# Implementation of a Teaching and Learning Model: Institutional, Programme and Discipline level at a University of Technology in South Africa.

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**Abstract.** To improve the quality of teaching in a university of technology and to produce the necessary graduate skills which will improve the economy of South Africa (Altbach, Reisberg and Rumbley 2009), a teaching and learning model should be implemented at three levels, namely the institution-wide, programme and discipline-specific level. Universities of technology are increasingly required to implement a teaching and learning model with an appropriate operational plan. Based on research that was conducted at a South African university of technology, this article focuses on the importance of implementing a teaching and learning model with an operational plan, from the perspective of academic staff who experience tensions at the three above-mentioned levels. Within the state of flux due to the transition from technikon to university status, the university of technology in question has experienced difficulty in positively changing its institutional context to an enabling environment in terms of its teaching and learning model. Four individual interviews and nine group interviews were conducted with thirty-six academic staff members. The results show that a disenabling environment is created for teaching and learning at a university of technology if the teaching and learning model is not implemented at an institutional level and is not cascaded down to a programme and discipline-specific level within a university-wide operational plan.

**Keywords**: Implementation; Teaching and Learning; Model; Institutional Programme; Discipline Level

## INTRODUCTION
The implementation of a new teaching and learning model for a university of technology is a direct response to improving the teaching quality within a university so as to produce the necessary graduate skills which will improve the economy of South Africa (Altbach et al. 2009). The teaching and learning model at the said university of technology is a policy document that outlines the

academic direction the university of technology will take in view of teaching and learning based on of an analysis of the social, economic, political, intellectual and cultural context it locates itself in. The teaching and learning model of the university of technology places an emphasis on pedagogical research and the scholarship of teaching and learning (D'Andrea and Gosling 2005:147). The aim of the teaching and learning model is to ensure that at an institutional, programme and discipline specific level that students are at the centre of the learning experience, control their own learning, assume responsibility for learning, initiate learning goals and regulate their performance towards these goals (Jonassen . 2004:75).

Any implementation of a teaching and learning model needs to be meaningful and not left embedded in a strategic document with very little impact. Should this occur the teaching and learning model becomes a vehicle of change for the sake of change with very little meaning at an institutional, programme and discipline-specific level. Hénard and Roseveare (2012) contended that for the quality of teaching to improve in a university it should occur at three levels, namely the institution-wide level (including projects such as policy design and support to organisation and internal quality assurance systems); the programme level (comprising actions to measure and enhancing the design, content and delivery of the programmes within a department or a school); and a discipline-specific level (including initiatives that help teachers achieve their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner-oriented focus). As a result focus is being placed on a university of technology to implement a teaching and learning model with an appropriate operational plan, universities are under pressure to offer institutional leadership when implementing a teaching and learning model by continuously adapting while upholding quality standards. The Teaching and Learning Charter formulated by Higher Education South Africa (HESA 2012) stated that it is the responsibility of the institution to create an enabling environment which will ensure quality interaction between teachers and students.

The dilemma arises when the lecturers have no clearly defined university-wide operational plan by which to implement the new teaching and learning model. This article outlines why it is important to implement a teaching and learning model with an operational plan at a university of technology within a South African context. Sustained quality teaching policies require long-term, non-linear efforts and thus call for a permanent institutional commitment from the top leadership of the institution (OECD 2012). The operational plan should embody the rules, regulations, policy frameworks, necessary infrastructure – physical, human resources and financial – as well as engagement with stakeholders who are involved in the implementation. An operational plan is able to create an institution-wide enabling environment for teaching and learning and provides the framework for implementation at an institutional, programme and discipline-specific level.

In the following sections a theoretical framework is presented which highlights tensions experienced by academics working at a university of technology where a new teaching and learning model is being implemented without an operational plan (Abualrub, Karseth and Stensaker 2013). The results and discussion develop an understanding of the importance of implementing a teaching and learning model at an institutional, programme and discipline-specific level at a university of technology. Further recommendations outline four underlying principles when implementing a teaching and learning model at the institutional, programme and discipline-specific level. In the conclusion emphasis is placed the impact for a university of technology when the teaching and learning model is not cascaded down from an institutional to the programme and discipline-specific levels.

## THEORETICAL FRAMEWORK

The introduction of a teaching and learning model by higher education institutions is often a direct response to poor throughput rates and the need to produce a skilled workforce to meet the challenges of the 21st century (Hénard and Roseveare 2012). Without good throughput rates South Africa will fail in its economic imperative to produce employable graduate skills. Higher education needs to play a strong role in helping the country meet the demand for skilled workers (National Development Plan 2012). As a result, higher education institutions have responded to this ever-growing demand by implementing new teaching and learning models (Kuh 2008). The report of the National Planning Commission (2012) concluded that higher education is the major driver of the information and knowledge systems linking it with economic development. Approximately 30 percent of the students who enter the South African higher education system annually drop out during their first year of studies, while less than 50 percent of the students who enrol in diploma or degree programmes ever graduate at higher education institutions (Scott, Yeld and Hendry 2007. Knapper (2003, 6) claimed that the broadening of access has brought a large number of underprepared students into higher education and as a result traditional teaching methods and practices have become unsuitable for enabling the underprepared student to meet the educational demands of the late 20th and early 21st century. Management of universities view the implementation of the teaching and learning model as a means of improving the throughput rates of students as well as meeting the needs of students who have entered higher education with insufficient capacity to engage with teaching and learning due to their under preparedness (Scott 2009). The introduction of a teaching and learning model allows universities to be responsive to the ever-changing needs of the student body at a strategic level. It further allows institutions to create an institutional climate and systems that values student learning, by creating an institution-wide ethos where learning is the focus of all academic and administrative work (Del Favero, 2002). Central to this is an understanding of the components of an institutional climate which includes the measurement of staff engagement and satisfaction and considering multiple levels of student engagement and satisfaction, institutional effectiveness, organisation, management which are aspects that have been largely neglected to date in

higher education (Chalmers 2007). Several factors impact the implementation of the teaching and learning model which focuses on the constructivist approaches to teaching by exploring the students' current understanding and immersing them in authentic problem situations (Innes, 2004:107; Robbins; Judge; Odendaal and Roodt, 2009).

They are namely the flux experienced due to the technikon's transition to a university of technology. The University of Technology is so often busy putting new rules and regulations into place and is struggling so hard to apply the rules consistently that it finds it very difficult to implement a new teaching and learning model. In the state of flux due to the transition from technikon to university status, the University of Technology has experienced difficulty in positively changing its institutional context to an enabling environment in terms of its teaching and learning model. Further factors include dwindling and overstretched resources, a reliance on traditional teaching methods and overburdened lecturers with large classes and with limited and insufficient infrastructure make it difficult to apply the principles and methods put forward in the teaching and learning model (Kuh, Kinzie, Shuh, Whitt and Associates 2010; Wolf-Wendel, Ward and Kinzie 2009). Another factor is a lack of understanding which exists concerning what an operational planning should look like and how it should be implemented in a university of technology. Many institutional leaders are reconsidering how to manage the balance in fulfilling their teaching and research missions and how to raise the quality of teaching and learning they deliver (Hénard and Roseveare 2012) Gibb (2009) further argued that there can be tensions between institutional leaders seeking to change the culture of the institution through centralised steering and the collegial culture that reflects the discipline-specific features of academia. If connections have not already been built between the two approaches namely the traditional teaching methods and the new constructivist approach advocated by the teaching and learning model, then these tensions will slow the progress that can be made on fostering quality teaching. Indeed, when strategies are implemented from the centre in a top-down approach, with little or no engagement academic staff tends to ignore them (OECD 2010, Chalmers 2007).

In response to the above-mentioned challenges the University of Technology under study has implemented a teaching and learning model based on social constructivism and active learning (Robbins, Judge, Odendaal and Roodt 2009). Social constructivism and student learning is defined as encouraging a deep or mastery student learning approach and student experimentation in the learning process, as well as accounting for student needs rather than adopting a teacher-centered, passive learning approach (Umbach and Wawrzynski, 2005). However, the implementation of this teaching and learning model at an institutional, programme and discipline levels has not proven to be effective. Cameron and Quinn (2006) stated that the transformation of an institutional context depends on culture change, because when values, orientations, definitions and goals stay constant – even when procedures and strategies are altered without the necessary resources – institutional contexts return quickly to the status quo. Institutional climates and systems are one of the four dimensions of teaching

practice to ensure an enhanced learning environment which benefits students (Chalmers, 2007).

Special focus is placed on the creation of an enabling environment through the implementation of a teaching and learning model with an operational plan at the institutional, programme and discipline levels, as an institutional responsibility towards quality teaching and learning. Pascarella and Terenzini (2005) outlined that the enabling environment surrounding teaching and learning can include the following: managerial and administrative structures and behaviour, collegial partnerships between lecturers, and the campus climate with resources provided to support the teaching and learning processes. According to Huang and Fisher (2011), an enabling environment consists of variables such as specialised teachers, resources and laboratories at the organisational level where learning is taking place. This definition highlights that for a teaching and learning model to be successfully implemented in an enabling environment it needs to be supported by arrangements at an organisational level (Abualrub et al. 2013).

Higher Education South Africa (HESA 2012) emphasised that academic success is promoted through the offering of institutional leadership which includes creating an enabling environment at an institutional, programme and discipline specific level that will ensure quality interaction between students and lecturers. The role of institutional management in the teaching and learning process cannot be underestimated as they are often the stakeholders who need to motivate actions and processes for the development of an enabling teaching and learning environment through the implementation of a teaching and learning model at an institutional, programme and discipline specific level (OECD 2012). Without an operational plan which can assist discipline-specific academics in implementing the new teaching and learning model change will not take place at the institutional, programme and discipline specific levels. Such a vacuum created by the lack of an operational plan and limited resources when implementing a teaching and learning model causes academics to function within a disabling environment which can cause tension between various stakeholders involved in teaching and learning.

When the teaching and learning model is implemented without an operational plan, academic staff will possibly compete for limited resources, and such a state of affairs will have an impact on the institutional values, rewards and behaviours. The lack of resources to implement an institution's teaching and learning model could cause a shift in focus within the institution as the efforts to change teaching and improve learning might lead to battles over institutional values, rewards and behaviours (Lazerson, Wagener and Shumanis, 2000, 19). If appropriate resources are not provided, academic staff might display demotivating behaviour as they are not able to implement innovative teaching and learning practices and therefore resort to maintaining traditional teaching and learning practices. Watts et al. (2007) argued that at the individual level, both researchers and managers need to be more open to learning and change, since ultimately, institutional change can only occur through changes in behaviour, attitudes, relationships and activities, all of which depend on

individual insights and decisions. Thus examining and revising relevant policies' and practices that impact on the quality of teaching and learning becomes relevant (Chalmers 2007). When the teaching and learning model is implemented at the discipline level, the institution and the programme levels cannot appraise teacher satisfaction and remedial actions cannot be considered. Lecturers attempting to implement innovative teaching and learning methodologies often find their ideas and efforts being stifled and squashed (OECD 2010).

## RESEARCH METHODOLOGY
The research was based on qualitative research utilising an interpretivist paradigm with content analysis as research design. A document analysis of the strategic teaching and learning model was done to identify the teaching and learning model aims and the nature of the changes required. Group interviews were conducted with lecturers to establish the nature of the current teaching, learning and assessment discipline-specific practices.

## PARTICIPANTS
Ninety lecturers participated in the study and were identified as attendants of the in-house staff development conference at the university of technology during the first semester of 2012. Interviews were scheduled to take place during the last week of October 2012. Thirty-six academic staff members were available at the times scheduled for interviews. Four individual interviews and nine group interviews were conducted. The group interviews consisted of three to five people per group. Staff members were from the following disciplines: Accounting, Bio-Science, Chemistry, Communication, Education, Engineering, Information Technology, Legal Science, Management Science and Sport Management, and three participants were from various support services.

Each of the in-depth interviews with individuals lasted for 40 minutes while each of the group interviews lasted one hour. The interviews were conducted with lecturers who looked specifically at challenges encountered by discipline-specific academics in teaching, learning and assessment at the university of technology where a teaching and learning model had been implemented without an operational level. The interview guide consisted of the following questions:

1. What is your opinion about current teaching learning and assessment in your department?
2. What do you think is important in terms of teaching, learning and assessment in your department?
3. What do you consider standard practice in terms of teaching, learning and assessment in your department?
4. What lecturer and student behaviour and practices are encouraged in terms of teaching, learning and assessment?
5. What lecturer and student behaviour and practices are rewarded? (What is considered to be quality work?)

6. What would you like to see changed in teaching learning and assessment in your department?

The questions were adapted for the interview process with participants from the support services. The word "in your department" was replaced with "at the University of Technology". Permission to conduct the study was granted by the relevant institutional authorities. The purpose of the study was explained to the lecturers and their consent to record the interviews was obtained. Participation was voluntary and both anonymity and confidentiality were assured.

## DATA ANALYSIS
The qualitative data analysis of transcriptions of the in-depth interviews was done with the use of *ATLAS.ti* software. Qualitative content analysis according to the steps suggested by Henning, Van Rensburg and Smit (2004) was the method of analysis. These steps imply an inductive approach involving fine coding, categorisation of codes and identification of themes.

## RESULTS
The research results highlight the impact on a university of technology when the teaching and learning model at an institutional level is not cascaded down to a programme and discipline-specific level within a university-wide operational plan.

## TENSIONS AT AN INSTITUTIONAL LEVEL
Without the operational plan the teaching and learning model will possibly never shape the institutional context of the university towards innovating teaching and learning practice. The Teaching and Learning Charter formulated by Higher Education South Africa (HESA 2012) noted that the promotion of academic success is realised through the offering of institutional leadership.

The teaching and learning model needs to be accompanied by operational plans that should be cascaded down from the institutional to the programme and discipline-specific lecturer level. A participant commented as follows:

> We have so many different types of policies … this one is coming with an academic plan, this one is coming with a research plan, this one is coming with a quality one … I have said so many times to my manager, identify two or three at the end of the year for the next year and try to implement it and also monitor it and measure it that it is working. You must have an implementation plan, not a general implementation.

The decisions relating to the provision of resources are taken at an institutional level. A participant stated:

> Definitely the facilities. Venues must be adapted for different learning styles … and different methods. Teaching methods to … it must be open for us to do all these things.

In a university of technology where proper resourcing is not provided by the institutional context to ensure the implementation of the teaching and learning model the teaching and learning environment becomes disabling. (Chalmers) 2007 agreed that institutional climates and systems are one of the four dimensions of teaching practice to ensure an enhanced learning environment which benefits students. The role that the institutional context plays in the implementation of a teaching and learning model is crucial, as is emphasised by Exeter et al. (2010) who argued that the lack of resources in support of teaching and learning needs to be addressed if the teaching and learning model is to be implemented.

## TENSIONS AT A PROGRAMME LEVEL

When a new teaching and learning model is introduced tensions are created for academic staff who struggle to develop new innovative teaching and learning practices at a programme level. Due to the lack of resources such as suitable venues for small group teaching, staff' finds it very difficult to implement new teaching and learning methods together with or instead of the current traditional practices at a programme level. A participant noted:

> So that is a challenge, we don't have resources in the form of assistance to help us with trying to get this students into smaller groups.

The response of the above-mentioned participant highlights the emergence of a lack of space to translate the teaching and learning model at a programme level. The tension further increases among discipline-specific lecturers and management, especially when ideas are not cascaded down from the institutional to the programme level. Owing to the lack of support from the institution lecturers often find that translating the teaching and learning model at a programme level is overwhelming. One participant articulated this challenge as follows:

> With support now the problem is, here we are and I have to teach myself and if I have to be thrown into the deep end, having to manage designing and manage, I don't know – it is overwhelming.

The above-mentioned comment highlights the need to understand academics at the programme level who are involved in teaching and learning. Chalmers 2007 stated that it is important for academics at a programme level to examine and revising relevant policies' and practices that impact on the quality of teaching and learning. The Teaching and Learning Charter formulated by Higher Education South Africa (HESA 2012) acknowledged that the success of teaching and learning activities requires inputs and undertakings from a wide range of stakeholders.

The academic staffs are of the opinion that if they are respected and valued by the institutional context the campus at a programme level will be enabling for teaching and learning. Receiving support by creating an environment that is conducive to learning therefore is essential to ensuring that teaching and learning model is implemented at a programme level. The lack of resources at a programme level to implement the teaching and learning model can become a hindering factor. A typical example is when lecturers discover that the lecture rooms are in a bad state of repair. This strengthens the belief among lecturers that the institutional context is not an environment that is conducive to teaching and learning at a programme level. A participant reflected:

> That you have to carry your computer, your projector, your files with whatever stuff in, and yes, we … then you have to be in the U-block and then in the B-block. There are problems with that … There is too much light for them to see the slide shows …

The environment often compromises the purpose of the teaching and learning model. This is evident in the following university of technology from a lecturer:

> You try to teach, but i think the environment at times could also hamper the learning in the process. The noises around the venues are also disturbing.

The above-mentioned views from the participants of the study show that lecturers require the university to work with them in a partnership by creating an environment that is conducive to teaching and learning at a programme level.

## TENSIONS AT THE DISCIPLINE LEVEL

The environment often compromises the purpose of the teaching and learning model at a discipline-specific level. A disabling environment creates and develops various kinds of behaviour from lecturers at the discipline-specific level. A disabling environment can cause lecturers to go to class unprepared. This is reflected in the following comment:

> It is also true that some lecturers are not up to the task. Lecturers are able to complete the lecture in 45 minutes but some lecturers do it in 20 minutes. He is supposed to be there for 45 minutes. But he decides to arrive late until the student starts complaining.

In a disabling environment teaching and learning often becomes information transfer from the lecturer to the student and this promotes a surface-level approach to learning with limited student engagement at a discipline-specific level. These kind of teaching and learning methods are not advocated and capsulated in the teaching and learning model. One of the participants argued as follows:

> … but then you find it difficult to move around, because the venues in most cases cannot hold the number of students, but the number of students can become a problem to them on its own. That is why I am saying most of the lecturers you find that they are stepping in front, just passing information; it is the most convenient way of teaching.

This kind of behaviour displayed by discipline-specific lecturers' shows that when a teaching and learning model is implemented without an operational plan a lack of understanding concerning the role of the lecturer within the teaching and learning environment emerges. This is supported by (HESA 2012) that argued that the teaching and learning charter formulated by Higher Education South Africa stated that it is the responsibility of the institution to create an enabling environment which will ensure quality interaction between teachers and students. The behaviour cited in the above-mentioned comment shows that lecturers do not understand their role in enhancing student learning and contributing to the quality level of interaction in the class at a discipline-specific level as capsulated in the teaching and learning model. Tinto (2007) emphasised that the interaction among students, as well as between students and the lecturer, should be of high quality otherwise it could result in the students failing or dropping out.

## DISCUSSION

The results of the study imply that without an operational plan the teaching and learning model will not be cascaded down from the institutional level to the programme and discipline-specific level. This inference supports the recommendations of a study by Watts et al. (2007) that, at the system level, operational paradigms may need to be examined and networks expanded or reconfigured. As a result the implementation of the teaching and learning model is left within the hands of few and becomes a disenabling process. Cameron and Quinn (2006) stated that when procedures and strategies are altered without the necessary resources, disabling environments for teaching and learning emerge rather than enabling environments.

The lack of an operational plan and limited resources creates a vacuum which results in academics competing for limited resources at a programme and discipline-specific level. This view is supported by Cameron and Quinn (2006) who argued that the transformation of an institutional context depends on culture change, due to the fact that when values, orientations, definitions and goals stay constant – even when procedures and strategies are altered without the necessary resources – institutional contexts return quickly to the status quo.

Central to the research results are four underlying principles when implementing a teaching and learning model at the institutional, programme and discipline-specific level. These principles are:
1. The institutional context can never be underestimated as it shapes the conceptual framework for a teaching and learning model but if it is not accompanied by an operational plan which includes the programme and

discipline-specific level the teaching and learning model will remain a conceptual framework at an institutional level (OECD, 2012).

2. The implementation of the teaching and learning model is interlinked at an institutional, programme and discipline-specific level and works together to ensure that the operational plan is implemented within a university of technology (OECD, 2012).

3. The teaching and learning model is shaped at the programme level because this is where the comprising actions to measure and enhancing the design, content and delivery of the programmes. Should the programme level not be implemented correctly, the lack of implementation will have a negative impact on the implementation at a discipline level. This will result in individuals having difficulty at a discipline level in achieving their mission, encouraging them to innovate and to support improvements to student learning and adopt a learner-oriented focus (Hénard and Roseveare, 2012).

4. When the teaching and learning model is not implemented with an operational plan which includes institutional, programme and discipline-specific level, a disenabling environment is created for teaching and learning at a university of technology (Adams and Granic, 2009).

## CONCLUSION

In conclusion it should be noted that teaching and learning model must be accompanied by an operational plan which includes the institutional, programme and discipline-specific levels. When the teaching and learning model is not implemented with an operational plan which includes these levels, a disenabling environment is created for teaching and learning at a university of technology. The insights from academics in of the current teaching and learning practices at a university of technology help towards understanding of how tensions have an effect at an institutional, programme and discipline-specific level when a teaching and learning model is implemented without an operational plan. It is recommended that further research be done on the content of an operational plan for a teaching and learning model at a university of technology. Such a plan should entail a step-by-step approach that includes the institutional, programme and discipline-specific levels to ensure that the operational plan is implemented successfully within a university of technology.

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