200/JEXE.75.3.203-220

Frisby B.N., Martin M., M. (2010) Instructor–Student and Student–Student Rapport in the Classroom, Communication Education, 59(2), 146-164, DOI:10.1080/03634520903564362Rovai A.P. (2002). Sense of community, perceived cognitive learning, and persistence in asynchronous learning networks. Internet and Higher Education, (5), 197–211

Glaser H.F., Bingham S., (2009). Students' perceptions of their connectedness in the community college basic Public Speaking course Journal of the Scholarship of Teaching and Learning, 9 (2), 57-69.

Goodboy, A. K., & Bolkan, S. (2009). College Teacher Misbehaviors: Direct and Indirect Effects on Student Communication Behavior and Traditional Learning Outcomes. Western Journal of Communication, 73, 204-219.

Hendrickson B., Rosen D., Aune R.K. (2011). An analysis of friendship networks, social connectedness, homesickness, and satisfaction levels of international students. International Journal of Intercultural Relations 35, 281–295

Hirschy A.S.,Wilson M.E. (2002) The Sociology of the Classroom and Its Influence on Student Learning, Peabody Journal of Education, 77:3, 85-1000, DOI: 10.1207/S15327930PJE7703_5

Jorgenson D.A., Farrell L.C., Fudge J.L., Pritchard A. (2018). College Connectedness: The Student Perspective *Journal of the Scholarship of Teaching and Learning, 18(1), 75-95. doi: 10.14434/josotl.v18i1.22371*

Kember D. (2004). Interpreting student workload and the factors which shape students' perceptions of their workload, Studies in Higher Education, 29(2), 165-184, DOI: 10.1080/0307507042000190778

Laux D., Luse A.,. Menneckeet Brian E. (2016). Collaboration, connectedness, and community: An examination of the factors influencing student persistence in virtual communities. Computers in Human Behavior 57 452-464

Lizzio A.,& Wilson K. (2006) Enhancing the effectiveness of self-managed learning groups: understanding students' choices and concerns, Studies in Higher Education, 31(6), 689-703, DOI: 10.1080/03075070601004309

Lucardie D. (2014). The impact of fun and enjoyment on adult's learning. Social and Behavioural Sciences. 142, 439 – 446

Mottet T.P., Parker-Raley J., Cunningham C., Beebe S. A. (2005). The Relationships Between Teacher Nonverbal Immediacy and Student Course Workload and Teacher Availability Expectations, Communication Research Reports, 22:4, 275-282, DOI: 10.1080/000368105000317482

Mustapha S.M., Rahman N.S.K.A. (2010) Factors influencing classroom participation: a case study of Malaysian undergraduate students. Procedia - Social and Behavioral ciences, 9, 1079-1084

Myers SA. & Christopher J. Claus (2012) The Relationship Between Students' Motives to Communicate With Their Instructors and Classroom Environment, Communication Quarterly, 60:3, 386-402, DOI:

Pittman L.D., Richmond A. (2008). University belonging, friendship quality, and psychological adjustment during the transition to college. The Journal of Experimental Education, 76(4), 343-361

Prisbell M., Dwwyer K.K., Carlson R.E., Bingham S.G., Cruz A.M. (2009). Connected classroom climate and communication in the basic course: associations with learning. Basic Communication Course Annual, 21 , Article11, 151-172 Available at: http://ecommons.udayton.edu/bcca/vol21/iss1/11

Pym J., Goodman S., Patsika N. (2011). Does belonging matter?: exploring the role of social connectedness as a critical factor in students' transition to higher education. Psychology in Society, 42, 35-50.

Rosenthal D.A., Russell J., Thomson G. (2007). Social connectedness among international students at an Australian universityIndicators Research, 84(1), 71-82 **https://doi.org/10.1080/10570310902856089**

Sidelinger R.J., Bolen D.M., Frisby B.N., McMullen A.L.(2011). When Instructors Misbehave: An Examination of Student-to-Student Connectedness as a Mediator in the College Classroom. Communication Education, 60(3), 340-361

Sidelinger R.J., Bolen D.M., Frisby B.N., McMullen A.L., Heisler J.(2012). Developing Student-to-Student Connectedness: An Examination of Instructors' Humor, Nonverbal Immediacy, and Self-Disclosure in Public Speaking Courses. *Basic Communication Course Annual*, 24(8), 61-121. Available at: http://ecommons.udayton.edu/bcca/vol24/iss1/8

Sollitto M., Zac D. Johnson & Scott A. Myers (2013) Students' Perceptions of College Classroom Connectedness, Assimilation, and Peer Relationships, Communication Education, 62:3, 318-331

Xerri M.J., Radford K., Shacklock K. (2018). Student engagement in academic activities: a social support perspective. Higher Education, 75(4), 589-605

Yuen M., Lau, P.S.Y., Lee, Q.A.Y. Gysbers N. C., Chan R.M.C., Fong R.W., Chung Y. B., Shea P.M.K. . Factors influencing school connectedness: Chinese adolescents' perspectives. Asia Pacific Education Review. 13, 55–63. https://doi.org/10.1007/s12564-011-9176-7

Zhang Q. (2007). Teacher Misbehaviors as Learning Demotivators in College Classrooms: A Cross-Cultural Investigation in China, Germany, Japan, and the United States, Communication Education, 56(2), 209-227, DOI: 10.1080/03634520601110104