Student Centered Class

Amin Chegenizadeh[1+], Hamid Nikraz [2], Haleh Hooshmand Zadeh[3]

[1] Curtin University of Technology, Perth, Australia

[2] Department of Civil Engineering, Curtin University of Technology, Perth, Australia

[3]Industrial Engineer and Private Tutor, Perth, WA

Abstract. The use of proper method of teaching in education and training recently is of interest. This paper studied use of student centered teaching method on student learning and their satisfaction from a case study of geotechnical engineering tutorial. The paper concludes that usage of proper method of teaching increased the student engagement and productivity in the tutorial class. Finally, the satisfaction is presented graphically.

Keywords: Geotechnical, Teaching, Student Centred class

1. Introduction

"Traditionally, teachers direct the learning process and students assume a receptive role in their education. With the advent of progressive education in the 19th century, and the influence of psychologists, some educators have largely replaced traditional curriculum approaches with "hands-on" activities and "group work", which the child determines on his own what he wants to do in class. Key amongst these changes is the premise that students actively construct their own learning. Theorists like John Dewey, Jean Piaget, and Lev Vygotsky whose collective work focused on how students learn is primarily responsible for the move to student-centred learning. Carl Rogers' ideas about the formation of the individual also contributed to student-centred learning. Student-centred learning means reversing the traditional teacher-centred understanding of the learning process and putting students at the centre of the learning process. Maria Montessori was also an influence in centre-based learning, where preschool children learn through play.Student-centred learning allows students to actively participate in discovery learning processes from an autonomous viewpoint. Students consume the entire class time constructing a new understanding of the material being learned without being passive, but rather proactive. A variety of hands-on activities are administered in order to promote successful learning. Unique, yet distinctive learning styles are encouraged in a student-centred classroom. With the use of valuable learning skills, students are capable of achieving lifelong learning goals, which can further enhance student motivation in the classroom. Self-determination theory focuses on the degree to which an individual's behaviour is self-motivated and self-determined." Therefore, when students are given the opportunity to gauge their learning, learning becomes an incentive. Because learning can be seen as a form of personal growth, students are encouraged to utilize self-regulation practices in order to reflect on his or her work. For that reason, learning can also be constructive in the sense that the student is in full control of his or her learning. Over the past few decades, a paradigm shift in curriculum has occurred where the teacher acts as a facilitator in a student-centred classroom. Such emphasis on learning has enabled students to take a self-directed alternative to learning. In the teacher-centred classroom, teachers are the primary source for knowledge. Therefore, the focus of learning is to gain information as it is proctored to the student. Also, rote learning or memorization of teacher notes or lectures was the norm a few decades ago. On the other hand, student-centred classrooms are now the norm where active learning is strongly encouraged. Students are now researching material pertinent to the success of their academia and knowledge production is seen as a standard. In order for a teacher to veer towards a student-centred classroom, he or she must become aware of the diverse backgrounds of his or her learners. To that end, the incorporation of a few educational practices such as Bloom's Taxonomy and Howard Gardner's Theory of Multiple intelligences can be beneficial to a student-centred classroom because it promotes

---

various modes of diverse learning styles. The following provides a few examples of why student-centred learning should be integrated into the curriculum:

- Strengthens student motivation
- Promotes peer communication
- Reduces disruptive behaviour
- Builds student-teacher relationships
- Promotes discovery/active learning
- Responsibility for one's own learning

These changes have impacted educator's methods of teaching and the way students learn. In essence, one might say that we teach and learn in a constructivist-learning paradigm. It is important for teacher's to acknowledge the increasing role and function of his or her educational practices. As our educational practices changes, so does our approach to teaching and learning change. Therefore, the mindset about teaching and learning is constantly evolving into new and innovative ways to reach diverse learners. When a teacher allows their students to make inquiries or even set the stage for his or her academic success, learning is more productive. (wiki, 2012)

According to Geraldine O'Neill and Tim McMahon (2005) "Kember (1997) described two broad orientations in teaching: the teacher centred/content oriented conception and the student centred/learning oriented conceptions. In a very useful breakdown of these orientations he supports many other authors views in relation to student-centred view including: that knowledge is constructed by students and that the lecturer is a facilitator of learning rather than a presenter of information. Rogers (1983b:188) identified the important precondition for student-centred learning as the need for: '... a leader or person who is perceived as an authority figure in the situation, is sufficiently secure within herself (himself) and in her (his) relationship to others that she (he) experiences an essential trust in the capacity of others to think for themselves, to learn for themselves'. Choice in the area of the learning is emphasised by Burnard, as he interprets Rogers' ideas of student-centredness as 'students might not only choose what to study, but how and why that topic might be an interesting one to study' (1999:244). He also emphasises Rogers' belief that students' perceptions of the world were important, that they were relevant and appropriate. This definition therefore emphasises the concept of students having 'choice' in their learning. Harden and Crosby (2000:335) describe teacher-centred learning strategies as the focus on the teacher transmitting knowledge, from the expert to the novice. In contrast, they describe student-centred learning as focusing on the students' learning and 'what students do to achieve this, rather than what the teacher does'. This definition emphasises the concept of the student 'doing'. Other authors articulate broader, more comprehensive definitions. Lea et al. (2003:322) summarises some of the literature on student-centred learning to include the followings tenets:

- 'the reliance on active rather than passive learning,
- an emphasis on deep learning and understanding,
- increased responsibility and accountability on the part of the student,
- an increased sense of autonomy in the learner
- an interdependence between teacher and learner,
- mutual respect within the learner teacher relationship,
- and a reflexive approach to the teaching and learning process on the part of both teacher and learner.'

Gibbs (1995) draws on similar concepts when he describes student-centred courses as those that emphasise: learner activity rather than passivity; students' experience on the course outside the institution and prior to the course; process and competence, rather than content; where the key decisions about learning are made by the student through negotiation with the teacher. Gibbs elaborates in more detail on these key decisions to include: 'What is to be learnt, how and when it is to be learnt, with what outcome, what criteria and standards are to be used, how the judgements are made and by whom these judgements are made' (1995:1). In a similar vein in earlier literature, the student-teacher relationship is particularly elaborated upon by Brandes and Ginnis (1986). In their book for use in second level education (post-primary), entitled 'A Guide to Student-Centred Learning', they present the main principles of student-centred learning as:

- The learner has full responsibility for her/his learning

- Involvement and participation are necessary for learning
- The relationship between learners is more equal, promoting growth, development
- The teacher becomes a facilitator and resource person
- The learner experiences confluence in his education (affective and cognitive domains flow together)
- The learner sees himself differently as a result of the learning experience.

The theoretical standing of student-centred learning is often surprisingly absent in the literature. However, it appears to relate primarily to the constructivist view of learning in the importance it places on activity, discovery and independent learning (Carlile and Jordan 2005). Cognitive theory also highlights activity but in a different form than that supported by the constructivists (Cobb 1999). The cognitive view supports the idea that the activity of learning is computed in the head, or as often described 'in the mind'. The constructivist view of activity is related more to performing physical activities, for example, projects, practicals. Student-centred learning has some connections with the social constructivist view, which emphasises activity and the importance of communities of practice/others in the learning process. However, the definitions of SCL do not necessarily highlight the importance of peers in learning" (Cobb 1999; Bredo 1999, Geraldine O'Neill and Tim McMahon, 2005).

2. Teaching Method

Several methods were applied to make sure that students are engaged in the class activities. They can be listed as:

- Self teaching booklets

In the geotechnical course, a series of booklets were given to students. The booklets were designed to backing workshop sessions, distance education and personal education. The procedure was similar to Sparrow (1996) in which a firm core of tasks and knowledge was recognized, which was generally completed in class, although if the students preferred, these tasks could be completed at home or in other places and at other times. Students were stimulated to assess their own needs and focus their attention in the learning areas relevant to them. If, for example, they were self-assured about how to calculate using fractions, they did not have to complete that section. A wide range of optional tasks were also provided so that students could undertake additional work in areas of weakness.

- Poster presentations

Similar to Sparrow (1996), poster presentations were used as part of a move to offer students flexibility in the place and content of education. Students, in groups of three, were asked to build a poster to be showed and shared with their peers. The theme of the poster could be designated from a list of five themes given by the instructor, which were related to the subject matter of the unit. A basic, non-negotiable structure for the poster was established, within this the students could enhance the content and style as they pleased.

3. Results

Feedbacks from students were taken finally. The results proved that using student centered learning increased the satisfaction of student. Figure 1 shows the answers of student to the specific question related to method of teaching. Figure 1 shows that from 105 students in class, the majority enjoyed from the lessons and preferred other lecturers to do so compare to traditional method of teaching. Out of 105 students, 76 students strongly agreed with student centered class. Less than 10 students chose neither or disagree.

Table 1 Student Feedback

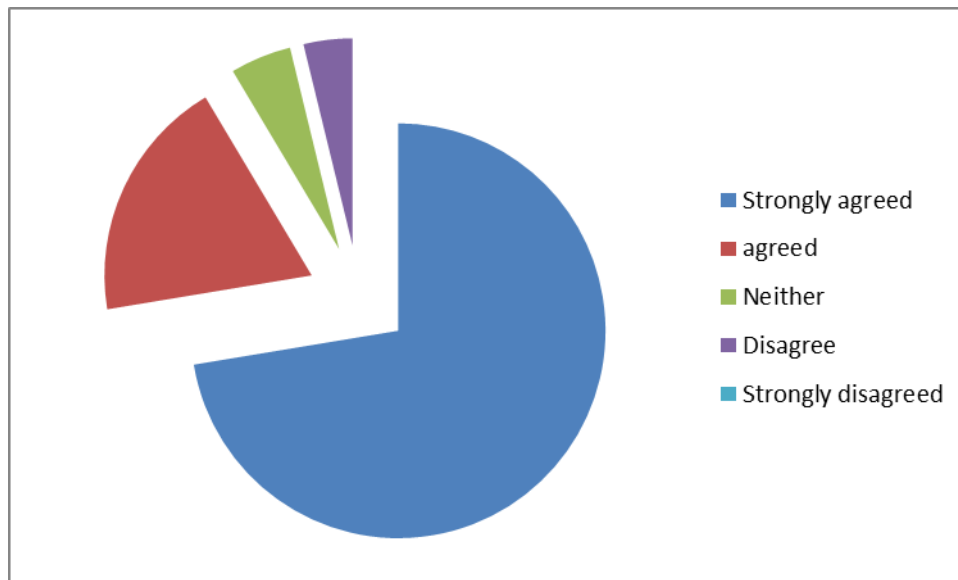|	
Strongly agreed	76
agreed	20
Neither	5
Disagree	4
Strongly disagreed	0

Figure1 Student Centered method over Traditional method

4. Conclusion

This paper focused on investigation on usage of student centred method on teaching and learning of student. The paper reflects feedback from students of a geotechnical tutorial class regarding usage of student cantered method. The results proved that majority of student were happy to use student cantered method as they could follow up the course easier than traditional and can concentrate more than traditional method..

5. References

[1]   Barr, R. B. and J. Tagg (1995, Nov/Dec). From teaching to learning - A new paradigm for undergraduate education. Change, 13-25.

[2]   Benett, Y. (1999). The validity and reliability of assessments and self-assessments of Work Based Learning. In P. Murphy (Ed.), Learners, Learning and Assessment. London: Open University Press.

[3]   Black, P. (1999). Assessment, learning theories and testing systems. In P. Murphy (Ed.), Learners, Learning and Assessment. London: Open University Press.

[4]   Boud, D. and G. Feletti (1997). The Challenge of Problem Based Learning. London: Kogan Page.

[5]   Brandes, D. and P. Ginnis (1986). A Guide to Student Centred Learning. Oxford: Blackwell.

[6]   Bredo, E. (1999). Reconstructing educational psychology. In P. Murphy (Ed.), Learners, Learning and Assessment. London: Open University Press.

[7]   Broadfoot, P. (1999). Assessment and the emergence of modern society. In B. Moon and P. Murphy (Eds.), Curriculum in Context. London: Sage Publications.

[8]   Brown, G., J. Bull, and M. Pendlebury (1997). What is assessment? In Assessing Student Learning in Higher Education. London: Routledge.

[9]   Brown, S., C. Rust, and G. Gibbs (1994). Involving students in assessment. In Strategies for Diversifying Assessment in Higher Education. Oxford: The Oxford Centre for Staff Development.

[10]   Burnard, P. (1999). Carl Rogers and postmodernism: Challenged in nursing and health sciences. Nursing and Health Sciences 1, 241-247.

[11]   Carlile, O. and A. Jordan (2005). It works in practice but will it work in theory? The theoretical underpinnings of pedagogy. In S. Moore, G. O'Neill, and B. McMullin (Eds.), Emerging Issues in the Practice of University Learning and Teaching. Dublin: AISHE.

[12]   Cobb, P. (1999). Where is the Mind? In P. Murphy (Ed.), Learners, Learning and Assessment. London: Open University Press.

[13]   Davis, M. H. and R. M. Harden (1999). AMEE Medical Education Guide No. 15: Problem-based learning: A

practical guide. Medical Teacher 21(2), 130-140.

[14] Donnelly, R. and M. Fitzmaurice (2005). Designing Modules for Learning. In S. Moore, G. O'Neill, and B. McMullin (Eds.), Emerging Issues in the Practice of University Learning and Teaching. Dublin: AISHE.

[15] Edwards, R. (2001). Meeting individual learner needs: power, subject, subjection. In C. Paechter, M. Preedy, D. Scott, and J. Soler (Eds.), Knowledge, Power and Learning. London: SAGE.

[16] Gibbs, G. (1995). Assessing Student Centred Courses. Oxford: Oxford Centre for Staff Learning and Development.

[17] Hall, J. and P. Saunders (1997). Adopting a student-centred approach to management of learning. In C. Bell, M. Bowden, and A. Trott (Eds.), Implementing Flexible Learning. London: Kogan Page.

[18] Harden, R. M. and J. Crosby (2000). AMEE Guide No 20: The good teacher is more than a lecturer-the twelve roles of the teacher. Medical Teacher 22(4), 334-347.

[19] Kember, D. (1997). A reconceptualisation of the research into university academics conceptions of teaching. Learning and Instruction 7(3), 255-275.

[20] Knight, P. (2002). Learning Contracts. In Assessment for Learning in Higher Education. Birmingham: SEDA series.

[21] Lea, S. J., D. Stephenson, and J. Troy (2003). Higher Education Students' Attitudes to Student Centred Learning: Beyond 'educational bulimia'. Studies in Higher Education 28(3), 321-334.

[22] Light, G. and R. Cox (2001). Assessing: student assessment. In Learning and Teaching in Higher Education: The Reflective Practitioner. London: Paul Chapman Publishing.

[23] Lonka, K. and K. Ahola (1995). Activating instruction: How to foster study and thinking skills in Higher Education. European Journal of Psychology of Education 10, 351-368.