

Student-Centred Learning: Concept Paper

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ABSTRACT This paper explores how university teachers can facilitate student-centred learning. This paper, drawing from three researchers' teaching/lecturing and academic advising in primary schools, high schools and universities in Zimbabwe and South Africa, proceeds by highlighting student-centred learning tenets, student-centred learning drivers, what research says about student-centred learning activities and the implementation of student-centred learning activities. It emerges that the forces of globalisation, massification of higher education (which have resulted in large classes), changing labour markets, intensification of need for accountability of tertiary institutions and the ever increasing call for improved throughput rates, student success and retention makes student-centred learning THE learning and teaching approach of the era. Furthermore, informed by practice and literature, this paper share insights on how teachers could use some student-centred learning activities to manage large classes before concluding by highlighting lessons learnt from this study and recommending the way forward.

INTRODUCTION

The Student-centred learning approaches are examined against the background given by the South African Education White Paper 3.2.3 notes that, the structure and culture of the present system are not well suited to accommodate the varying backgrounds, needs, interests and abilities of the student body of the future, to enable them to realise their potential, and contribute the necessary range and quality of knowledge, insight, skill and capability to the development and reconstruction of our country.

Similarly, drawing from sociocultural approach, Universities need to appreciate that, as Lave (1993) notes, students come from diverse language, cultural, socio-economic and educational backgrounds hence the teaching and learning process should not assume they are a homogenous group. Rogoff (1995) suggests that sociocultural activity can be seen as a process of apprenticeship where guided participation (Davydov and Kerr 1995) and participatory appropriation (Brown et al. 1993) or vicarious participation and generative participation (Northedge 2003) in the cultural activities of the knowledge community or community of practice, prepares new participants for later full participation in the community.

In addition, Marple (2011) submits that lecturers cannot advance academic success if they ignore the personal, physical and social emotional needs of each student. This calls for focusing on student voice, building of relationships, knowing students as individuals and their needs, strengths, interests and aspirations, development of student self-direction and development of monitoring and evaluation systems based on the progress of individual students. Students need to be encouraged to be self-confident and feel good about themselves and others through participation (Okokoh 2007). Emphasizing a focus on the facilitative model of teaching and learning, Mammen (2006:476, 639) reiterates that; teaching methods must conform to a transformative model of quality where academics take pains to grapple with the low level of subject mastery with which students enter HE, go down to their level and promote enterprise, student autonomy and enhance cooperation and consultative learning.

As Biggs (1999), notes, good teaching is getting most students to use the higher cognitive level processes that the more academic students use spontaneously and good teaching narrows the gap between surface and deep learning.

Furthermore, a culture that promotes students and lecturer interaction in the teaching-learning venture is core. Boughey (1997:3) reckons that; people become literate by observing and

interacting with other members of the discourse until the ways of speaking, acting, thinking, feeling and valuing common to that discourse become natural to them.

Because 'becoming literate' is a process of socialisation, several language and academic development practitioners have noted that academic literacy needs to be seen as a product of degree studies and not an expectation at the beginning of students' university careers, as seems to be the case if one looks at the way many curricula are structured (Dison and Rule 1996; Boughey 1997). Thus students undergo an apprenticeship in order to become literate in the discourses of the academy.

Universities are public domains with diverse stakeholders. In the 21st century and in the globalized world, the voices from the world of business are becoming louder and louder. This has seen the representatives of the world of business interviewed during the Higher Education Quality Committee audit in 2011 commenting on graduates' lack of communication skills, lack of exposure to the workplace, and graduates not being sufficiently up-to-date in their field of knowledge. These observations suggest that the universities have to conduct their teaching-learning in ways that help develop the required attributes. Commenting on a related matter, Hutchings (2001) reckon that University academics are called upon to examine 'the transactional relation' between teaching and learning and to be problem solvers and active investigators of what works and how and why it does so.

STUDENT-CENTRED LEARNING UNDERPINNING THEORIES

According to MacLellan et al. (2004), the theory of constructionism drawn from the research work by John Dewey, Jean Piaget and Carl Rogers, whose collective work focused on how humans learn, is primarily viewed as the genesis of SCL. Central to their ideas is the fact that students actively construct their own learning – known as Constructivism. It is a theory of learning which purports that, human beings and organisms in general, construct meaning from current knowledge structures. In essence learners develop skills to construct new knowledge from their current experiences and they then incorporate the new information into an already existing framework.

The theory of constructivism describes how learning should happen, regardless of whether learners are using their experiences to understand a lecture or attempting to design a concept (MacLellan et al. 2004). Further constructivism does not suggest a particular pedagogy but is synonymous with learning approaches that enhance active learning, which is basically learning by doing. Constructionism is informed by Piagetian theory of disequilibrium, learning process, adaptation, reflections, re-equilibrium where there is disequilibrium

between the external environment of the organism and the organism itself. In such a scenario, learning has to take place as a process that leads to the organism adapting to the external environment. Reflections are then made by the organism to enable it to attain a state of re-equilibrium.

Besides, Kolb (1984) model of learning helps understand how reflection comes in the learning process. The students reflect upon the activity they participated in and the concepts drawn therein. The reflections can now be reported to the class through several forms like: free writing, journaling, or small or large group discussions. The learner uses the results of the reflection to develop knowledge and theories, which helps further the learning process because the learner is conceptualizing their own theories, not just accepting the theory of the instructor. The cognitive view supports the idea that the activity of learning is computed in 'in the mind'. The constructivist view of activity is related more to performing physical activities, for example, projects, and practicals. SCL has some connections with the social constructivist view, which emphasises activity and the importance of communities of practice/others in the learning process (Northedge 2003).

STUDENT-CENTRED LEARNING TENETS

Jones (2007) notes that SCL approach help students to develop a 'can-do' attitude. Compared to the teacher-centred lecture deliveries, SCL is effective, motivating, and enjoyable. SCL is deemed 'active learning' (MacHemer and Crawford 2007) in that it emphasises that students have to engage in a variety of activities in their studies for them to grasp and develop concepts. Also, emphasis is on students working together, in pairs, trios, groups and as a whole class to develop concepts or in problem solving. The activities are set in such a way that enables a peer-review and continuous self-assessment learning environment (Attard et al. 2010). In helping students develop critical thinking skills, reflection is essential.

DRIVERS FOR STUDENT-CENTRED LEARNING

In the present society with borderless information, education needs should be able to respond to additional demands of a globalized world by raising awareness of environment, peace, cultural and social diversity and increased competitiveness. Such education is to a knowledge or information society what secondary education was to an industrial economy. Globalization has changed the size, nature and quality of that environment (Moloi et al. 2009) and consequently education. The challenge for higher education, therefore, is to reform, create and develop systems that prepare the individual to work in a borderless economy and live in a

global society. In essence, educational institutions need to produce graduates who can effectively and efficiently articulate themselves at a global level.

Global higher education (HE) then is the widening, deepening and speeding up of interconnectedness of universities within the global world (Evans et al. 2011). According to Hassan (2011), the modern world is 'super complex' and has given rise to an 'age of super complexity, marked by new accounts of the world, new images, new technologies, new texts, new discourses, new forms of professional life' (Barnett 2000:417). HE has to respond to this 'super complex' world and pedagogies are required that would provide the knowledge and skills for coping with super complexity (Barnett 2000).

IMPLEMENTATION OF STUDENT-CENTRED LEARNING ACTIVITIES

According to Northedge (2003), because knowledge communities are complex and specialist discourses difficult to penetrate, students need opportunities to participate at a variety of levels, as they learn how the discourse works. Students participate in the specialist discourse even as they read and listen, simply through the effort of sharing in the meaning projected by the author or speaker. Furthermore, Northedge (2003) notes that vicarious participation is essential in that it enables students to draw from the discourse of experienced members, the purpose, and process of finding meanings embedded in discourse. The outcomes of vicarious participation are more realised in the use of case studies by students to seek information. Students can then construct the cases in their own minds, compare them with cases from their own experience, pose their own questions and construct their own answers.

However, to be able to use the discourse effectively, students need to learn how to take over responsibility for framing shared meaning. They need to practice projecting meaning to others within the knowledge community (Northedge 2003). One significant opportunity is the use of classroom group discussion but classroom discussion can easily be pitched too low, so that it remains rooted within everyday discourse and students make no progress towards the target discourse. Alternatively, it can be pitched too high, so that few can genuinely participate, even vicariously. Breaking into small groups can be helpful in allowing students to practice generating specialist discourse with each other, in a rough-and-ready form, before convening in the larger group where the tutor can support them in framing the discourse more 'convergently'. This means the university lecturer should execute the role of teacher as 'discourse guide' (Mercer 1995).

ACTIVE LEARNING STRATEGIES

This section is devoted to the exploration of SCL methods that enhance active learning. The exploration identifies a method and highlights how it could be used in diverse settings. Special attention is given to: problem-based learning, think-pair share, jigsaw, case study, simulations, short quizzes, clickers and minute papers.

PROBLEM-BASED LEARNING

The PBL format originated from the medical school of thought and is now being used in other fields of study like engineering. PBL is a student-centered technique in which students learn about a subject through the experience of problem solving. PBL entails having students, as Capon and Kuhn (2004) and Preszler et al. (2007) put it, working in groups to solve complex, multifaceted, and realistic problems, researching and learning necessary background material as needed. PBL is also beneficial as in groups, according to Schmidt et al. (2011); students identify what they already know, what they need to know, how and where to access new information that may lead to resolution of the problem.

The role of the facilitator, known as the tutor in PBL, is to enhance learning by supporting, guiding, and monitoring the learning process. Furthermore, the tutor is supposed to help boost students' confidence in tackling problems, encouraging them, and also stretching their understanding of the subject matter. Therefore, lecturers from diverse academic fields are encouraged to explore PBL as its goals, according to Hmelo-Silver (2004), are to help the students develop flexible knowledge, effective problem solving skills, self-directed learning, effective collaboration skills and intrinsic motivation. This means PBL addresses the need to promote lifelong learning through the process of inquiry and constructivist learning (Schmidt et al. 2011).

THINK-PAIR-SHARE (also called small group discussion and peer instruction)

The lecturers when using the Think-Pair-Share model of learning poses a question or prompts to the class and gives students time to independently think about their answer(s) without discussing or showing peers (Lasry et al. (2008); Armbruster et al. (2009)). The lecturer then directs each student to pair up with a nearby or assigned student. This allows the breaking of the large classes into manageable units that can discuss amongst themselves. In set units the students then compare thoughts or notes, reach consensus, making notes for class presentation. To maximise on participation, the pairs or units are randomly selected to present their responses to the class. The instructor may also assign students to record the responses as

notes (Lom 2012). The model allows for independent thought for all students. Each student has a responsibility to present a well thought out argument to their partner. This also avoids obvious responses from the same students always meaning all students will talk, thus, experience the advantages of explaining their responses to a peer, scrutinizing their opinions, and revising before presentations to the whole class. Finally, Armstrong et al. (2007) notes that for an undergraduate class, the Think-Pair-Share can work particularly well with analysing concepts and data, understanding theorems, experiments, and making evaluations and reaching conclusions.

JIGSAW

Originally Jigsaw approach was developed for reducing racial conflict and promoting positive relationships across ethnic boundaries (Aronson and Patnoe 2011) and have since been adapted as short exercises within (Lom 2012) undergraduate science lectures and labs (Doymus 2008; Davis-McGibony 2010) among others. The use of Jigsaw requires the teacher to structure the learning activities and provide prompts, resources with thoughtful prompts and appropriate resources to enhance the learning. On the other hand, the role of students becomes that of acquisition and articulation of new knowledge.

The Jigsaw approach promotes SCL as it requires the students to be both teacher and student during the exercise, ultimately making all students able to communicate and interacting with peers. Jigsaws are useful learning methods in study areas that allows the breaking of the topic into units that can be discussed independently and at designated times allows the students to be regrouped into new groups that allows them to share with each other the components they learnt in separate groups. The individual in the reconstituted group becomes a part of the jigsaw that is essential to assist the group have a fuller appreciation of the study topic that was broken into manageable elements by the lecturer. Such an approach encourages students to be active learners as they know that they later have to share what they would have learnt with their colleagues. The approach therefore gives the lecturer more time to move around and assist individuals in groups.

CASE STUDY

Through the case study technique as Preszler (2009) notes, learners are given tasks in which they are supposed to analyse the scenario presented, identify the problem situation(s) and suggest possible solutions to the problem(s). The facilitator's role is to group and advise students according to the cases relevant to the day or topic's learning objectives. Makondo

(2012) points out that in the groups the students could choose leaders who would report back to the class at the end of the allocated time the main points discussed. This approach gives the lecturer the option of also presenting a summary of the main points discussed by all groups at the end of the group presentations. Lecturers need to encourage the use of case studies as this help students develop skills in solving problems and making decisions as well as motivating students to learn.

SIMULATIONS

According to Harris et al. (2009), the simulation technique entails that students present an imitation of real life scenarios to the class and act out how the problem can be solved. The class is divided into small groups and have each member take an active role in the presentation. It is a model or representation of a course of events say of events in Business, Science or Social studies (McDaniel et al. 2007). Most commonly discussed simulations are computer simulations and games as methods of instruction. Medical and Nursing students can also use simulation as a learning pedagogy. Here they can imitate emergency room procedures for various medical conditions. The rest of the class is supposed to watch and assess the modelling groups' performance and rates it against best practice. These kinds of simulations are designed to teach concepts and skills of negotiating, cooperation and compromise. Whilst the method is motivating and exciting, it also compels players to participate actively and to be involved. Participation in simulations and games requires skills in negotiating, planning and decision making.

SHORT QUIZZES

Quizzes are typically exercises completed by students working independently, but can readily be adapted into team activities (such as Think-Pair-Share). Two important benefits emerge from the use of quizzes. Firstly, all students are cued to think about the material and the instructor quickly gets a complete view of where the class's knowledge stands. Quizzes can be implemented in a wide variety of ways from clickers, which are high-tech classroom response systems to low-tech shows of hands, mini whiteboards, a folded sheet of paper with A, B, C, D options, or coloured index cards. Clicker systems offer the benefit of rapidly collecting, recording, and displaying responses without individual attribution. Hand-held electronic devices inclusive of smartphones can allow students to anonymously vote on answers to multiple choice questions in real time.

According to Smith et al. (2009, 2011), clickers are usually most effective when used with peer instruction. Clicker software can sometimes be expensive, but they have been used to

good (Lom 2012) effect in many courses (Keller et al. 2007; Crossgrove and Curran 2008; Bruff 2009) and new options that allow students to use their cell phones as the responding devices are emerging. Quizzes can be used for a variety of purposes like recording attendance, incentive for attendance and class participation. At the same time quizzes can be presented as timed written exercises at the start or end of class or middle to change pace or signal closure of a topic. Written quizzes offer the advantages of engaging students in a confidential way with a record of individual performance.

MINUTE PAPERS

This technique involves students taking a short written exercise usually after class as a summary of what has transpired in class and has been used in large and small lecture courses (McKeachie 1999; Stead 2005). The lecturers prompt students to assess the day's lecture by encouraging them to identify key points and questions as a regular exercise before they leave the room. The anonymous minute papers are vital as research shows that some students will be more likely to admit confusions, questions or misunderstandings when the task is anonymous, yet other students may not take the exercise as seriously under this condition (Lom 2012). Minute papers also provide the facilitator with a valuable glimpse into how students experienced the lecture, revealing that concepts the instructor intended as clear or important might have been regarded as confusing or trivial by the students in the room. This method helps the lecturer to identify areas that need additional clarification in the next class period (Angelo and Cross 1993). Minute paper motivates students to attend and participate especially if the lecturer can acknowledge as well as demonstrates that the feedback received from students has been used in the design and delivery of subsequent lectures.

STATING GOALS AS PART OF ACTIVE LEARNING STRATEGIES

Regardless of the specific active learning strategy used, stating the goal of the exercise is a critical component of successful implementation of any active classroom strategy (Hussey and Smith 2003). To enhance student buy-in and engagement, revealing an activity's purpose is essential, particularly for new activities. Students are generally more receptive to a new method when they have insight into why they are doing it. While the purpose of an activity may seem obvious to the instructor, students are frequently unable to discern an activity's purpose on their own. Thus, a simple statement of the learning goal can go a long way to establish trust, value and appreciation. Establishing the goal of an activity demonstrates to the

students that the instructor is explicitly thinking about their learning and putting their needs first (Hussey and Smith 2002).

CONCLUSION

The paper notes that SCL empowers and encourages students to meaningfully be responsible of their learning. The use of SCL approaches sees lecturers assuming predominantly facilitating, monitoring, guiding and counselling roles. The ever increasing large classes in universities makes paramount having lecturers imbibe the implementation of SCL approaches. This paper highlighted that SCL could be facilitated through the use of case study, simulations, problem-based learning, quizzes, jigsaw and minute papers among others. The realization that SCL approaches breaks the large classes into manageable groups and pairs that ensures that all learners actively participate in their learning activities. It also emerged that some approaches can be used with ease without need of expensive resources.

RECOMMENDATIONS

To further address the challenges of large classes posed by the massification of higher education, university teachers need to explore diverse approaches that could enhance students active participation in the teaching-learning activities. The paper therefore encourages further studies on how large classes can best be managed.

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