An analysis of the extent to which English Second Language teacher educators are implementing learner-centred teaching and learning: a case study

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The primary learning environment for undergraduate students, the fairly passive lecture discussion format where teacher educators talk and most students listen, is contrary to almost every principle of an optimal student learning setting. The current view in higher education is that teacher educators need to focus on student learning rather than on teaching. One of the challenges in moving a university, and in this case specifically a Faculty of Education Sciences, toward learner centredness is to help teacher educators understand what learner centredness means and to help them overcome implementation barriers. The purpose in this article was to a) determine the nature and scope of English Second Language (ESL) teacher educators' tasks at a tertiary institution, b) determine the extent to which ESL teacher educators are implementing a learner centred approach to teaching and learning, c) identify the factors, if any, that impede the transition to a learner centred approach to teaching and learning, and d) provide recommendations to facilitate the implementation of a learner centred approach to teaching and learning within a faculty of education sciences.

Introduction

The environment around us is changing at a dramatic, ever accele rating pace. Earlier strategic planning efforts are no longer adequate to deal with current circumstances. Major transformations, especially in education, are now the order of the day (Barker, 1992; Barr & Tagg, 1995; Reynolds, 2000). In order to ensure that students are able to cope with the major changes in the nature of the work force as well as the diverse and frequent skill updates required to cope with the infor mation age and rapidly changing business needs (*cf*. Slaughter, 1998; Schrum, 2000), teacher education needs to become more learner centred (Bitzer, 1999; Van den Berg & De Boer, 2000; Niemi, 2002). In 1998, the Senate of the Potchefstroom University made a decision to "offer, with flexible learning (which encompasses all learning environments), cost effective and accessible higher educational pro grammes of high quality in a learner centred approach". However, even though universities are strong advocates of the need for reform and a shift to learner centred teaching and learning, most programmes are still being taught in very traditional ways (i.e. teacher centred/ instruction centred) (Dreyer & van der Walt, 1996; Dreyer, 1998).

One of the challenges in moving a university, and in this case specifically a Faculty of Education Sciences, toward learner centred ness is to help teacher educators understand what learner centredness means. The idea of focusing on learning rather than teaching requires that teacher educators rethink their role and the role of students in the teaching and learning process (Barr & Tagg, 1995). When focusing on learning rather than teaching, teacher educators must challenge their basic assumptions about how people learn and what the roles of a teacher educator should be. It may be necessary to unlearn previously acquired teaching habits, and rethink the role of assessment and feed back in learning. A paradigm shift may be necessary. How do teacher educators do this? To develop new conceptualisations, teacher educa tors must analyse their old ways of thinking and make continuous changes. If old ways of thinking are not analysed, they remain un changed, existing patterns continue, and "structures of which we are unaware hold us prisoner" (Senge, 1990:60). Teacher educators must want to be entwined in an educational environment that is shifting from providing instruction to producing learning (Barr & Tagg, 1995).

Parallel to the calls for change are systematic analyses of factors impeding transition related to learner centredness (*cf*. Montgomery & McGovern, 1997; Takle & Taber, 1996). The pressures on a faculty of education sciences to respond to changes in teaching and learning and to overcome implementation barriers are considerable. Teacher edu cators may not always perceive the relevance in all these calls for change, and yet, they are supposed to be educating students to become professionals in the new type of educational environments that they may not even know how to demonstrate themselves. It is necessary for teacher educators to practise the change that they are preaching, if they are even preaching it. Teacher educators at university need to model the teaching and learning context that they want pre service teachers to create in their own classrooms in future (*cf*. Barr & Tagg, 1995).

The purpose in this article was to a) determine the nature and scope of English Second Language (ESL) teacher educators' tasks at a tertiary institution, b) determine the extent to which ESL teacher educators are implementing a learner centred approach to teaching and learning, c) identify the factors, if any, that impede the transition to a learner centred approach to teaching and learning, and d) provide recommendations to facilitate the implementation of a learner centred approach to teaching and learning within a faculty of education scien ces.

Exploring learner-centredness

The primary learning environment for undergraduate students, the fairly passive lecture discussion format where teacher educators talk and most students listen, is contrary to almost every principle of an optimal student learning setting (Guskin, 1997). Chickering and Gam son (1987:3) state that: "Learning is not a spectator sport. Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers". Similarly, King and Kitchener (1994:239) state that: "Classes in which students are expected to receive information passively rather than to participate actively will probably not be effective in encouraging students to think reflectively. Similarly, tests and assignments that emphasize only others' definitions of the issues or others' conclusions will not help students learn to define and conclude for themselves". This does not mean that teacher centred methods are not effective, "but the evidence is equally clear that these conventional methods are not as effective as some other, far less frequently used, methods" (Terenzini & Pascarella, 1994:29).

The current view in higher education is that teacher educators need to focus on student learning rather than on teaching (*cf*. Table 1). According to Engelkemeyer and Brown (1998), the reason is not so much that the traditional approach is "broken" and in need of "fixing", but rather that teacher educators are under performing. "We have failed to realize the synergistic effect of designing, developing, and deliver ing curricula, programs, and services that collaboratively and collec tively deepen, enhance, and enable higher levels of learning" (Engel kemeyer & Brown, 1998:10).

Learning centredness is more than just an approach to teaching

Table 1 Changing the focus from teaching to learning

Teaching paradigm	Learning paradigm
Teacher educator focus	Student focus
Teacher educator as teacher	Teacher educator as synthesizer, navigator, and coordinator of learning
Talking head/sage on stage	Multiple instructional delivery systems
Teacher educator as conveyor of information	Information from many sources (e.g. Internet, electronic libraries and databases)
Information delivered	Information exchange
Input orientation (e.g. resources, library, contact sessions, and teacher educators)	Output orientation (e.g. learning and institutional effectiveness and efficiency)
Contact session/classroom based	Not limited to contact sessions/classroom based
Group/class delivery	Individualised delivery and collaborative learning with group communications
Teaching and assessing are separate	Teaching and assessing are intertwined
Assessment is used to monitor learning	Assessment is used to promote and diagnose learning
Desired learning is assessed indirectly through the use of objectively scored tests	Desired learning is assessed directly through papers, projects, performances, and portfolios

(cf. Barr & Tagg, 1995; Kleinsasser, 1995)

and learning, it is a philosophy which guides teacher educators' tea ching and learning practice how they teach; how they interact with students; how they design their courses, learning activities and assess ment strategies; the goals they value; and what they hope their students will achieve (McCown, Driscoll & Roop, 1996).

This paradigm shift depends upon changes in the role and work of the teacher educators who remain central to the instructional pro cess. Rather than continuing in their role as the "sage on the stage", teacher educators are redefined as developers of curricula, planners of educational experiences and managers and facilitators of student direc ted learning. Far from being eclipsed in the new paradigm, teacher educators' roles become more sophisticated (Twigg & Doucette, 1992). In the learner centred environment, time changes. The "timetable" is less of a regimen than it once was. There are fewer scheduled "class" hours; students use the institution's learning centres at any time of the day and any time of the week. Similarly, traditional semester dates take on less importance. A student completing a specific learning outcome can work ahead, concentrate on weaknesses, or pursue other priorities. Within the year, traditional subject sequences (first and second semes ter; first and second year) become less a function of programme orga nization and more a function of learner needs and priorities (Plater, 1995; Guskin, 1994).

Time also changes in a second significant way. The task was once to place knowledge into subjects and to sequence it appropriately over the weeks and semesters of the programme. The challenge to the lear ner was to demonstrate recall of the information through a cumulative examination. In a learner centred environment, materials and resources to assist the learner in acquiring learning outcomes are available when the learner requires them through use of a variety of media. Assess ment then focuses more on the performance of tasks and less on summary examinations (Huba & Freed, 2000). Lecturers will therefore spend more of their own time on managing information about student learning and individual progress in meeting course objectives (Plater, 1995).

Method of research
Design
A one shot cross sectional survey design was used in this study.

Participants
The participants included all the teacher educators (N 5) within the Subject Group English in the Faculty of Education Sciences at the Potchefstroom University. The researcher, who is also a teacher edu cator within the Subject Group English, only completed the first part of the questionnaire with regard to task analysis so that a complete picture could be determined. The biographical data of the teacher educators are presented in Table 2.

Table 2 Biographical information of ESL teacher educators

Teacher educator	Gender	Age	Years of teaching experience	
			At school	At university
A	Female	46	16	7
B	Female	44	20	1
C	Female	31	7	1
D	Male	32	1	1
E	Female	35	9	3

Instrumentation
Three data collection techniques were used in this study. The purpose was to triangulate the data in order to get as complete a picture as possible of the extent to which the teacher educators' teaching and learning practices reflected a focus on learner centredness.

Questionnaire
The questionnaire consisted of two sections, namely Section A which focused on the task analysis of the teacher educators, and Section B which focused on questions relating to the teaching and learning prac tices in their ESL classes. The questionnaire was developed in order to determine the nature and scope of teacher educators' tasks as well as their comments on the teaching and learning practices within their ESL classes. The questionnaire had content and face validity.

Interviews
Semi structured interviews were held with each of the teacher educa tors in order to ask follow up questions with regard to the teaching and learning practices within their ESL classes.
Observations
The researcher obtained permission from each of the teacher educators to observe their contact sessions with the students for a period of two weeks. The purpose of the observations was to determine whether there was a correlation between the comments made on the question naires, the answers during the interviews, and what actually happened during the contact sessions. A checklist was used to record the data that were gathered during the class observations.

Data collection procedure
The teacher educators were asked to complete the questionnaire at the beginning of the second semester of 2003. Individual appointments were scheduled for the interviews with each of the teacher educators. The observations were conducted during the second and third week of the second semester.

Data analysis
Descriptive statistics (means and percentages) were used to analyse the data. In order to express the data in terms of percentages, the total number of hours that the teacher educators spent on their tasks (i.e. teaching, preparation, assessment and feedback, administration, out side class contact, research and community service) was added to get the value of Y. The total number of hours spent on each task was then added separately to get the value of X. To convert the values to per centages, the following formula was used:

$$\frac{X(\text{Total number of hours for each task})}{Y(\text{Total number of hours for all tasks})} \times 100$$

The data collected during the interviews are reported as narratives.

Results and discussion
The results of this study are presented under the following headings:
- The nature and scope of ESL teacher educators' tasks
- The extent of the implementation of a learner centred teaching and learning approach
- Factors impeding a transition to learner centredness

The nature and scope of ESL teacher educators' tasks
The results of the full time task analysis indicated that five full time lecturers, within the subject group English in the Faculty of Education Sciences, were responsible for teaching a total of 988 full time students during the first semester and 472 full time students during the second semester.

The results of the full time task analysis indicated further that the teacher educators spent 2% of their time doing community service, 5.4% of their time doing administrative duties, 11.6% of their time was spent on research, 12.7% of their time was spent "teaching" (i.e. contact sessions), 34% of their time was spent on assessment and 34.6% of their time was spent on preparation for teaching and learning.

When the teacher educators' task analyses for flexi modules (i.e. modules for off campus students) were taken into account, it became evident that a significant percentage of their time was spent on assessment (64%) and administrative duties associated with the assessment task (21%). Teacher educators only spent 4% of their time on "teaching" and 11% on preparation for teaching and learning.

The complete task analysis of teacher educators indicated that teacher educators spent 2% of their total time on community service, 9% of their time on research and 9% of their time on administrative duties, 11% of their time was spent on contact sessions, 30% of their time was spent on preparation for teaching and learning and 39% of their time was spent on assessment (*cf.* Figure 1).

It was evident from the results that the teacher educators in this study spent a significant percentage of their time on assessment and preparation for teaching and learning. The question that arises, however, is the extent to which the teacher educators implement a learner centred approach in their assessment practices, their preparation for teaching and learning, and, subsequently, their contact sessions with students.
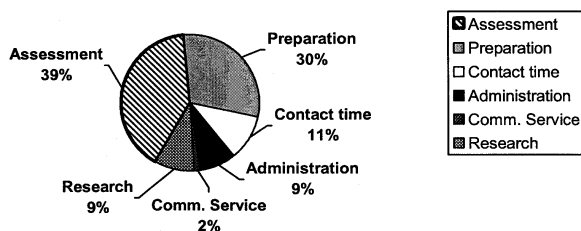

Figure 1   Complete task analysis

The extent of the implementation of a learner-centred teaching and learning approach
Based on an analysis of the comments made by the teacher educators on the questionnaire, their responses during the interviews and the observations made during the ESL contact sessions, the following trends were identified with regard to the extent of the implementation of a learner centred teaching and learning approach:

Methods of instruction
The results indicated that the teacher educators assumed most of the responsibility for determining the learning goals, delivering what they determined to be crucial information, providing feedback when possible, and assessing learning outcomes. They determined what ought to be taught, when, how and in what time frame. Students had no input in the decision making process and they did not get the opportunity to

set their own learning goals, make connections between prior knowledge and experience, build pathways for new understanding and continuously modify their behaviour to better achieve those goals. Students and teacher educators, therefore, acted independently and in isolation.

Although students were actively involved during contact sessions, answering questions, working in groups and delivering presentations, they were not actively involved in their own learning processes and had minimum experience of planning and building their own learning tasks and environments. Their main responsibility regarding the learning process was completing assignments, preparing prescribed work and coming to class prepared for discussions.

Overall, it seemed that although the teacher educators embraced methods such as interactive engagement during contact sessions and collaborative instruction, the curriculum to be covered took precedence and the emphasis remained on the content lecturing. The teacher educators, therefore, provided instruction rather than produced learning. The following comments and/or observations were written on the questionnaires and/or made during the interviews and class observations:

> *Certain content asks for lecturing.*
> *I try to vary my strategies, but students prefer lecturing.*
> *The responsibility students have for the learning process is to participate in group discussions, complete assignments, prepare for classes and research certain topics.*
> *The assignments are mostly given in the study guide and are, therefore, quite set but I try to give them a choice sometimes.*
> *I don't give students as much responsibility as I would like to.*

Integrating teaching and learning
The parts of the teaching and learning process were still seen as discrete entities. The teacher educators' view of academic learning time was mainly focused on contact sessions; they were focused on what to present in the contact sessions and then spent more time organising presentations of information rather than developing materials to facilitate learning. The teacher educators did not create environments both in and outside the classroom that brought students to discover and construct knowledge for themselves; that encouraged students to reflect and interact, and that supplied opportunities for students to master and apply what they had learned in authentic contexts. The following comments and/or observations were written on the questionnaires and/or made during the interviews and class observations:

> *I seldom use time in variable and flexible ways to match students' needs due to* [sic] *a lack of contact time.*
> *I try to give them enough time in class to discuss difficult concepts, but contact time is not enough to go into as much detail as I would've liked.*
> *Contact time is not enough for students to practice* [sic] *and apply new knowledge and skills, but it is usually reflected, to some extent, in the projects, practical teaching and examinations.*

Focus on learning strategies
The teacher educators strove to develop the students' higher order thinking skills by providing stimulating and guiding questions, but there was a limited incorporation or focus on learning strategies, specifically meta cognitive strategies. Students were not tutored on how to process and organise knowledge, how to use source materials, or how to monitor their learning progress. The use of memory strategies still tended to dominate. The following comments and/or observations were written on the questionnaires and/or made during the interviews and class observations:

> *It is in the study guide, but there is not time in contact sessions to do this in detail.*
> *Students are allowed and encouraged to analyse, criticize, evaluate content, and discuss controversial statements.*
> *I teach them to focus on main issues, to really comprehend, be analytical and respond to material.*

Utilizing technology
As far as educational technologies are concerned, the teacher educators made use of traditional media (e.g. blackboard, overhead projector, video and audiotapes). These were mainly used to support teaching and learning during contact sessions and not to enhance and extend learning beyond the classroom walls. Media were used to highlight certain concepts and explain content. They did not form an integral part of the teaching and learning process.

Assessment practices
Progress of student learning was monitored mostly by means of sum mative assessment techniques with the focus on grading of students. While this was usually done at the end of a period of teaching, the teacher educators and the students received delayed feedback which meant that neither of the groups could adjust their teaching or learning if it was required.

Students had no real input and choice in the design of the assess ment system. They seldom engaged in self assessment activities and had minimal opportunity to reflect on their own progress. The fol lowing comments and/or observations were written on the question naires and/or made during the interviews and class observations:

> *I sometimes use peer assessment, but it would be good practice to let the students design their own grids for assessment.*
> *I do not give as much opportunity for self assessment as I could.*
> *I monitor progress by means of regular assignments, class quiz zes, tests and projects.*
> *Comments are written in portfolios, but our workload is a prob lem as far as feedback is concerned.*

Factors impeding a transition to learner-centredness
Teacher educators participating in this study were fully aware that change was inevitable and that their educational approach should re flect a shift from teaching to learning. Although attempts were made to implement a learner centred approach, teacher educators often re verted to more familiar, traditional approaches (i.e. teacher centred).

During the interviews and when answering the questionnaires, the teacher educators emphasized the following issues as affecting the effective and efficient transition to learner centredness:

Curriculum coverage and lack of time
Courses were overloaded and teacher educators experienced a sense of continuous time pressure. They felt that learner centred methods would take too much time and they felt that they could not take the "risk" of not covering all the content in the curriculum, especially within a po licy of reduced contact time. Active learning methods required much more work from a teacher educator than traditional teaching. Much more intensive preparation was needed than for traditional teaching; more planning and more preparation of learning materials (Hansen, 2000; Niemi, 2002).

The following comments and/or observations were written on the questionnaires and/or made during the interviews:

> *There is no time for this.*
> *I find it impossible to accommodate all the different styles and needs within a contact session.*
> *The designing of interactive study guides and methods are* [sic] *time consuming.*
> *The workload remains a problem.*

Lack of proper training
In a learner centred approach, teacher educators had to fulfil a new pedagogical role, but Boekaerts (1997:162) states that most teachers are not yet equipped to turn students into self regulated learners. The teacher educators were still steering and guiding the learning process, a situation which did not invite students to use or develop their cognitive or motivational self regulatory skills.

Reasons were that the teacher educators had not been exposed to other pedagogical styles and assessment strategies associated with them. Compulsory training in this regard was necessary as well as a basic knowledge and understanding of relevant, contemporary learning theories. Policies and management practices needed to be established to create a climate where the continuous improvement of instructional design is the norm (Sunal, Wright, Hodges & Sunal, 2000; Schulze, 2003:11).

Size of student groups
The size of student groups was too big and it was almost impossible to use active learning methods when classrooms could not accom modate large groups or were not well equipped. The following com ments and/or observations were written on the questionnaires and/or made during the interviews and class observations:

> *Although I try to actively involve students in the learning pro cess, classes have too many students to get every single one in volved.*
> *If only the classroom was equipped, we could use time more effectively.*

Other teacher educators' cynical attitudes
According to Cuban (1990), lecturers' beliefs and expectations about teaching and learning limit change. Some teacher educators are very cynical or experience burnout. They do not have the motivation or energy to apply new methods; they do not like to experiment with anything new or simply do not think it is necessary. This can lead to a lack of co operation.

Students' attitudes towards learning
The teacher educators complained that some students had learnt a passive learning culture in their school years and they continued this tradition in their university studies. Students could be very conser vative and because they were inexperienced in using active learning strategies, they preferred that teacher educators talk and they write in their notebooks. Years of passive note taking and silent absorption of information had convinced many students that this was the appropriate way to learn. This learned helplessness could be a convenient way out for both students and teacher educators. Both sides had the illusion of success and neither wanted to replace the comfort zone they were in (Hansen, 2000; Niemi, 2002). The following comments and/or obser vations were written on the questionnaires and/or made during the interviews and class observations:

> *Students don't seem eager to change to a system in which they have more responsibility for learning.*
> *Students still prefer the old spoon feeding method where they don't need to be actively involved.*

Conclusion and recommendations
Teacher educators in the 21st century have a responsibility to provide pre service teachers with opportunities to enhance their learning expe riences, and to create an environment that will make a difference in their students' lives and the lives of others who follow their lead. The following recommendations are made in order to facilitate the imple mentation of learner centred teaching and learning:

Re-examine the system
The information and knowledge age is giving educators an exciting opportunity to redesign, if not re engineer, tertiary education systems. In current education reform efforts there are countless interventions that have only served to "tweak" the education system (e.g. reducing contact time, changing assessment practices, purchasing large quanti ties of expensive hardware and software). However, many of these attempts are mere "Band Aid fixes", resulting in no significant long lasting change. We must accept that when we attempt a large scale intervention, we are operating in a system comprised of many inter and intra related subsystems. A change in one will undoubtedly affect another. So we need to re examine the system as a whole. We must challenge ourselves to "think out of the box". We must envisage a

learning system where learners are self regulated, motivated, and inspired to share information and knowledge with others, and where learner achievement and satisfaction are measurable and attainable results.

Education is a complex system, and implementing or delivering a large scale intervention must address the phases of a systematic de sign process (i.e. planning, analysing, designing, developing, imple menting, evaluating and revising) (Moore & Kearsley, 1996). These phases are continuously revisited (an iterative process); this revisiting promotes continuous improvement and results in sustained delivery of high quality education.

Teacher educators and students should buy in

This whole process will only be possible if both teacher educators and students are willing and able to make this paradigm change. They have to understand the learning centred philosophy and be committed to the long process of moving out of the old ways of higher education and into a new challenging approach to learning (Garmon, 1999:1).

Teacher educators, above all, must share a compelling vision to change from the *status quo* to a more desirable state. Not only must they share the vision, they must buy in, enough to motivate, inspire, maintain, and sustain themselves and others to accomplishment. They must want to be entwined in an educational environment that is shif ting from providing instruction to producing learning.

Creating/Enhancing learning environments

In an attempt to produce learning, the purpose of teacher educators is not to transfer knowledge but to create learning environments and experiences that bring students to discover and construct knowledge for themselves, to make students members of communities of learners that make discoveries and solve problems (Barr & Tagg, 1995).

There is no one "answer" to the question of how to organise such learning environments and experiences. It supports any learning me thod and structure that works, where "works" is defined in terms of learning outcomes, not as the degree of conformity to an ideal class room archetype. Attaining these learning outcomes is not bound by time and calendar constraints. Achievement is supported by flexible time frames and not bound by closed, structured teaching time. Lear ning programmes are open ended and creative. Learners are encou raged to form own insights and create own solutions (Barr & Tagg, 1995; Malan, 2000:27).

The chief agent in the process is thus the learner; therefore lear ning environments and activities should be learner centred and lear ner controlled. They may even be teacherless. Whilst teacher educators will have designed the learning experiences and environments that stu dents use, they need not be present for or participate in every struc tured learning activity (Barr & Tagg, 1995).

The use of educational technology

The constant change in technological advances, the information explo sion, and rapid knowledge acquisition is demanding a learning/learner centred environment. No longer can teacher educators function as the sole source of knowledge. They must adopt the teaching/learning para digm shift and embrace the use of technology to enhance the learning processes.

If implemented properly, technology has great potential for en hancing the learning environment of any course. Technology will per mit instruction to be customised to the preferences, location, schedule, learning styles and other relevant characteristics of students and will enable them to master outcomes of their learning (SACS, 2000). The greatest potential of instructional technologies is making students more active, self directed learners, capable of lifelong learning (*cf.* Chicke ring & Ehrmann, 1996). Hawkins (1999), as cited in SACS, shares the optimism in the possibilities of technology to make effective, scalable learning environments that can transform higher education.

Because the Internet is widespread in numerous fields and do mains it also carries great potential for educational use. In addition to the communication benefits of the Internet, it can also be used to re trieve and access information. The Internet offers numerous benefits to the language learner, and teacher educators in this domain should become familiar with using the Internet and its various functions. The more enthusiastic and knowledgeable language teacher educators are, the more successfully they will be able to implement technology in the language classroom. Although it cannot replace the teacher educator, it offers a vast amount of information and lends itself to communi cation possibilities that can greatly enhance the language learning ex perience (Singhal, 1999).

As part of the transmission of knowledge can be transferred to computers, teachers can gain time to work with students individually and in small groups and to serve more as guides and partners in the learning process. The benefits accruing from modern technology are dependent, however, on teacher educators' mastery and skill in this domain (Ben Peretz, 2000).

Creating opportunities for co-operative learning

One way to get students more actively involved in and outside the classroom is to structure co operative interaction into classes so that students explain what they are learning to each other, learn each other's point of view, give and receive support from classmates, and help each other dig below the superficial level of understanding of the material they are learning. Co operative learning may be incorporated through the use of informal learning groups, formal learning groups and base groups (Johnson, Johnson & Smith, 1990; Niemi, 2002).

By collaborating with their peers, students move away from de pendence on the teacher educator and develop their own pool of re sources. By explaining to one another how they arrived at the answers, vital language skills are developed, skills that will serve students well in their future academic careers and in other aspects of their lives where they collaborate with others (Hansen, 2000:6; Nel, Dreyer & Carstens, 2001:245).

Other indicators of student performance

When measuring the effectiveness and efficiency of the change to a learner centred approach, consider improvements on other indicators of student performance besides student academic gains (e.g. student attendance records, graduation rates, documented student involvement and participation, or attitudinal changes in learner satisfaction and confidence).

Training staff

The question is often asked: "Why do most of our significant change efforts seem to fail or be only partially successful?" According to Lick and Kaufman (2000), leaders will find that they may have implemen ted a strategic planning approach that is incomplete and inadequate for the massive, holistic, systemic change that is required. They may have failed to prepare their organisation for the important transformations that major change requires. For instance, before people will seriously commit to being an important part of major change, they must under stand the essence of the change, appreciate why it is so important to the organisation and internal and external stakeholders, and accept, both intellectually and emotionally, the implications of the change for themselves personally. They may not have provided and implemented a detailed, structured, disciplined transition plan for identifying and then completing the major change, i.e. a plan that transitions people, processes, and, most importantly, culture from the old paradigm to the new one.

In order to produce the conceptual, procedural, curricular and other structural changes needed to transform faculties into learning centred institutions, all staff should, therefore, undergo in service training or faculty development. Teacher educators, in addition to their subject expertise, need to be trained in identifying learning styles, modular curriculum development, and instructional technology and methodology, in order to become effective assessors of a student's abi lities and potential, designers of learning environments and systems,

and trainers in how to access information and data (Flynn, 1999).

Professional development of staff consists of workshops and courses, written descriptions of effective practice, the use of peer con sultation and funded course development and action research. Re search (e.g. Sunal *et al.*, 2000) indicates that faculties with greater knowledge of effective teaching strategies, and clearer ideas on plan ning and carrying out change in their courses, are significantly more likely to implement change.

To summarise, a great deal of research indicates that teacher edu cators should change the way they deliver instruction in order to enhance student learning. They should work together with students to formulate outcomes that are both challenging and attainable, they should create environments that enable students to work together col laboratively, they should create opportunities for reflection and inter action, they should supply opportunities for students to apply what they have learned in new contexts and they should provide sufficient feedback to students on their learning. Overall, teacher educators should stimulate in students the motivation to learn by engaging them fully in the learning process.

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