

Displacing or Depressing the Lecture System: Towards a Transformative Model of Instruction for the 21st Century University

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ABSTRACT Teaching and learning are fast becoming more pronounced as core functions of a modern university. Traditionally research took preeminence over teaching and learning in universities. Teaching approaches in universities have evolved over time owing to changes in philosophical assumptions underpinning teaching and learning. As most universities strive for excellence in teaching and learning, a critical reflection on pedagogy for the 21st century university is important. The transmission model of instruction draws from the banking concept in education where the teacher is the all-knowing authority and students are passive and dependent on the teacher. The paper exposes the shortcomings of the transmission model in comparison to strengths of the transformative approaches. In the paper the researchers further evaluate the inherent challenges of embracing transformative approaches in teaching and learning while showing ways of dealing with the challenges and work to involve students in knowledge production.

INTRODUCTION

A university has, generally, three core functions which are teaching and learning, research and community engagement. In the past the research role of the university was more pronounced at the expense of the other two roles. There is, however, a change in this scenario and today in universities the world over, a lot of emphasis is now placed on teaching and learning. Philosophical underpinnings for teaching and learning are rapidly changing with scholars and other interested parties now asking whether students are adequately prepared for the life of work through the use of the traditional teaching approaches for which universities are known. Discourse on excellence in teaching and learning by use of teaching approaches that produce critical thinkers who are highly adaptable and fully functional in the ever changing socio-economic and political world has become topical. To this end, achievement of excellence in teaching and learning

requires a critical reflection on current practices. Academics in universities cannot certainly employ same the methods and hope to achieve different and better results. In the traditional university, lecture system commonly used in undergraduate teaching is drawn from a transmission model. The researchers argue that teaching in a modern university should move away from the traditional transmission model which is hinged on lecture type of instruction to transformative models that involve students in knowledge production and assists in inculcating lifelong learning. In transformative approaches students do not just generate knowledge but they also apply generated knowledge to real life situations, they experience what they learn. In this approach communication flows freely from student-to-student and the lecturer becomes a partner in the learning process.

The Traditional University

Since time immemorial the university has been seen as a transmitter of specialised forms of knowledge (Rodriguez 2008). Based on the Faculty system the university has had the mandate to impart knowledge in different independent disciplines. Disciplines have not only been independent but also very competitive in terms of the utility of the knowledge they delivered. Some disciplines are considered more important than others and funding in universities differ depend-

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ing on the status accorded to disciplines (Vick 2004). Even academics in the disciplines also competed for recognition and prestige (Martin 1998). In buttressing the importance of teaching and learning in the university, Tapscott and Williams (2010) argue that tenure for university academics should be granted on excellence in teaching and learning and not just on research productivity.

One is made to reflect on how certain faculties and departments in universities had become the flagships of the universities while looking down upon others. Krishnan (2009: 2) observes that:

... academic work generally happens within narrow and possibly arbitrary or artificial boundaries which sometimes prevent academics seeing the close connections of different phenomenon and also of the different disciplines.

The traditional university is largely disciplinary in organization contrary to the current calls for interdisciplinary organization of the university knowledge system. Reducing knowledge to disciplines without highlighting the connectivity involved is a problematic view of knowledge.

In terms of the method of instruction the lecture method is as old as the university itself. The lecture method is actually synonymous with the university. Through the use of lectures students were made to accumulate content, skills, facts and concepts. Knowledge was transferred from the experts in subject matter (professors) to lay person (students) (Rodriguez 2008). Hart et al. (2000:1) state that the lecture method continues to play a prominent role in the teaching of most disciplines in universities despite persistent and widespread criticism of the lecture as a teaching method. Hart et al. (2000: 2) explain that;

A lecture is a teaching method where the lecturer talks, acts, persuades, cajoles; in fact, has perfect freedom to do whatever is desired, except to ask students to answer questions. The students do not discuss in the lecture the information conveyed, or question the lecturer verbally.

The dominance of the lecturer and the one-way communication in the lecture method is clearly amplified in the citation.

The traditional university is also viewed as very conservative in nature. It is known for its unwillingness to break the cultural mystique and

behaviour codes built over time (Rodriguez 2008). It thrives on operating the way it has been operating for years. It is built on such heritage and protects it. It is not susceptible to changes hence the analogue that moving a university is like moving a cemetery as one will not get support from the university academic community. In this view, it is pertinent to pose a question on how willing to change are professionals in the university in order to embrace the changes in philosophies underpinning teaching and learning.

The Transmission Model of Instruction

Brockbank and McGill (1998: 52) define the transmission model of instruction as 'that form of teaching which is primarily didactic, using one way transmission of knowledge from the expert teacher to the dependent student learner.' Such an approach is one-way from the teacher to the student and is based on Freire's banking concept or the jug and mug approach. Students are viewed as empty vessel who wait to be filled up with knowledge from the experts. The lecturer is the knowledgeable authority figure whose role is to transmit knowledge by use of the lecture or telling method.

The transmission believes in the existence of bodies of knowledge in different disciplines and these have been established over time hence static and absolute (Sackman and Sharma 2008). Socially acquired information is disseminated; that gained over years of study and experience. Students' understanding is measured by their ability to reproduce the learnt body of knowledge hence it promotes memorisation and other forms of rote learning. There are always expected correct answers in students' responses. Rote learning is normally the best way to learn what is taught because it must be memorised and then reproduced the same way it was presented. Any addition to the information is not accepted. The memorandum is normally identical to the notes given word by word. Students in this method of teaching are assessed on information that does not require high level order of thinking like: analysing, evaluating, criticizing etc. They assessed on low level order of thinking where multiple choice questions are utilised, definition, one word answer, matching question to answers. To pass examination in surface learning, you do not need to understand what you are writing or answering. You can easily memorise work you do not

know or do not understand and get very high marks.

In the transmission model of instruction knowledge is acquired for knowledge's sake and it is rarely applied to real life situations. Fisher (2005) is quick to point out that the transmission model is not totally irrelevant in teaching and learning but that it has areas where it is really important. However, teaching conceptualised and wholly based on the transmission model is really faulty.

Weaknesses of the Transmission Model

The major weakness of the transmission model of instruction is that it is based on wrong assumptions such as that students do not know and they need to be taught, the lecturer is the all-knowing authority and through the telling method students understand. Murray (1991) identifies three qualities of good teaching which are enthusiasm and expressiveness, clarity of explanation, and rapport and interaction. All these qualities are almost nonexistent in the transmission model of instruction. Makondo (2010) cites Edlich (1998) who observes that the lecture method of teaching's main limitation is its lack of interaction with learners.

The transmission model's non-involvement of students in knowledge production is another serious weakness. Modern trends in teaching and learning emphasise students' involvement collaboratively in knowledge production (Hutchings 1997; King and Kitchener 1994). The students cease to be mere recipients of 'refined' knowledge from the lecturer and become active participants in the learning process where the lecturer is a partner and a learner as well. Any education system should strive to produce independent students. Students' mere reproduction of learnt information which underlines assessment in the transmission model does not promote critical thinking skills in students. There is a need for students to be taught critical thinking skills so that they do not take things at face value but have critical engagement with any issue that confronts them in life.

Assessment as informed by the transmission model of instruction promotes competition in students instead of cooperation. Students are judged on individual performance and grades with failures looked down upon. Since school is a microcosm of society, there is no workplace in

society where people function as individuals hence the importance of cooperative learning and diverse forms of assessment. In summing up the importance of a paradigm shift in ways of assessing students, Tapscott and Williams (2010:20) state that;

Research shows that mutual exploration, group problem solving, and collective meaning-making produce better learning outcomes and understanding overall.

The call to embrace new ways of assessing students in the 21st century University cannot be over emphasised.

The 21st Century University

The 21st century world is characterized by a highly technological, market-value driven knowledge systems and networked global economy (Duderstadt 2000). Graduates from Universities should be prepared to function fully in the 21st century economic system. The acquisition of knowledge for knowledge's sake becomes useless. Tapscott and Williams (2010) contend that the 21st century University should emphasise collaborative learning and knowledge production when they say;

We believe that if the university opens up and embraces collaborative learning and collaborative knowledge production, it has a chance of surviving and even thriving in the networked global economy (p. 18).

It is clear from the above stated views that a paradigm shift is necessary if universities are to survive in the 21st century.

The 21st century University has to be interdisciplinary and trans-disciplinary in nature. This is a kind of organization where there are symbiotic relationships between and among disciplines. Such an arrangement is contrary to the concreteness and rigidity of the discipline-based of traditional universities. Ford (2002: 51) observes that;

If academic disciplines undermine the very possibility of a coherent worldview, distort what they seek to explain because of the fallacy of misplaced concreteness, and are incapable of addressing real world problems, then the university, if it is to be of real service to society, must find some alternative ways of organizing knowledge.

From the foregoing argument close collaboration among disciplines in a university is important in ensuring the collective responsibility of solving societal problems.

The modern university should also embrace new pedagogical approaches such as collaborative and experiential learning approaches.

The Transformative Model of Instruction

Baumgartner (2001: 20) explains that in transformative learning the teacher should create 'a safe, open and trusting environment that allows for participation, collaboration, exploration, critical reflection and feedback.' Current trends in teaching tend to focus on the generative and transformative models (Cannon and Newble 2002). In generative models of teaching the lecturer and students are close together. There is communication from the lecturer to the students and vice versa as well as communication between and among students. Students work to generate own information/ knowledge and become owners of the knowledge. In transformative approaches students do not just generate information but they apply generated knowledge in real life situations, they experience what they learn. Communication flows freely from student-to-student and the lecturer becomes a partner in the learning process. This is in line with constructivism which argues that humans generate knowledge and meaning from an interaction between their experiences and their ideas (Kim 2005). This allows for deeper learning. In the lectures students are engaged in discussions, well researched group presentations, analysing of lectures presented and even creates knowledge through research. The information received in lectures is applied in real life situations. The questions asked during assessment seek for deeper understanding of lecture material. Lecturers get engaged in the answers given by the students to understand the perspectives and probably the world of the students, thus enhancing the perspective lecturers towards the students as well instead of simply reproducing memorized material. This is a shift from emphasis on banking method where the student is a passive recipient of knowledge. Social constructivism views each learner as a unique individual with unique needs and backgrounds. The learner is also seen as complex and multidimensional. Social constructivism not only acknowledges the uniqueness and complexity of the learner, but actually encourages, utilises and rewards it as an integral part of the learning process (Wertsch 1997). Students engage in dialogue to interrogate subject

matter in a transformed teaching and learning situation (Rodriguez 2000).

In the generative and transformative models collaboration of students is very vital. Students with different skills and backgrounds should collaborate in tasks and discussions to arrive at a shared understanding of the truth in a specific field (Duffy and Jonassen 1992). Most social constructivist models, such as that proposed by Duffy and Jonassen (1992), also stress the need for collaboration among learners, in direct contradiction to traditional competitive approaches. The responsibility of learning should reside increasingly with the learner (Von Glasersfeld 1995). Social constructivism thus emphasizes the importance of the learner being actively involved in the learning process, unlike previous educational viewpoints where the responsibility rested with the instructor to teach and where the learner played a passive, receptive role. Von Glasersfeld (1995) emphasises that learners construct their own understanding and that they do not simply mirror and reflect what they read. Learners look for meaning and will try to find regularity and order in the events of the world even in the absence of full or complete information. In other words, learners construct their own world according to their experiences. What is learnt is seen and understood through the lenses of those experiences too. These experiences determine the connectivity of the new information to the old, and allows for easy remembrance. The lecturers in constructivism are open minded and seek to understand the answers given through the eyes of the learners. This helps with corrections of misconceptions and allows for feedback that is geared towards developing the learners understanding instead simply having ticks and crosses, here we will have the reason why the answer is wrong and direction towards getting the right answer.

The constructivist approach to teaching which is premised on both generative and transformative models assumes that knowledge is built up by the student in the form of connected schemas, and that what is taught is only one, and not necessarily the most important one, of many factors which influence this process. Constructivists see students as agents in their own learning. What they have come to know arises through active construction of concepts in making sense of their experiences. According to the social constructivist approach, instructors have

to adapt to the role of facilitators and not teachers (Bauersfeld 1995). Where a lecturer gives a lecture that covers the subject matter, a facilitator helps the learner to get to his or her own understanding of the content. In the former scenario the learner plays a passive role and in the latter scenario the learner plays an active role in the learning process. The emphasis thus turns away from the instructor and the content, and towards the learner (Gamoran et al. 1998). This dramatic change of role implies that a facilitator needs to display a totally different set of skills than a teacher (Brownstein 2001). A lecturer tells, a facilitator asks; a lecturer lectures from the front, a facilitator supports from the back; a lecturer gives answers according to a set curriculum, a facilitator provides guidelines and creates the environment for the learner to arrive at his or her own conclusions; a lecturer mostly gives a monologue, a facilitator is in continuous dialogue with the learners (Rhodes and Bellamy 1999). A facilitator should also be able to adapt the learning experience 'in mid-air' by taking the initiative to steer the learning experience to where the learners want to create value.

The learning environment should also be designed to support and challenge the learner's thinking (Di Vesta 1987). While it is advocated to give the learner ownership of the problem and solution process, it is not the case that any activity or any solution is adequate. The critical goal is to support the learner in becoming an effective thinker. This can be achieved by assuming multiple roles, such as consultant and coach. One of the first things a lecturer must do when considering how to teach students is to acknowledge that all students do not learn in the same way (Brooks and Brooks 1993). This means that if the lecturer chooses just one style of teaching (direct instruction, collaborative learning, inquiry learning, etc.), the students will not be maximising their learning potential. Obviously, a lecturer cannot reach every student on the same level during one lesson, but implementing a variety of learning styles throughout the course allows all the students will have the chance to learn in at least one way that matches their learning style.

In summarising the importance of transformative learning for the 21st century learner, Rodger et al. (2006: 3) state that:

With the rate of information growth continuously accelerating, higher education today

must place less emphasis on the amount of material memorised and more weight on making connections, thinking through issues and solving problems....We must move beyond the old university model where the primary challenge of learning was to absorb vast array of specific information.

It is clear that the university is not able to teach students all that is worth knowing in any discipline but it should teach knowledge production and application skills. This is in line with the realisation that it is not what we know that is important but how we know. Rodger et al. (2006) emphasise the importance of learning how to learn in order to produce graduates who do not just apply knowledge, skills and values to real-life situations but are highly adaptable to changes in society and are themselves agents of change.

Theoretical Basis of Transformative Model of Instruction

The transformative model of instruction is hinged on the critical social theory. This theory contends that society is unequal in many ways and the 'transformative social agenda requires a commitment to review social injustice and change the status quo' (McAllister et al. 2006:1). The teaching and learning situation should empower the students and help ease the inequalities in society of power and control which may manifest themselves overtly or covertly through teacher-centered methods.

In line with the critical social theory Giroux (1998:127) observes that the transformative model of instruction entails the use of 'forms of pedagogy that treat students as critical agents; make knowledge problematic; utilise critical and affirming dialogue; and make the case for struggling for a qualitatively better world for all.' By teaching critical thinking skills, the transformative model of instruction enables the students to question and not to take things at face value. They will question knowledge as well as the social injustices that are in society. The methods become emancipator in nature.

Teaching Techniques for Transformative Learning

There are a number of techniques that academics can consider to ensure that transforma-

tive learning is realised. The nature of questioning is not merely for students to show retention of facts, it should be made to stimulate thought and debate. This is done through the use of confrontational questions that challenge beliefs and assumptions. Problem – solving strategies should be employed in teaching to ensure the inculcation of problem solving skills. This is hinged on transfer of learning whereby knowledge is not acquired for knowledge's sake but for solving real life problems.

Teaching in universities should also encourage critical reflection from students in line with transformative approaches to learning. Brookfield (1998) and Ecclestone (1996) observe that the ability to reflect critically on one's experience, integrate knowledge gained from experience with knowledge possessed, and take action on insights is a very important feature of adult learning. Diary keeping and reflective journal writing are some of the tools that can be used to teach critical reflection. However, critical reflection through diaries and journal should go beyond mere descriptions of students' experiences but into questioning existing assumptions, values and perspectives (Cranton 1996). Smith (2011) advocates strongly for teaching that does not result in students reproducing knowledge but enabling students to critique knowledge. This is made possible through critical reflection.

Use of experimentation as a teaching tool is also very critical. Students should make observation and interpretation key components of their learning. Tarin and Puyol (2004) state that through experimentation diverse and imaginative responses are brought about and further observe that experimentation allows learners to be responsible, independent and creative, both as individuals and in groups. Experimentation, therefore, in the transformative teaching sense is a very important teaching technique.

Another important aspect of transformative learning is experiential learning which involves learning from experience and reflecting on the learnt experiences with a view to developing new ways of thinking, attitudes and skills. Inherent in experiential learning is critical reflection and dialoguing which are necessary in the development of mental models, personal mastery and building shared vision (Senge 1990). Senge (1990) further observes that mental models assist in how people understand and act in the world. Therefore in teaching lecturers need to

involve students in processing of self-reflection and journal writing is one such a way. Dialoging ensures the knowledge exchanges from lecturer to students and among students. The use of guest speakers and active and critical engagement with such speakers may also be a very important in enhancing critical reflection and dialoguing in line with the transformative thrust.

Challenges in Embracing the Transformative Model of Instruction

There are a number of challenges in embracing the transformative model of instruction under the current systems in South African higher education. Papo (1999) observes that an increase in the number of students in South African universities which is compounded by lack of resources encourages the use of the traditional lecture method and there is very little use of small group and tutorial contact and also very little interactive teaching and learning. The opening up of avenues into higher education through equity policies has led to the massification of higher education (Papo 1999). A lot of students from previously disadvantaged groups now find their way into universities and this has seen university programmes attracting large numbers of students. In teaching large classes the lecture method is always seen as the most convenient approach.

The current systems in universities do not give room to the transformative model of instruction. Universities still prescribe modules and module content to students and the involvement of students in the selection of the content they want to learn remains a pipe-dream. Coupled with this, assessment systems in universities remain individualistic and competition-based. All these are in line with the transmission model in use as evidenced by the use of predominantly lecture methods.

The quality of lecturers in universities as experts in teaching is also a challenge in the embracing of the transformative model of instruction. The effective use of transformative learning rests on the quality of the lecturer who is expected to be creative, innovative and highly adaptable. This is a problem in instances where there are a number of lecturers in the universities who do not have a teaching qualification and often struggle to deliver lectures. Judging from students' evaluation reports, some lectures fail

to deliver effective lectures and to expect such lecturers to embrace transformative teaching and learning techniques is expecting too much, if not expecting the impossible. Teaching for critical reflective thought requires hard work and creativity. It is simpler and easier to repeat the same lectures year after year.

Students' expectations may also impact negatively on the use of transformative teaching approaches. Culture and university tradition have moulded students to expect to be lectured to. It may well be that students perceive behaviourist approaches to teaching as being effective because of their assumptions and previous experience of teaching being teacher-centered. Any other methods employed are resisted. Qualters (2001) states that students may resist being actively involved in learning and lectures who use alternative methods the lecture method are often regarded as lazy or as lacking knowledge in content are often rated lowly by students. Another issue related to the experiences of students who engage in critical reflection has to do with the kind of teaching that supports critical reflection. As described by Foley (1995) and Millar (1991), it is labour intensive and may require restructuring of existing curricula. Use of transformative models approaches are also time consuming and may require a lot of resources hence lecturers may find it expedient to use the lecture method.

Implications for Current Teaching and Learning Approaches

It is imperative for academics in universities to reflect on their teaching approaches. Traditional approaches may be inadequate in teaching today's students in a vastly changed environment. Current pedagogical approaches need to be examined to reflect the extent to which they involve learners in knowledge production and knowledge application. Where rigid university systems are limiting it is imperative for the lecturer to embrace elements of transformative learning in the lecture method – dialogue, discussion. Lecturers have to try the teaching of one course/module using transformative learning methods while teaching other courses with other methods. They can even teach different portions of the same course using different methods. At any point, lectures can vary pedagogical approaches. A comparison on the effectiveness of the

different approaches would be important in informing future practice. Research-led teaching and learning should be the hallmark of a 21st century university.

All lecturers without a teaching background may need to read for a qualification on pedagogy in higher education – teaching is much more than standing in front of students and telling them. Courses in pedagogy are vital in equipping lecturers with skills to teach in line with latest developments in philosophical underpinnings of teaching and learning. Academics equipped with the relevant teaching approaches may also be highly adaptable and reflective practitioners who always strive to better their practice. Teaching expertise may also supported by academic development programmes which should be integral and functional in the universities. Exchange programmes within and across universities may also be utilised to share experiences in modes of instruction.

CONCLUSION

In a fast changing world where information is at the fingertips of academics and students and knowing the functions of the university which are teaching and learning, research and community engagement, the students must be considered as 'treasured' human resources. There are the ones that experience these three functions first hand. They are at the receiving end, but this can change if they are involved at the beginning and through the whole process of learning including involvement in assessment. In whichever way academics impart knowledge, the underpinning challenge is to thoroughly prepare the students for the world out there waiting to receive qualified graduate ready to deliver in practical terms the knowledge received from the university. Therefore, the development of critical thinkers is very important in today's world. Whether we like it or not, critical reflection is necessary for the improvement of our practices.

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