CONNECTEDNESS – FROM THE EDUCATOR’S PERSPECTIVE

An investigation of the impact of teaching practice on student connectedness in a first-year design studio classroom

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Abstract
There are many themes impacting entry-level student progression. Connectedness is one such theme, suggesting that students who are more socially integrated into college life have a greater likelihood of progressing. Despite strategies and interventions to retain entry-level students, the rate of non-progression remains high. Research suggests this is partly because these interventions stop short of the classroom.

Student connectedness is subjectively felt through the network of campus life. It is the joint and interactive effect of the students’ academic and social experience of college life that builds the network through which the student feels connected, thus influencing his decision to stay. The classroom is one of the busiest junctions in this web of connectivity.

The purpose of this research is to inform a classroom action research strategy to improve teaching practice by considering how students connect to each other in a design studio classroom. The research draws on the experience of design educators to inform teaching practice and impact student connectedness in context.

The research comprises several phases including a literature review on connectedness and a faculty focus group. This paper summarises the literature review and draws conclusions from the focus group discussion outcomes, which include the views, opinions and experiences of certain first-year instructors. The focus group participants were surveyed on their experience of student connectedness in the classroom, specifically in terms of which elements of their teaching strategies they have used or observed as effective in the generation of connectedness between students. Four main elements were discussed: connectedness in the classroom, classroom layout, project design, and assessment.

Keywords
Entry-level student progression; connectedness; classroom community; classroom layout; project design; assessment.
1. Introduction and Motivation

The aspiration of an educator is the same as the rationale for student retention: the intellectual and social education of the student. The goal of retention efforts is not primarily to keep the student on campus but rather the intellectual and social education of the student. It is the combined and interactive effects of the student’s social and educational experience that influence whether or not they decide to stay in college (Tinto, 1993, p.96). Similarly, the European Commission suggests the role of an educator is not only intellectual but extends to the development of the student as an included, contributing and valued member of society (2001).

In various ways classrooms imitate society, presenting many of the same unique and complex features of life (Osuala and Idebeen, 2010). Bourdieu and Passeron (1990) suggest we tend to educate from the classroom into society, often replicating dominant class or cultural systems within the educational setting. The increasing globalization of the classroom brings both opportunities for and challenges to student contentedness (Siemens, 2005). Where a classroom community is robust, members have strong feelings of connectedness (Rovai, 2002, p.198.). According to Glazer and Bingham (2012), students who feel connected to each other through a classroom community report greater motivation, interest and engagement in class. They also suggest the converse is true and that if the student does not feel connected to the classroom community he may have difficulty meeting the challenges of the course and therefore has a higher likelihood of dropping out.

A similarly strong influencer of student effort and achievement is a student’s perception of the level of interest, support and respect from the teacher. Brooker’s 2008 study reveals that faculty members have the “most influence” on a student’s sense of connection to a classroom community, and that it is the teacher’s actions that have the most significant impact on constructing that community.

Tinto sees student success “is built upon classroom success, one class and one course at a time,” and argues that entry-level student non-progression remains high because “most innovations have sat at the margins of the classroom and have failed to reach into the classroom to substantially improve the classroom experience” (2012 p. 4).
2. Literature review

What is Connectedness? Connectedness is the drive to relate, expressed at the intersection of the individual and the collective (McNealy, Whitlock and Libbey, 2009), and where the desire to belong to a community wider than the self is definitive of an interdependent mode of being (Kitayma and Cohen, 2010). Connectedness is described as the subjective feeling of belonging, negotiated within the structure of a “relationship system through which perceptions are generated and norms are transmitted” (Whitlock, Wyman and Barreira, 2012, p.7).

Why does connectedness happen? Human evolution is thought to have been driven in considerable part by the desire to interact, understand and respond through the use of ‘increasingly complex cues” that powered the development of complexity in the cortical mantle of the human brain (Cacioppo and Patrick, 2008, p.11). As such, connectedness can be seen as the medium through which individuals are combined into larger groups such as family, tribe and society as a whole (Cozolino, 2014, p.61).

This sense of social connection ingrained in our development and behaviour influences the regulation of a person’s physical and emotional stability (Cacioppo and Patrick, 2008). It is the individual’s perception of social connection that influences her health and wellbeing for better or for worse. An ever increasing body of research points to the interplay between perceptions of social experience, neurobiology and emotion (Whitlock, Wyman and Moore, 2014).

How does connectedness happen? According to (Fredrickson, 2001; Kok et al, 2013; Park and Thacker, 2014; and Porges et al, 1994), connectedness is essentially a physiological phenomenon of the parasympathetic nervous system. It is through this system primarily that an individual experiences degrees of social interaction. More specifically, this response is felt in the vagal nerve through which the brain and the viscera reciprocate. An upward spiral dynamic of vagal tone continually reinforces the tie between positive emotions and physical health. This spiral is influenced by an individual’s perception of their social interactions. Relatedly, emotion and cognition are intertwined in the brain and most mental functioning is determined by both.
Emotion serves an important function in learning, helping or hindering the brain’s ability to learn (Hendel, Oughton, Pickthorn, Schilling and Versiglia (2011).

**Connectedness and entry-level student progression.** Although a student’s pre-college life impacts on their third-level education experience, the educational institution shares responsibility for assisting the student in reaching both her academic and social goals. However, much of the literature on the subject of connectedness sees student disengagement as mostly or uniquely a student issue, thus “lying outside” (O’Rawe, 2015, p.178) the control of academic researchers and staff.

**Connectedness and the academic institution.** Educational institutions have historically supported the “transmission” of knowledge being delivered to the student in its intact original state. However, as Nonaka and Konno (1989, p.40) suggest, knowledge is instead constructed within a shared learning space where all participants interact more equally than they would in the “transmission” model. O’Rawe (2015) citing Siemens (2005) suggests that although “somewhat trite” (p.182), there is a need to shift the learning culture in the classroom toward the idea of the teacher as guiding rather than controlling the classroom. As such, where entry-level students are concerned there is a “need to view social interaction as a key aspect of engagement” (O’Rawe, 2015 p. 180) and to consider that a student’s sense of connection to her peers, her instructors and her affiliation to the university all influence the degree to which she persists in her new learning environment. Connecting to the learning environment and those within it involves the co-construction of a learning space, both social and educational (Tinto, 1975). This shared learning space serves “....as the foundation for knowledge creation” (Nonaka and Konno, 1998, p.40).

The transmission model serves to replicate knowledge dictated by the dominant culture. Therefore, students from the dominant culture have an advantage over their international student peers (Bourdieu and Passeron, 1990). Today’s learner operates within a multi-cultural and technology-driven environment. George Siemens’s 2005 advancing theory of ‘connectivism’ describes an interconnectivity that is driving change in ways of interaction and learning. Not only is the entry-level student
operating within this multi-cultural and technologically driven world, he is also emerging as an adult within it (Arnett, 2000).

There is significant research into the need for international students to make connections to the third-level educational environment (Hendrickson, Rosen and Aune, 2010). By interacting with individuals in his host country, the international student develops better language and communication skills along with an enhanced understanding of the host country’s cultural norms. Ultimately, however, this interaction benefits both indigenous and international students. Hendrickson (2010) citing Yum (2001) suggests that having many international friends is linked to “increased complexity of an individual’s cognitive map” (p. 284).

Arnett (2000) theorizes that because there is a band of development between the ages of eighteen and twenty-two, adolescence stretches into an individual’s twenties, thus further than conventionally considered. He posits that during this time of exploration the individual engages in a process of experimentation with identity with respect to love, world views, and work. The student’s focus during this time is to advance self-sufficiency and become personally responsible by developing the ability to make independent decisions. Blakemore likewise suggests that “adolescence is a period of life where the brain is particularly adaptable and malleable which is a fantastic opportunity for learning and creativity.” Blakemore proposes that “the environment including teaching can and does shape the developing brain” (2012, 13.00.00-13.25.00).

A review of the literature on connectedness reveals a relatively advanced academic discussion. By contrast, the conclusions drawn from the focus group part of this research reveal a range of practical considerations on creating connected teaching and learning environments that also inform the subsequent planning and action steps in this research.
3. Method

Design Faculty Focus Group

The focus group part of this research asked members of the design faculty about their experiences with student connectedness in a classroom context, specifically in terms of the teaching strategies they have employed and see as increasing or otherwise facilitating student connectedness. (The focus group questions are listed in Appendix A.) The focus group was designed in accordance with “Designing and Conducting Focus Group Interviews” (Krueger and Casey, 2002). The group comprised five consenting participants (as per sample consent form in Appendix B.) and the researcher (the author). Three participants were men and three were women. Three are from a design background and the other three are from a fine art background. All six participants are also actively involved in their respective industries, with four of them in the art and design sector and the remaining two in other industries.

4. Discussion

Connectedness in the classroom

At the start of the discussion, participants were asked questions designed to establish their various perceptions of connectedness in the first-year design classroom. One participant considered that first year students come into a situation where they know no one would look for “commonality”. This could be with regard to “race, culture, language, ability or personality.” They orientate towards others they perceive to be like them.

The purpose of group projects early in the first year is to “get the students to break down their social barriers, to get them to learn a little bit more from sharing the experiences of the learning processes with their peers, maybe to take them out of their comfort level but also to increase their learning.” Group projects can promote student interaction in which differences in world view, emotional needs and life space demands are amplified and this process often generates conflict. “There’s usually conflict...in some groups.”
Another participant explained student connectedness within the classroom as a structural network where class information is contained. If a student is not part of that network, they miss out on the type of information that “meanders through” that network. This participant further clarified that this network is generated by the students themselves and is separate to faculty engagement with them.

“[Students]…that are not connected at all are missing out on information...not just what we give them but information that kind of meanders through the group.” “Their world as opposed to our world...I can see how it drags people along and lifts them.”

Most participants felt that the ability to create a connected environment is fundamental not only to student progression, but is also in and of itself an important life skill because when students leave college, industry will expect them to be able to collaborate in diverse groups. “When they get out into industry or wherever, they’re going to have to collaborate, they’re going to have to work with various diverse groups and it’s hugely important that they understand that...”

Classroom layout
The participants also discussed classroom layout and the significance of physical space on student connectedness. One participant suggested that the growing importance of ‘virtual space’ may be changing student perception of space and connection. “It might be shifting...we’re probably talking about the next generation who as you say live in the laptop, it could be anything around them....it could be Starbucks around them....”

Another participant felt that the students were more interested in “personalising themselves digitally” while others made the suggestion that the students should decide how their own education space should be. “[They should] own their space...to effect change in their own space...then you might see they might find the answer.”

Space was perceived relative to student ownership and segregation of that space was relative to hierarchy where breaking the hierarchical structure in the classroom could lead to greater connectedness. “I personally feel it would be better to have more of a circle dynamic so that there isn’t...that kind of hierarchy or segregation....”
Participants highlighted the difference between connectedness in the classroom and connectivity to the internet, namely social media. One participant made reference to “a safe space” away from technology suggesting that “internet” connectivity was the biggest threat to student connectedness. This opinion was echoed by two other group members who suggested that “information competition” was the greatest threat to student connection. However, another participant highlighted the positive value of internet and social media connection in today’s student culture. [Students] that are not connected at all to the class group, they are missing out of fifty percent of the stuff that naturally finds its way on God knows, Facebook, What’s app, talking, chatting to each other.”

Project Design
The participants offered approaches to teaching practice when considering student connectedness in terms of project that combine individual and group work components. One participant commented on projects in which students start off working in teams before completing the project on their own. “Their final brief, six weeks later, was far stronger when they had worked as a group….and they were all exhausted [after the teamwork project].”

Another tutor discussed a teaching strategy where the individual student projects came together as a whole. “They were all working on individual projects but they could see the relationship of all those individual projects to one over all....”

Two of the teaching strategies designed to encourage connectedness used a time constraint. The first such strategy, (described above) required students to spend part of the project time working in teams under a time constraint. The second strategy is known as Stegreifentwurf (loosely translated as “design under deadline”) which one of the participants learned in Germany. Stegreifentwurf requires students to complete a group project in which students, from all years, must complete a design project in six hours or less. This essentially requires the students to connect with one another in order to complete the project. This strategy does not place much emphasis on assessment. In fact, no instructors assist the students. “In that group you have to be pretty much connected, so within the six hours you have to find your leader,
supporter, all the roles, you have to find your social standing in the group, then design... together.... learn to collaborate.”

Participants agreed that a time restriction during group work leverages the power of the collective and the power of the deadline to create connection. The participants expressed this agreement in various ways: “That’s you know, talking about time and almost forcing them into action.” “Restricting time.” “It’s the power of the collective....” “And it gives them more confidence.” “The power of the deadline.” “The deadline is a big thing.”

Assessment
Finally, the participants discussed assessment and its relationship to connectedness. One participant suggested that in a third level environment, answers to problems tend to be less “wrong” or “right” than they do in secondary educational settings. For this reason, entry-level students tend to be unsure of their understanding and thus are often afraid to give “the wrong answer.” “It’s different in school, you know if you learn something off by heart .... Then I’ll get a good grade, but here [in third level] you come to a different dynamic.”

Participants suggested that because students come from different cultural backgrounds they may be used to different assessment structures. This can create confusion among first-year students who might wonder why they have been given a certain grade. “It’s a different system and [they have] to get their heads around that.”

One suggestion for reducing this confusion is to explain the grading system by letting students grade each other. This approach can lead to a greater understanding of learning outcomes and marking criteria. However, the participants agreed that the students often marked each other harder than the tutors would have. “.... I think some of them can be more critical than we are.”

Two participants felt that when it came to grades, the students were competitive. They wanted to understand how their grades measured up to those of the other students in the class and that this was “a natural thing.” “I do find once the grades go up...they’re comparing themselves.”
4. Conclusions and Future Work

Group projects with time constraints very likely increase student connectedness. Also, projects that combine individual student and group work may enhance connectedness as well as a student’s ability to work individually and as part of a team.

Peer assessment was seen to improve understanding of grading systems, particularly among international students used to different grading systems. However, peer-to-peer grading seems to increase competition between students.

Connectedness in the classroom may be improved by breaking down hierarchy, through circular or other inclusive layouts or by letting students arrange their learning space. Virtual space may also alter student perception of space and connectedness. Nevertheless, there is an important difference between student connectedness and internet connectivity if only because information competition via the internet may threaten student connectedness within the classroom.

Connectedness as a skill may be important not only in negotiating the classroom community but as a fundamental skill in the workplace.

These conclusions offer several possible future research topics, including how studio projects can be designed to better promote connectedness among first-year students and how students perceive various teaching practices in terms of connectedness.

Future in-class action research could examine such teaching practices through combined inputs from faculty, students and lecturers. Such research might look at any of the numerous factors that were seen to affect connectedness, including virtual learning space, peer-to-peer assessment and competition, time constraints, and grading practices, among others. Future literature review could focus on how project design, classroom layout and assessment impact student connectedness in the classroom.
Appendix A: Faculty Focus group questionnaire

FOCUS GROUP: FACULTY MEMBERS REFLECT ON HOW THEY HAVE DESIGNED THEIR TEACHING PRACTICE TO CONSIDER STUDENT CONNECTEDNESS.

INTRODUCTION BY FACILITATOR:

CONTEXT
I am engaged in a research project attempting to gain a deeper understanding of how and why students connect to each other during team projects.

PURPOSE
You have been asked to participate in a focus group. The purpose of the group is to investigate student connectedness; specifically, I want to gain a deeper understanding of student connectedness in a classroom context.

YOU WERE SELECTED BECAUSE
You have designed and delivered programmes for first year in the Design Faculty in Griffith College.

Engagement Questions:

1. When you think about student connectedness what comes to mind?
2. What do you notice about student connection in a classroom context?

Exploration Questions:

Has anything influenced your teaching practice with regard to student connectedness?

3. In your experience, how has student connectedness been impacted by:
   (a) Classroom layout
   (b) Project design
   (c) Assessment

What strategies have you implemented to connect students?

4. How do you feel when told the literature identifies connectedness as one of the themes impacting entry-level student progression?

Exit Questions

5. Of all the topics discussed what do you think is the most important?
6. Suppose you could implement one strategy to impact student connectedness, what would it be and how would you do it?

7. What do you see as the biggest challenges to student connectedness?
8. Is there anything else you would like to say about how you feel about student connectedness?
Appendix B: Participant consent form faculty focus group

CONSENT TO PARTICIPATE IN FOCUS GROUP

PURPOSE
You have been asked to participate in a focus group. The purpose of the group is to investigate student connectedness, specifically I want to gain a deeper understanding of student connectedness in a classroom context.

CONFIDENTIALITY
You can choose whether or not to participate in this focus group and can decide to opt out at any time. The focus group will be recorded; your responses will be anonymised and your identity will not be disclosed. All information gained from this study will be kept strictly confidential. I would ask that all responses by participants of the focus group be kept confidential.

PROCEDURE
The focus group will last approx. 30-45 mins. There are no right or wrong answers to the questions asked during the focus group, I want to hear each participant’s unique view on the questions asked.

CONSENT
By signing this consent form, you are indicating that you understand the information outlined above and agree to participate in this focus group.

Participant’s name:

Participant’s signature:

Date:

Please feel free to contact me at wendy.doyle@gcd.ie or 4150423 if you have any questions regarding the research itself or being part of the research.

DEBRIEFING
The data gathered from this focus group will be used redesign elements of the studio projects in first year, to establish the effect of these redesigned elements on student connectedness.
References


Park, G., & Thayer, J. F. (2014). From the heart to the mind: cardiac vagal tone modulates top-down and bottom-up visual perception and attention to emotional stimuli. *Frontiers in psychology, 5*, 278.


