‘Mental models’ that students possess about Work Integrated Learning (WIL) with reference to the new curriculum framework

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Abstract
Certain principles, processes and procedures inform the design and delivery of student’s lessons in teacher education. In mentoring students, it was discovered that they exhibit ‘mental models’ during evaluation and monitoring of their lessons that are different from what they were taught. This has a negative impact on the effectiveness of the lessons they conduct. Furthermore, the discovery exhibits tension between ‘museum possession of knowledge’ as opposed to ‘workshop possession of knowledge’ (Lubisi, Wedekind and Parker 1998, 100). The article explores the mental models that students possess in the design and delivery of their lessons against what policy requires them to do. The phenomenon is an indication of the ‘misfit’ between what the policy says and what is happening practically. It is believed that Work Integrated Learning is an important resource for students learning. Whilst this fact may be true, it needs constant monitoring, coaching reflection for it to achieve the desired outcome. For instance, students do not consider the importance of communicating outcomes to their learners. They think it is not important to unpack and discuss the journey that they embark on with their learners. This is an indication that the role of mediator of teaching and learning is strongly sacrificed yet learners take the blame for failure and lack of understanding.

BACKGROUND: CURRICULUM CHANGE IN SOUTH AFRICA

Brief account of South African Curriculum Policy since 1994
The policy that is relevant for this study is the policy document produced by the Committee on Teacher Education Policy (COTEP) called the Norms and Standards for Educators (DoE 2000). This policy document says that the Education Programme should develop three competences in educators: foundational competences, practical competences and reflexive competences. The three competences need to be integrated into a whole and they assist the teacher to perform his/her seven roles effectively.

Foundational competences provide the educator with the knowledge base and understanding which is needed in professional practice. Practical competence is related to practice rather than to knowledge. Educators who have good practical competence
apply the knowledge they acquired to make sound judgment in their professional practice. With reference to reflexive competence, this is where the educator brings together the two kinds of competences, the educator here is able to reflect on his/her practice (practical competence) in light of the knowledge (foundational competence) that he/she possesses. In other words the educator compares his/her theoretical knowledge with practical experience and uses the comparison to become more critical of his/her practice of the theoretical knowledge that is encountered. One of the characteristics of identifying a reflexive practitioner is that he/she possesses the ability to change his/her foundational as well as practical competences in response to the changing circumstances and also the ability to provide good reasons for this choice. This competence requires the ability to stand back and look at the situation as an outsider would do rather than to cling to what is known and what one is familiar with. It is argued that this is a rare kind of competence because it requires courage on the part of the educator and it requires the person who is reflecting the willingness to accept mistakes and to take risks.

The processes and principles of redress and nation building are promoted and they inform the new approach to teaching and learning which is Outcomes-Based Education. This was formerly referred to as ‘C2005’ then the National Curriculum Statement (NCS) and it is now known as the Curriculum and Assessment Policy (CAPS).

**Implications of policy change for teachers**

In the past, the South African Education system was highly centralised and bureaucratised with an authoritarian top-down approach to the teaching of the curriculum. Teachers were seen as ‘curriculum receivers’ and not ‘curriculum developers’ (Harley, Bertram and Mattson 1999). The old approach to teaching and learning was characterised by the following: passive learners; examination-driven textbooks/worksheets and teacher centeredness. Learners were responsible for learning, motivation depended on the personality of the teacher.

The new approach to teaching and learning is characterised by: active learners; learners are assessed on an on-going basis; critical thinking, reasoning, reflection and learner-centeredness; the teacher is a facilitator; the teacher constantly uses group work and teamwork to consolidate the new approach; the learners take responsibility for their own learning; the learners are motivated by constant feedback and affirmation of their worth (Department of Education 1997a, 6–7).

The new policy (DoE 2000) was an initiative of the National Government, but the implementation of it lies with provinces and individual institutions. It requires educators to be competent in developing curriculum. It requires a shift from focusing on the teacher input to focusing on learner outcomes. This requires educators to be competent in the role of educator as learning Area/Subject/ Discipline/ Phase Specialist. Harley and Wedekind, (1999–2002), argue that the progressive discourse underpinning the pedagogy can be linked more closely to the general discourse on human rights and to the Freirean-inspired Peoples’ Education Movement of
the 1980’s that linked democracy in society with the notions of democracy in the classroom.

The challenge is whether or not teachers possess a skill to deal with the three distinguishing features of the new approach to teaching and learning. Research reveals that schools do not always function in accordance with the demands of the State (Wong and Apple 2002, cited in Harley and Wedekind 1990–2002). Research on the new approach to teaching and learning reveals that educators face the following challenges in their classroom practice:

- The language of innovation associated with outcomes-based education is too complex, confusing and at times contradictory. The teacher has to keep up with at least fifty different concepts and labels and is also obliged to keep track of the changes in meaning and priorities afforded by these different labels (Jansen 1997).

- The Department of Education did not provide adequate support and training to teachers; only a crash course training was provided. Quality of the training was uneven because it was sub-contracted to consultants and NGO’s. The cascaded model was problematic since teachers trained at the top were not sufficiently equipped to replicate the training within their own districts and schools (Harley and Wedekind 1999–2002).

- Lack of continuity in terms of teachers’ experiences and understanding of what schooling is and their personal values were cited as a challenge to the implementation of the new curriculum framework (Harley and Wedekind).

- That there is little contention that teachers need to know about the subject matter they are teaching and moreover that they need to know how to present this clearly to learners. The issue is how to integrate learning with further learning of the subject and with learning about how students in schools acquire subject knowledge (Adler and Reed 2002).

Whilst the new curriculum framework was meant to transform the South African Education system it was seen to be in cahoots with private schools which are alleged to have used the new approach to teaching and learning because they imported it from overseas. They could do this due to the fact that they have resources which assist them to implement outcomes-based education effectively. It is important to note that teachers, by and large, struggle to cope with the new approach to teaching and learning.

**IMPLICATIONS OF NEW CURRICULUM FOR STUDENT TEACHERS**

**Student teachers in relation to curriculum change**

A considerable amount of research has been undertaken on curriculum change involving qualified as well as practising educators (Bertrams 2002; Appel 2006;
Council for Higher Education 2006; Carl 2008). There is, however, little or no research on the implications for students in training. This article explores my personal journey and experiences as supervisor who mentors and supervises students’ Work Integrated Learning (WIL) in teacher education, especially with the introduction of the new curriculum framework.

Work Integrated Learning in teacher education is an integral part of students’ training; it is important in the sense that it helps students to be socialised into the profession as well as to assist them to accumulate credits which lead to a qualification. Institutions differ on how they plan. In my institution, in the four years of student training, nine months is dedicated to Work Integrated Learning. It is part of professional development, furthermore, it assists the practising educator in progression and accumulation of credits which can lead to the attainment of a qualification. Policy prescribes that the B.Ed. qualification should have 480 credits, about 56 of those credits are for Work Integrated Learning.

Ideally, in the first year of students’ training, they should spend four weeks in home schools. They are expected to observe a mentor who is assigned to them by the school. The institution gives students assignments and activities to do during this period. In the second year of training, students are expected to observe as well as begin to teach a portion of the lesson that is done by their mentor.

In the third year of their training, students begin to teach the whole lesson by themselves. In the fourth year of training, students are assigned to schools for six months. They are inducted into the new curriculum features as classroom practitioners in preparation for the world of work. Evaluation of students’ work is assessed by a mentor, peer or supervisor from the institution. It is usual practice that, after each evaluation, the practising student together with a mentor, supervisor or peer reflect on the lesson. The purpose of reflection is to assist the students to improve their classroom practice. In preparing students for Work Integrated Learning, teacher educators induct the practising teachers into the design features of the curriculum. In reflecting on the lessons with the students the researcher discovered that they exhibit thought patterns which I want to call ‘mental models’ (Strauss 1993, 23) which gives one an indication that students experience difficulty in implementing the curriculum policy. The challenge that students have is revealed even after they received training on how to do things.

On the basis of what was observed from students when their lessons were evaluated, I decided to set up a more formal and systematic study to find out about the extent to which student teachers demonstrate an orientation towards the new approach to teaching and learning. The knowledge gathered was collected from 2005–2006 during Work Integrated Learning sessions. The purpose was to ascertain whether what student teachers did was aligned to the principles which inform the new approach to teaching and learning or not. The researcher noted that students were experiencing difficulties with the design features of the curriculum even after considerable instruction had been given because they lacked experience. In observing students lessons, I was observing 3 design features: learner -centered pedagogy,
Mental models’ that students possess about Work Integrated Learning (WIL) with reference to integrated knowledge and outcomes-based results. At some point in 2007–2008, the experience with students challenged the researcher to formalise the investigation and to undertake it in a more structured way. An interview schedule was designed to ascertain the extent of the problem.

The ‘Mental model’ is the concept that is used by Strauss to find out about the beliefs, ideas or common-sense understanding of the teachers about children’s minds and learning. Strauss (1993, 18) argues that teachers as well as learners are not blank slates, they are active constructors of knowledge but rarely do they discuss what and how learning should happen, despite the fact that schools are culturally designated places where learning takes place. Strauss stresses the fact that it is important to determine the nature of prospective teachers’ mental models of children’s minds and learning in order to know what needs to be addressed in prospective teachers’ thinking. In explaining what mental models are, Strauss argues that these are divided into espoused and in-action mental models. The former, he argues occurs when teachers speak about how they would teach in a particular situation and the latter occurs when teachers actually teach.

Research (Strauss 1993, 23) reveals that ‘mental models’ that teachers possess have very little resonance with the learning and development that they were taught in Education. Espoused mental models were inferred from the interviews with teachers to find out about their mental models of children’s minds and learning. In action, mental models were inferred from how teachers teach in their classroom setting (Strauss 1993, 19). In using the videotaped lessons, Strauss found that the mental models that teachers have is that knowledge is outside of the mind of children; it is in the teacher’s mind, in textbooks, and so forth. Teachers also say children do have knowledge but it is incomplete and often incorrect. As a result when teachers teach, they need to find a way to get knowledge into the children’s minds and secondly they must move the new material from the place it entered the children’s mind to the place it will be stored, thus adding to the current store of already learned concepts and so on. Strauss argues that that is the mechanistic view that teachers hold about learning.

Mental models as revealed in this study are ‘deeply ingrained assumptions, generalizations or even pictures and images that influence the way people understand the world and how they take actions’ (Senge 1990, 8).

Mental models (Strauss 1997, 19) are embedded in culture which people acquire in their environment and it shapes everyday decisions and actions. Cultural meaning, gives priority to what people experience and it is something that is internalised.

D. Perkins (1991) argues that we teach certain things to students and think that they have understood what we taught them. Students, on the other hand, may interpret this material differently. They may not connect what is said in the classroom with what happens in reality.

The discipline of mental models starts with the turning of the mirror inward and learning to unearth internal pictures of the world, bring them to the surface and to hold them vigorously up to scrutiny. It also includes the ability to carry on meaningful
conversations that balance enquiry and advocacy and where people expose their own thinking effectively and make that thinking open to the influence of others.

It is against such assertion that the researcher based the research questions.

While the impact of curriculum change on qualified, teachers has been well covered (as indicated above), there is little or no literature on implications for students in training. If teachers have struggled with the new curriculum, surely students would find it more difficult. Literature from many countries shows that teachers still struggle with learner-centered education. It is acknowledged that this is a risky pedagogy in the sense that teachers find it difficult to cede a measure of control to their learners. The challenge lies around the question of whether learners are disciplined enough to take responsibility for their own learning. How learners manage control and take responsibility for their learning is still a problem that cannot easily be resolved, taking into consideration behavioural patterns displayed by students.

Moreover student teachers will not be in a position to know their learners as much as their full-time teachers would know them. It is therefore reasonable not to expect novice, and as yet unqualified teachers to outperform experienced qualified teachers in their ability to enact the new curriculum. Whilst student teachers teach under challenging circumstances; their lecturers are judging them. Learners create problems for them because they know that they are only student teachers. The pressure and challenges that student teachers face results in them resorting to something that they know is not right, which is taking responsibility for learners’ learning in order to have some form of control rather than to leave students to do work on their own.

It is against the issues that are raised above that this study is conducted. Its aim is to attempt to reveal students’ orientation/predisposition to the new curriculum. It will also reveal whether students are ‘succeeding’ or ‘failing’ on the basis of what their supervisor observed. Whilst this study tries to create a dichotomy and characteristics between old and new approaches to teaching and learning, the aim is not to create an impression that the old is bad or that the new is entirely good.

The above questions and issues are worth noting as we continue to find out about students’ orientation/disposition to the new curriculum framework. It is worth noting that this study does not wish to create a hard and fast rule and rigid distinctions between old methods and new methods of teaching and learning or that the old are all inappropriate and that the new is unproblematic and wonderful. The dichotomy between old and new approaches to teaching and learning are indications of a general orientation on the part of the students and it is not the intention of this study to use them in a rigid way. These are used as a basis or as a platform from which to discuss lessons with the students.

The approach followed in systematizing a study of student teachers
To achieve the research objective a qualitative/interpretive study was undertaken during Work Integrated Learning over a period of three years. The interview
questions were designed to collect qualitative data using semi-structured questions. The interview with the student focused on two design features of the curriculum viz. learner-centered pedagogy and outcomes based learning. Data was collected from a sample of 18 students who were assigned to the supervisor and mentor when students went out to schools for Work Integrated Learning. The researcher also used Flanders Interaction Analysis Categories (FIAC) which is best known and mostly widely used instrument since 1970. The purpose of using that instrument was to ascertain the degrees of teacher-talk and learner-talk. Research undertaken by Flanders reveals that only two of the 10 categories for coding classroom interaction were learner’s talk. What Flanders discovered in his research was not different to what was seen in the way student’s behaved when their lessons were evaluated. In other words, in the classrooms that new South Africa Policy regard as Traditional, teachers talk 80 per cent of the time. ‘Teacher talk’ vs. ‘Learners talk’ was still observed in the classroom even with the introduction of the New Curriculum Framework. There is a big gap between what teachers should be doing and what they are actually doing.

Students were randomly assigned to the lecturer and were located in a certain geographical area which was students’ home area. Students were drawn from a combination of all the disciplines that are offered in the institution (science, technology and commerce). The student population was made up of 12 girls and 6 boys. They all came from areas such as Port Shepstone, Hibberdene, Ezingolweni, Harding and Bizana. Open-ended questions were posed to students to find out about their understanding of how they view the lessons they presented. The researcher was explicitly looking at two of the three design features of the curriculum such as learner-centered pedagogy and outcomes based learning.

The following were the characteristics and the context of the home schools in which research was conducted:

- All deep rural schools;
- No formal structure;
- Electricity not in all schools;
- No proper sanitation;
- No proper sound proofing between classrooms - one could hear that there was learning taking place in the next classroom;
- In one township school there was electricity, and there was no disturbance in terms of sound in between classes; and
- The supervisor could not get a clear picture of the management styles and the culture of the school because of the minimum time that was spent in each school. What was noted was that schools seem to be running well and learners were disciplined.
The study hoped to achieve the following objectives:

- To reveal ‘mental models’ that students exhibit during Work Integrated Learning when their lessons were evaluated;
- To evaluate the extent to which students adhere to the design features of the curriculum such as learner-centered pedagogy and outcomes-based learning; and
- To reveal the extent of the challenge that students encounter in trying to establish a ‘fit’ ‘policy’ and ‘practice’.

Learner-centered pedagogy was evaluated using Flanders Interaction Analysis category (FIAC). The application of outcomes-based education was noted through observation of the students’ performance in the classroom.

The following were the semi-structured questions and common responses that were recorded during in an informal interview during reflection time:

**Interview questions:**

Lecturer: Let us reflect on your lesson? Are you happy with what happened in the classroom?

Student’s response: Yes, I am happy, I think everything went well.

Lecturer: Is there anything that you think you could have done better?

Student’s response: No, I think the lesson was a success.

Lecturer: Did you communicate outcomes to the learners?

Student’s response: No I did not.

Lecturer: Do you know that you were supposed to communicate outcomes to the students before you address the topic?

Student’s response: (After few seconds) Yes, I think I should have communicated outcomes to students.

Lecturer: Why didn’t you communicate outcomes to students?

Student’s response: I didn’t know it was important to communicate outcomes to learners.

*(The lecturer drew the analogy of students driving the car for the learners or 80% vs 20% principle of teacher talk vs learner talk)*

Lecturer: Would you agree with me if I say you were driving the car for the learners?

Student’s response: (After, few seconds) Yes, I agree I was in the driver’s seat.

Lecturer: You know that you should have allowed students to take responsibility for their learning?
Student’s response: (After few second) yes, I should have allowed students to take responsibility for their own learning.

Lecturer: Let us reflect on teacher (activity) and learner talk (activity). Did you do 80% of the work and learners did 20%?

Students’ response: Yes, I was doing a lot of work in the classroom.

Lecturer: Would you agree with me if I say your learners were responding to your questions?

Students’ response: Learners were responding to the questions that I posed to them.

Lecturer: Did you provide learners with options for learning?

Students’ response: No, I dictated to the students what they should do and I did not give them options.

Lecturer: Reference to previous years’ Work integrated Learning was cited if the student/s was seen by the same supervisor for the second time.

In reflecting on students lessons, the researcher used two analogies to assist the student to understand the issue of teacher-talk as opposed to learner-talk. Firstly, I use the analogy of a teacher driving the car for the learners as opposed to letting learners drive the car and for the educator be the passenger in the car watching students as they perform their tasks. The role of the teacher, after he/she has introduced the lesson and its outcomes, is that he/she should stand back and let learners take responsibility for their learning. The role of the teacher in that regard is to encourage, praise, and give direction when learners are moving away from what they had agreed upon. This is important in the process of assisting learners reach the pre-stated outcomes (Lubisi, Wedekind and Parker 1998, 25–26).

Secondly, the issue of 80 per cent vs 20 per cent principle of ‘teacher-talk’ as opposed to ‘learner- talk’. Literature reveals that in classroom interaction, only 2 out of the 10 categories used for coding classroom behaviour were for pupil talk (Flanders Interaction Analysis Category FAIC). In other words, in the new South African policy that we regard as progressive, teachers still speak 80 per cent of the time. This is an indication of the fact that old practices are still being practiced in the new policies. This poses a challenge to policy because one wonders if classrooms are democratic enough as policy requires them to be. The focus in student reflection of their lesson was to explore the role of educator as mediator of teaching and learning. That is why it is important to discuss the 80 per cent vs 20 per cent of teacher-talk as opposed to learner-talk in classroom practice.

The issue of direct influence as opposed indirect influence (Harley et al. 1999, 57) is also a factor in this principle. Research reveals that learners who have teachers who advocate more strongly for an indirect influence, will perform better over a number of years than learners whose teachers favour direct influence.
Findings with reference to the three objectives

Objective 1: To reveal ‘mental models’ that students exhibit during Work Integrated Learning when their lessons were evaluated

Below is an example of a 30 minute Technology lesson that was recorded by the supervisor during lesson evaluation.

<table>
<thead>
<tr>
<th>T</th>
<th>Last time we were talking about gears.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Can you tell me the types of gears?</td>
</tr>
<tr>
<td>L</td>
<td>Compound gear, idler gear ...</td>
</tr>
<tr>
<td>T</td>
<td>Another one?</td>
</tr>
<tr>
<td>L</td>
<td>Spur gear</td>
</tr>
<tr>
<td>T</td>
<td>Which gear is most commonly used?</td>
</tr>
<tr>
<td>T</td>
<td>Idler gear. [Learners not given a chance to respond ]</td>
</tr>
<tr>
<td>T</td>
<td>[The teacher displays to learners a gear train]. This is a gear train.</td>
</tr>
<tr>
<td>T</td>
<td>[Hands paper to learners]</td>
</tr>
<tr>
<td>T</td>
<td>Figure 1.1. and 2.3 is a ... train</td>
</tr>
<tr>
<td>T</td>
<td>A and B are gear trains</td>
</tr>
<tr>
<td>T</td>
<td>An Idler gear is always in the ...?</td>
</tr>
<tr>
<td>L</td>
<td>Middle</td>
</tr>
<tr>
<td>T</td>
<td>Let us look at the diagram</td>
</tr>
<tr>
<td>T</td>
<td>What direction will gear B be moving?</td>
</tr>
<tr>
<td>T</td>
<td>Clockwise or anti-clockwise direction.</td>
</tr>
<tr>
<td>L</td>
<td>Anti-clockwise direction.</td>
</tr>
<tr>
<td>T</td>
<td>Is he correct?</td>
</tr>
<tr>
<td>L</td>
<td>Yes</td>
</tr>
<tr>
<td>L</td>
<td>Let us look at the second diagram. What do we have there?</td>
</tr>
<tr>
<td>T</td>
<td>Let’s talk about car gears</td>
</tr>
<tr>
<td>T</td>
<td>If I want to change the direction of a car, what do I use?</td>
</tr>
<tr>
<td>L</td>
<td>Gear</td>
</tr>
<tr>
<td>T</td>
<td>It means that the gear changes direction and speed.</td>
</tr>
</tbody>
</table>
We can only see the gear level in the car that changes gears underneath the car.

We said that the gear is round edges with...

Do you still remember?

Yes

What are logs of a gear?

Logs [??]are supposed to mesh or interlock if not they will not move in the sequence you want them to move

Have you done something like this before

Yes

Let us look at the direction of gears A, B and C

I’m moving an idler, what direction are they moving in?

What did I say about the Idler? ‘Let us refresh our memory’

In which direction are they moving? They are supposed to move in the same direction.

Did you get the answer? (Learner was at the back)

Yes in an anti-clockwise direction.

What do I have?

Driver and...???????...

What happened; what is happening?

Anti-clockwise

Driver, driven and ... (changing the direction)

Are there any questions. (no response from learners)

Can you tell me the function of the idler?

It is to... pointing at one learner (no response) pointing at another learner, (no response)

(teachers seems to be upset) I asked you if you understood and you said ‘yes’

I just taught this now!

It helps the ... (stands up straight) wrong answer

Let’s help him class

(In unison) It helps the car to move in the same direction

Input and output.

Do you think the speed in which they move will be the same?

No, why? Because...
D. Njozela

<table>
<thead>
<tr>
<th>L</th>
<th>It is a smaller and bigger one.</th>
</tr>
</thead>
<tbody>
<tr>
<td>T</td>
<td>Is that the only reason because its smaller or bigger?</td>
</tr>
<tr>
<td>T</td>
<td>Do you know what a revolution is?</td>
</tr>
<tr>
<td>T</td>
<td>What is it?</td>
</tr>
<tr>
<td>T</td>
<td>It has 360 degrees.</td>
</tr>
<tr>
<td>T</td>
<td>What motion is that?</td>
</tr>
<tr>
<td>T/L</td>
<td>Rotary motion</td>
</tr>
<tr>
<td>T</td>
<td>It has moved from 160 to 360 degrees</td>
</tr>
<tr>
<td>T</td>
<td>The driver will move first and the driven will move next.</td>
</tr>
<tr>
<td>T</td>
<td>A is a driver who will move first B will move second in a totally different direction.</td>
</tr>
<tr>
<td>T</td>
<td>When B driver moves, the A driver would have moved half the revolution.</td>
</tr>
<tr>
<td>T</td>
<td>Do you follow? Do you understand?</td>
</tr>
<tr>
<td>L</td>
<td>Yes.</td>
</tr>
<tr>
<td>T</td>
<td>‘X’ axis and ‘Y’ axis 180 degrees. Revolution measured per second.</td>
</tr>
<tr>
<td>T</td>
<td>Do you understand?</td>
</tr>
<tr>
<td>T</td>
<td>I have work for you. What is the time? (In vernacular)</td>
</tr>
<tr>
<td>T</td>
<td>Continues to teach: conclusion or something that the teacher has forgotten to say to learners: It is double to have the same force</td>
</tr>
<tr>
<td>T</td>
<td>You see this (pointing at the diagram)</td>
</tr>
<tr>
<td>T</td>
<td>Do you understand, it is double?</td>
</tr>
<tr>
<td>T</td>
<td>Do you understand, it is double?</td>
</tr>
<tr>
<td>L</td>
<td>No response.</td>
</tr>
<tr>
<td>T</td>
<td>Double.</td>
</tr>
<tr>
<td>L</td>
<td>Learners seem to have an AHA moment when the teacher explained.</td>
</tr>
<tr>
<td>T</td>
<td>Now I have got to have a double of this to get.</td>
</tr>
<tr>
<td>T</td>
<td>Now I want you to do homework.</td>
</tr>
</tbody>
</table>

The above transcript is a typical representation of the other students’ lessons. Teacher talk accounted for 59 (76%) times and learners talked for 19 (24%) of the time. The lesson is teacher-centered, the 24 per cent of learner-talk is deceptive because learners only respond to the questions that the teacher posed to learners. In fact learner-talk is misleading because, there is no initiative on the part of learners in the above transcript. Almost all learner interaction is a response to the teacher’s initiative i.e. asking questions.
It is worth noting that this was not an introductory lesson but a continuation of a series of lessons that the student has taught for a week. The supervisor asked the students if learners could not do the same thing that she was doing in class. The students’ response was that learners were capable of doing the same thing, she thinks that the purpose of supervision is to ascertain what she is capable of doing and hence she took control of teaching and learning. Furthermore, students said that they think they need to display to the supervisor how much they know about the lesson is strong, that is why they feel they need to display to the supervisor that they know the content of the lesson instead of letting students take responsibility for their own learning.

Another common mistake that is made by the students and whilst they are told that that is not done is that they ask learners if they have questions. All the time learners say they do not have questions but when the teacher asks them questions, they always struggle to respond to the teacher’s questions. When the supervisor asks them, they confess that this is something that they do spontaneously.

Secondly, with reference to outcomes-based education, the supervisor noted that the students do not communicate outcomes to their learners (reference to the first part of the lesson). Moreover, the teacher did not give learners a chance to think and respond to the teacher’s questions; instead the teacher was quick to provide the answer for the learners. We may explain this act in a number of ways; it can be a classical example of a teacher displaying to the students how things are done (reference to the 80% v. 20% teacher-talk v. learner-talk). It may also indicate the fact that the teacher is under pressure because further down the teacher says ‘come on’ to her learners. This, one thinks is an indication of the fact that learners are not living up to the teacher’s expectations.

**Objective 2: To evaluate the extent to which students adhere to the design features of the curriculum such as learner-centered pedagogy and outcomes based learning.**

There was no significant difference in the performance of the students according to their personal profile:

- 99 per cent of students said that they do not think it is important to communicate outcomes to their learners even after they are taught to do so.
- 98 per cent of students said they only interacted with learners when they want them to respond to questions.
- Student’s responses (96%) revealed that they do not have a clear understanding of the distinction between the outcome and the topic of the lesson.
- Students focus on communicating content (100%) to students and do not allow learners to work in groups to undertake activities; they believe that they should drive the car for learners and not allow learners to take responsibility for their own learning.
Furthermore, students (97%) think that they need to display to the lecturer how much they know about the lesson that they teach. They fail to understand that having a good command of the lesson is a given or ‘what ought to be’ but what is important and the main focus is the art of delivery of the lesson which is the role of educator as mediator and designer of learning and teaching (Norms and Standards 2000).

There was minimal difference in male and female students. What emerged in this study was that there was little improvement in students’ performance especially in the students who were seen more than once by the same lecturer.

**Objective 3: To reveal the extent of the challenge that students encounter in trying to find a fit between policy and practice**

Students do not want to satisfy learner’s curiosity by addressing learner’s needs which emanate during the lesson. One thinks that students regard that as a digression. A study done by Perkins reveals that digression is regarded as a ‘Trivial pursuit’. The teacher believes that he/she has to cover a certain amount of work by a certain time (Perkins 1992). This is an indication of a mug and jug method which is a traditional way of teaching. Furthermore, it is a reflection of a pouring out mentality in teaching and learning. Learners who are the ultimate recipients of the curriculum are not benefiting according to policy requirements.

The experiences of Work Integrated Learning reveal that there is a ‘misfit’ between what policy says and what is happening practically. Students find it challenging to break the barriers that exist between ‘Theory’ and ‘Practice’ and between head, heart and hand (Lubisi et al. 1998, 99). This has a bearing on the way knowledge is managed and understood by students. It is believed that Work Integrated Learning is an important resource for students’ learning. It is an attempt to provide relevant training for a constantly changing curriculum landscape in South Africa (Carl 2008, 17).

Whilst this fact may be true, it needs constant monitoring, coaching and reflection for it to achieve the desired outcomes because students seem to exhibit a challenge of knowledge management. The purpose of Work Integrated Learning (WIL) is basically to afford students an opportunity to blend theory and practice. The researcher discovered that during Work Integrated Learning, students exhibit ‘mental models’ that are different from what they were taught. Whilst supervisors expect students to do what they were taught, students on the other hand exhibit ‘deeply ingrained assumptions, generalizations or even pictures and images that influence the way people understand the world and how they take actions’ (Senge 1990, 8).

In interacting with the students, the researcher observed that students use their experiences and knowledge of what they know and believe about what teaching and learning is all about. In other words they were more influenced by what they know about teaching which one assumes they gathered in twelve of their school experiences. They cannot successfully connect what they learn at the University with what they find in reality. This means they are unable to break the barriers that exist
between head heart and hand and between theory and practice. This has a negative impact on the effectiveness of the lessons they conduct. A study done, (Bradford, cited in Harley et al. 1999) revealed that teachers practice will not change unless teacher conceptions (beliefs, ideas and attitudes) about teaching are not taken into account. She argues that the beliefs and attitudes are rooted in national traditions as well as in the realities of the classroom context in which teachers work. This means that if policy tries to change teachers’ practice without due regard to those conceptions of professional responsibilities which are rooted in national traditions as well as in classroom realities, we can be caught up in the same vicious cycle because student educators perpetuate the same beliefs that they possess about what teaching and learning should be all about.

One is mindful of the fact that there are good things about the old approach to teaching and learning. This study wants to reveal the dichotomy that is there between the old and new approach to teaching and learning because students are expected to implement policy.

**DISCUSSION**

*Disposition to new curriculum framework*

It is worth noting that the researcher was not judging students as ‘successes’ or ‘failures’ on the basis of what was observed. The study did, however, attempt to ascertain their disposition to the new approach to teaching and learning. One is also conscious of the fact that teaching relies on different strategies in different circumstances i.e. in different circumstances, in introducing an new topic it is best for teacher to do some explaining. There is no hard and fast rule to say that the researcher wants to say the ‘old’ method of teaching and learning is ineffectual or that the ‘new’ methods are unproblematically and wonderful.

Senge (1990, 9) argues that the discipline of ‘mental models’ starts with turning the mirror inwards; learning to unearth an internal picture of the world to bring this to the surface and hold this up vigorously to scrutiny. It also includes the ability to carry on learning conversations that balance enquiry and advocacy, where people expose their own thinking effectively and make that thinking open to the influence of others.

In the discussion that the supervisor had with the students, it came out that students’ think that learning is about the delivery of content by them to the learners. Furthermore, they think that learners should only be engaged in responding to their questions.

To sight a practical example, students know that they are supposed to communicate outcomes to their learners, but they fail because they said they do not think it is important. When I asked them why they did not do it, they just said they forgot but they know that they should have done it. This is an indication of students’ struggle to connect what is said in lectures with what they encounter in reality.
It concerned the supervisor that students communicate the outcomes after they are reminded to do so. They know that it is something they must do but they do not do it. It means that there is no meaning attached to it. One can safely say that this is a reflection of the gap between ‘theory’ and ‘practice’. Furthermore, it is an indication of the traditional paradigm, where theory is accorded prescriptive and privileged position over practical competence (Luckett 1996, 11).

The new approach to teaching and learning argues that the old way of doing things did not achieve much; it had weaknesses as much as it had strengths. That is why there was a need for change. The fact that more than 95 per cent of students made the same mistake was a cause for concern for the supervisor. The mistakes took place even after students were taught about the processes and procedures that are involved in the delivery of lessons.

Students prefer to adopt the old ways of teaching and learning even after considerable instruction. This may be because it is something that they know and believe teachers have done to them. Students still fail to connect what was said in class with what is happening in reality.

The results of this study reveal that if this issue is not attended to as a matter of urgency, the system will still produce educators who are called ‘restricted professionals’ and not ‘extended professionals’ as was revealed in the study (Harley et al. 1999). The study revealed that the learned ‘theories’ are most often expressed and interpreted when policy does not mesh with the practical problems faced in the classroom. Student educators throw out much of what they were exposed to initially.

**Purpose of reflection**

When the evaluation of the lesson ends, it is normal practice for students to reflect on the lesson that they presented. The purpose is to revisit what the student has done with the aim of striving for improvement. Furthermore, it is to ascertain if the lesson was effective and to rethink things. Strengths and weaknesses of the lessons are identified and an improvement plan is negotiated in areas which need to be improved. How supervisors monitor students’ lessons against the principles which inform the new curriculum framework is critical in assisting students to aspire to satisfying high expectations, among other things. During reflection, students are asked to reflect on their lessons by pointing out issues that need improvement. Students’ comments during reflection reveal lack of understanding of what is required based on what they were taught when they were asked to reflect on the lesson they just presented. This is a reflection of the fact that students are poorly educated and they are not intellectually motivated to reflect effectively. They need to be challenged to think things through.

In his book on *The fifth discipline* Senge (1990, 69) warns that the development of reflexivity in professionals as a means of improving their practice may not be so easy. He claims that the best ideas never get put into practice because they conflict with the already existing mental models of the practitioners concerned.
Luckett (1996, 6) argues that a safe space should be created for the participants so that they are open and honest about their feelings and failings. Unequal power relations may hamper positive and constructive feedback to both parties. The researcher discovered that it is critical to create an environment where students understand that the purpose of reflection is beneficial to them in order to get cooperation.

There are issues that emerged in this study which led one to think about the purpose of our teaching and interaction with our students when we prepare them for Work Integrated Learning; do we teach what we prepared or respond to issues that emerge during teaching and learning as experienced educators?

The principles of ‘designing down’ and ‘delivering up’ are not cherished by the students even when they know and understand the importance. For instance students do not consider the importance of communicating outcomes to their learners. They think it is not important to unpack and discuss the journey that they embark on with their learners. Students just tell the learners what they are going to do on a particular day without linking/connecting how the present chunk relates to the outcome and to the critical outcomes and how it also relates to the everyday-life experiences of the learners, which taps into expanded opportunities.

The achievement of outcomes in a learning programme takes a series of lessons to achieve. I believe that the teacher needs to take learners through that journey until they reach a pre-stated outcome. This is an indication that the role of the educator as mediator of teaching and learning (DoE 2000) is not well understood, yet learners take the blame for failure and lack of understanding. This is also an indication of a lack of knowledge of management and a lack of ability to make a connection between theory and practice.

Another observation that the supervisor noted was that students (98%) deliberately shy away from the questions that learners ask. Two issues can be raised here, the first one is that students do not want to confront the challenges that go with the questions asked by the students, and secondly, the coverage mentality could be the reason for such behaviour.

Recently, the supervisor discovered that students’ (95%) use a vernacular language in teaching. They say that experienced teachers do the same because learners do not understand, that is why they do it as well. In responding to students’ actions the supervisor says that they are preparing a sub-standard learner population which is below their traditional model ‘C’ counterparts.

**What ought to be?**

This study calls for revisiting of evaluation and monitoring tools that are used in teacher education and for the adoption of processes, procedures and principles which will ensure ‘best practice’ in Work Integrated Learning.

Perkins (1991) provides a thoughtful insight into the classroom situation and into the ongoing challenge of educating our children. In his research on smart schools, he argues, that this issue is not only possible but necessary. Practical innovations
regarding what to teach and how to teach need clearly to be outlined to our students. He also contends that the role of education with the intent to learn need to be redefined and strategies for success need to abound in restoring a much needed sense of hope to our education system. This, he argues requires a strong commitment by all if this vision is to succeed.

In a study done on educational development, it was revealed that the exclusion of the personal dimension of the community in the implementation of educational development makes development inadequate (Waghid 2002).

The advice that the researcher usually proposes to the students, as a way forward, is that students should evaluate each other’s lessons and provide feedback to each other using the inputs that they were given (Senge 1990).

The training of mentors should be done formally and educators of teachers should take an active role in ensuring that educators achieve the ideal of being real mediators of teaching and learning. Policy should be reviewed to ascertain if this is implementable at institutional level. Ongoing teacher education and development should be done to strive for the ideal.

CONCLUSION

On the basis of the study, it seems obvious that student educators are subject to varied and often conflicting pressures and expectations when their lessons are evaluated. Constraints and conflicts range from what has been inculcated into students over the years as opposed to what is expected of them which they learned in the four years of their teacher education.

The issue of ‘reflective practice’ is a significant concept in teacher education. As much as we expect our students to reflect on their practice, we also need to do the same as teacher educators otherwise we will be trapped in ‘defensive routine’ and ‘skilled incompetence’ if we do not choose to be learners in professional development (Luckett 1996, 15). Engaging in reflective practice will assist us induct novice teachers into successful implementation of the policy.

The positive spin-offs about reflection for both students as well as teacher educators is that both parties explore their experiences in order to lead to new understanding and appreciation. Furthermore, it is making action explicit to one another in an attempt to adopt best practices. In a study undertaken by (Bertram 2003, 157) it was revealed that when educators accounted for their practice, they did not draw on the logic of formal educational theory so much as on experience. The conclusion of the matter is that student teachers commit themselves to what works and not what theory says.

In an article, that I came across recently a caption read ‘Don’t force us to integrate’. As I read it, something said if after repeated teaching students’ do not get what we teach them, isn’t that what our students say inwardly? (Witness August 6, 2009). Is it resistance to transformation?
REFERENCES


