

## An Assessment of Student Teachers' Experiences of Work-integrated Learning at a South African Institution of Higher Learning

Sheila N. Matoti<sup>1\*</sup> and Karen E. Junqueira<sup>2</sup>

<sup>1</sup>*Central University of Technology, Free State, Bloemfontein, 9300 South Africa  
E-mail: smatoti@cut.ac.za*

<sup>2</sup>*University of the Free State, Free State, Bloemfontein, 9300 South Africa  
E-mail: junquierake@ufs.ac.za*

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**ABSTRACT** The purpose of this study was to assess teachers' experiences of six months' work-integrated learning (WIL), as a component of teaching practice, as well as the impact of other situational variables associated with work-integrated learning on teaching efficacy. The study is grounded in Bandura's Social Cognitive Theory and Roberts' Theory of Experiential Learning. The targeted population for this case study was pre-service teachers at University of Technology in the Free State Province of the Republic of South Africa. The sample consisted of 51 fourth-year B.Ed (FET) students enrolled in four different programmes. There were 25 male and 26 female students in the sample. The students had just completed their six months WIL. A 5-point Likert scale questionnaire was designed and used to collect data from the respondents. Participation was voluntary and all the students who did not go for work-integrated learning because of not meeting the requirements were excluded from the study. The findings indicated that three year of study at the University of Technology sufficiently prepared the student teachers for the demands of WIL. The increased length of WIL had a positive effect on them as they felt that their skills in lesson preparation together with those of assessment were enhanced. Student teachers interacted with and related to their mentors in a positive way and their classroom management skills were enhanced as they attempted to handle disruptive learners effectively. On the whole, the teacher trainees felt that they had made a positive contribution to their host schools. Work-integrated learning has therefore proven to be a valuable component of teacher preparation in this study.

### INTRODUCTION

Although teaching is a practical activity, it is not a static element that can be applied from an observed classroom context to all other contexts and situations (Lam and Fung 2001). Teaching is a complex activity that requires teachers to develop capacity to make intelligent decisions to handle ambiguous and challenging classroom situations. Hence, teacher education is charged with the responsibility of fostering such capabilities through the theoretical understanding and practical experiences of the student. It is in

this regard that teacher preparation programmes have put great emphasis on practical experiences by having longer practicum experiences and diversifying the locations of experiential placements between urban, semi-urban and rural schools. The rationale behind these experiences is to have pre-service teachers become more confident in their teaching abilities in a variety of schools and thus being able to apply their learning experiences obtained during pre-service training into the first years of teaching.

With the introduction of the four-year Bachelor's degree in Education (B.Ed) at Universities of Technology, the length of teaching practice for teacher trainees has been increased in the final year from six weeks (three weeks in each semester) to six months uninterrupted teaching practice or work-integrated learning (WIL). One can see WIL as an umbrella term used to describe all educational programmes which combine and integrate learning and its workplace application, regardless of whether this integration occurs in industry or in the univer-

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*\*Address for correspondence:*

Dr. Sheila N. Matoti,  
School of Teacher Education,  
Faculty of Humanities,  
Central University of Technology, Free State  
Private Bag X20539,  
Bloemfontein 9300,  
South Africa  
Telephone: 270515073370  
Fax: 27 051 507 3367  
E-mail: smatoti@cut.ac.za

sity and whether it is real or simulated (Atchison et al. 2002: 3).

In the South African context, WIL is defined as 'the component of a learning programme that focuses on the application of learning in an authentic learning work-based context under the supervision and/or mentorship of a person/s representing the workplace. It addresses specific competencies identified for the acquisition of a qualification that make the learner employable and assist in the development of related personal attributes. Workplace/service employees and professional bodies are involved in the assessment of the learning experience, together with University's academic employees' (CHE: HEQC 2004).

In the Higher Education Qualification Framework (HEQF) this is said about WIL:

*"Some qualifications will be designed to incorporate periods of required work that integrate with classroom study. Where Work Integrated Learning (WIL) is a structured part of a qualification the volume of learning allocated to WIL should be appropriate to the purpose of the qualification and to the cognitive demands of the learning outcome and assessment criteria contained in the appropriate level descriptors"* (DoE 2007:9).

It is the responsibility of higher education institutions to place students into suitable work environments. Within the context of teacher preparation, it becomes imperative that student teachers be placed in schools under the care of a mentor who is expected to be a subject specialist and who has to guide the student in the preparation of lessons, facilitation and assessment of learning, classroom management and any other educational activities that are carried out in a particular school. This guidance aims at instilling confidence and, consequently, a good teaching ability in the teacher trainee. The question that remains to be asked is whether or not the length of the practicum (lengthened from six weeks to six months in the fourth year) and other situational variables such as the geographical location of the schools where the teacher trainees are placed, the resources that are available, the mentor support, the school climate, and the learners' behaviour have a positive or negative effect on the pre-service teachers' perceptions of their teaching efficacy. It is in this regard that the researchers concur with Eslami (2008) who argues that understanding teachers' beliefs

about their own effectiveness (known as teacher efficacy) can shed some light on how teachers should be guided in their preparation to face the challenges of the teaching profession.

In teacher training, the WIL component of the B.Ed degree provided student teachers at schools with an opportunity to integrate their work and academic experiences. This meant that under the right circumstances, such placements could engender deep level learning. There is, however, a need to strengthen the level of academic support in these programmes (Weisz and Smith 2005).

Dressler and Keeling (2004) identified four benefits of WIL. There are academic benefits such as increased discipline thinking, and increased performance in the classroom. There are also personal benefits, for example, increased communication skills, initiative, teamwork and co-operation. Career benefits such as an improved career identity and clarification, and increased employment opportunities have been identified. Lastly, work skills development benefits such as the development of positive work values and ethics, increased competence and increased technical knowledge and skills were identified.

The benefits mentioned by Dressler and Keeling (2004) are furthermore highlighted by other authors as can be seen in the following two paragraphs. According to Atkinson et al. (2005), WIL provides an opportunity for students to gain experience in the workplace where they can apply the problem-solving skills and discipline-based theory, learned in their formal education, to authentic contexts as a colleague and employee, with all the responsibilities and expectations such a role entails. However, while experience is a necessary condition for learning, it is not sufficient on its own. For learning to occur, learners need to observe and reflect on their experiences, develop concepts to make sense of these experiences and then apply and test these concepts through new experiences. Reflection and reflective practice are crucial features in developing the effectiveness of WIL (Coll and Eames 2004).

Work-integrated learning is expected to enhance students' confidence and their self-belief or self-efficacy (Subramanian and Freudenberg 2007). Self-efficacy, or the belief in one's capability to do the job, is of utmost importance in ensuring teacher quality, since the link between a teacher's perceived self-efficacy and his or her

potential effectiveness in the classroom has been established by educational research (Gibson and Dembo 1984).

Research has shown that educators today face unprecedented challenges that have the potential to impact their personal and professional accomplishments (Theroux 2004; Hardy 2006). With increased expectations, and a diverse student population, Brown (2007) argues that precaution must be taken to ensure that pre-service and beginning teachers are adequately prepared for the realities of teaching in the twenty-first century. Problems facing educators today are numerous and include classroom management difficulties (Chambers and Hardy 2005; Justice and Espinoza 2007), the use of instructional technology (Clausen 2007), a teacher's preparedness to teach (Cohen-Vogel 2005) and the lack of teaching efficacy (Woolfolk Hoy 2000; Smeltzer Erb 2004).

Self-efficacy beliefs are believed to predict future behavior (Hoy 2004). If a teacher believes that he or she is capable of managing his or her classroom and conducting meaningful lessons, he or she will most likely do just that. In line with this thinking, teacher preparation programmes need to be aware of the factors associated with increased levels of self-efficacy, in order to produce the most capable, innovative, and dedicated teachers possible. The development of prospective teachers' efficacy beliefs has generated a great deal of research interest (Hoy 2000; Ritchie 2006; Rideout and Morton 2007; Eslami 2008). The time to effect change in a teacher's self-efficacy should be early in the process of training and induction. This is because once efficacy beliefs are established they appear to be somewhat resistant to change (Bandura 1997).

Roberts et al. (2006) argue that pre-service teachers enter the student teaching period with teaching efficacy beliefs based on their previous coursework, observations, and teaching experiences. Through interactions with mentor teachers, university supervisors, and the learners whom they teach, student teachers transform their beliefs through reflection and deep generalisations, and subsequently test those generalisations through further experiences, which in turn, affect their teaching efficacy. This study is necessary and relevant to examine student teachers' experiences of work-integrated learning as a component of teaching practice and to determine situational variables associ-

ated with WIL that might have a significant impact on student teachers' teaching efficacy. The following section will describe how a survey was executed by using a questionnaire in order to obtain data from the participants.

## METHODOLOGY

This is a quantitative study in which a survey was used that provided mainly descriptive information of an exploratory nature. It is the first in a series of studies aimed at assessing student teachers' perceptions about their experiences of WIL while studying at higher education institutions in South Africa.

### Design

Fifty-one fourth-year Bachelor of Education students, who were studying at a University of Technology in South Africa, participated in this first study. Twenty-five male and 26 female students provided a good gender balance in the sample. All participants were black South Africans. At the time of the survey the participants had just completed six months of work-integrated learning at a variety of high schools in South Africa. Completion of the WIL was a prerequisite for participation in the study. Groups of three to five students had been placed at a specific school and each student stayed at the school where he or she was placed for the duration of the WIL. The participants were drawn from the four B.Ed programmes, each focusing on a different school subject cluster. The educational and theoretical basis of each of the programmes was exactly the same, though the subject specific approach of each of the programmes differed. These clusters included Natural Sciences, Technology directed subjects, Economic and Management Sciences, and Computer Sciences.

A questionnaire, designed by the researchers and based on the literature reviewed, was used to collect data from the participants. By using this questionnaire, the researchers could gather information about the effect of a range of situational variables on the teaching efficacy of student teachers. The students' perceptions about their experiences were categorized into four construct dimensions, namely teaching experience and efficacy, the role of context in teaching efficacy, the relationship with the mentor and lastly teaching efficacy and classroom manage-

ment. The students' perceptions of their experiences of WIL were measured on a Likert-type scale ranging from 1 to 5 where 1 represented "strongly disagree" and 5 represented "strongly agree" with a midway "uncertain" category (3). A higher value chosen by the participant therefore indicates a greater agreement with the considered statement.

### Data Collection and Analysis

The data was collected by issuing the questionnaire to the students in a lecturing set-up, after completion of their six months WIL. The participants completed the questionnaire in class and then handed it to the assistant. This approach was used to ensure that issued questionnaires were returned to the researchers and that data from all eligible participants could be obtained. Consent for participation was sought from the participants and the aims of the study together with the anticipated benefits were made clear to them beforehand. Descriptive statistics were used to present the data. The researchers analysed the data and presented it in table format to simplify interpretations. Means and standard deviations were calculated and considered per construct dimension to ensure that interpretations could be made that were focused and not influenced by data from other construct dimensions. Recall that these construct dimensions include teaching experience and efficacy, the role of context in teaching efficacy, the relationship with the mentor and lastly teaching efficacy and classroom management.

## RESULTS

Descriptive statistics provided a profile of the respondents as shown in Table 1.

**Table 1: Gender of the respondents per programme**

Programme	Gender		
	Male	Female	Total
Economic and Management Sciences (EMS)	5 (9.8%)	7 (13.7%)	12 (23.5%)
Natural Sciences (NS)	15 (29.4%)	13 (25.5%)	28 (54.9%)
Computer Science (CS)	3 (5.9%)	2 (3.95%)	5 (9.8%)
Technology Education	2 (3.9%)	4 (7.8%)	6 (11.8%)
Total	25 (49%)	26 (51%)	51 (100%)

A good male-female representation was accomplished with about half of the participants making up each group. The majority (54.9%) of participants came from the Natural Sciences programme while the balance came from the remaining three programmes, namely Economic and Management Sciences, Computer Sciences and Technology Education. A summary of the students' perceptions about their experiences of WIL are shown in Table 2.

The means indicated are the averages of all participants' responses per question. The standard deviations were also calculated per question by using the responses of all participants. Students' perceptions about their WIL experiences have been categorised into four construct dimensions namely teaching experience and efficacy; the role of context in teaching efficacy; the relationship with the mentor; and teaching efficacy and classroom management. Questions from the questionnaire were assigned to each construct dimension as follows:

Construct Dimension	Questionnaire Questions
Teaching experience and efficacy	1, 14, 15, 19, 20, 21 and 23
The role of context in teaching efficacy	2, 3, 4, 5, 16, 17, 18 and 22
The relationship with the mentor	8, 9, 10, 11, 12 and 13
Teaching efficacy and classroom management	6 and 7

The responses of the participants within each construct dimension are now discussed.

## DISCUSSION

### Teaching Experience and Efficacy

The first construct dimension addressed the effect of the general work-integrated teaching experience on students' perspectives of their teaching efficacy. The length of the work-integrated learning, the support from management and teachers and the respect from the learners appeared to have boosted the student teachers' confidence. Student teaching is generally considered the most beneficial component of preparation by prospective and practicing teachers as well as teacher educators (Borko and Mayfield 1995). This observation is echoed by the fact that a mean of 4.33 out of a possible 5 points was scored in question 1, asking whether WIL equipped the participants with the necessary

**Table 2: Students' perceptions about their experiences of WIL**

<i>Questions</i>	<i>Mean</i>	<i>SD</i>
1. The six months of work-integrated learning (WIL) has equipped me with the necessary skills to teach all my subjects with confidence.	4.33	0.74
2. The six months WIL has taught me how to prepare a lesson plan without any assistance from my colleagues.	4.20	1.04
3. I can now formulate appropriate lesson outcomes from the assessment standards for each lesson.	4.20	0.80
4. When setting a test, I am able to formulate appropriate assessment criteria.	4.12	0.96
5. I can compile a test memorandum without mistakes.	4.18	0.87
6. I can now control learners in my class without fear and hesitation.	4.31	0.71
7. I can handle disruptive learners successfully and competently.	3.89	0.84
8. The support I got from my mentor teacher has enhanced my confidence to teach.	3.82	1.29
9. I have benefitted from my mentor's subject knowledge.	3.84	1.05
10. I have benefitted from my mentor's variety of facilitation skills.	3.94	1.10
11. The guidance and nurturing I received from my mentor teacher made me love my subject even more.	3.92	1.13
12. My mentor's positive attitude towards teaching has helped me to develop a positive professional identity.	3.92	1.04
13. My mentor's interpersonal relationships have helped me to develop a positive professional identity.	3.77	1.01
14. The support I got from my colleagues helped me to be a resourceful teacher, using more than just a textbook to teach.	3.82	1.07
15. The support I got from the school management team helped to build my confidence as a teacher.	3.77	1.05
16. The availability of library facilities such as textbooks made lesson planning easier for me.	3.06	1.27
17. The availability of computers in the school enhanced my use of computers in the teaching of my lessons.	3.14	1.43
18. Access to internet facilities enhanced my preparation of activities which I gave to learners during lessons.	2.63	1.31
19. Learner participation and engagement in class activities have motivated me as a teacher.	3.49	1.39
20. The respect I got from learners helped me to gain confidence in my work.	3.90	1.12
21. The preparation I received from the School of Teacher Education helped me to face the challenges of teaching with confidence.	4.00	0.96
22. My specific subject didactics lecturers have prepared me thoroughly to meet the challenges of teaching.	3.88	1.03
23. I feel that I have made a contribution to the school during the period of WIL.	4.26	0.89
Average	3.84	1.05

skills to teach their subject content with confidence. A relatively low standard deviation of 0.74 supported the observation. Unfortunately this is not always the case. In an earlier study (Matoti in press) the teacher trainees reported a mismatch between their expectations of teaching practice and their actual experiences in their host schools. Many reasons for this mismatch can be mentioned. The positive findings in this study, however, certainly point to a better coordination of activities and communication between the training institution and the host schools.

Housego (2002) argues that a teacher's readiness to teach affects his or her confidence to teach. Question 21 sought to find out if the prepa-

ration students received from the university had an impact on their confidence levels when teaching in the capacity of a student teacher at a South African school. A mean of 4.00 was achieved, indicating that they were of the opinion that the preparation received from the university helped them to face the challenges of teaching with confidence. The student teachers, furthermore, felt that they had made a recognizable contribution to the host school with a high mean of 4.26 and a standard deviation of 0.89 to support it. In general, an average of 3.94 out of a possible 5 points for all the questions in this construct dimension indicated that the students valued teaching practice as an important factor contributing to their teaching efficacy.

This study offered the students an opportunity to reflect on their experiences of WIL. This practice is in line with what Coll and Eames (2004) propose regarding WIL. They argue that for learning to occur, learners need to observe and reflect on their experiences, develop concepts to make sense of these experiences and then apply and test these concepts through new experiences. These opportunities were given to the participants during WIL. Coll and Eames (2004) furthermore see reflection and reflective practice as crucial features in developing the effectiveness of WIL. Through the completion of this questionnaire, students were given the opportunity to think about and reflect on their experiences and encounters at the schools where they were placed.

### **The Role of Context in Teaching Efficacy**

The next construct dimension considered the role of the context in teaching efficacy. In general, these questions related to dimensions such as lesson planning, assessment, the availability of resources and the contribution of the specific subject didactics lecturer to the student teachers' preparation for teaching. Teacher training programmes which are designed to foster teaching efficacy beliefs must include exposure to authentic as well as context-based teaching experiences and situations (Ashton and Webb 1986). Labone (2004) pointed out that there are studies which ignore the context in developing teaching efficacy. Poorly chosen placements result in feelings of inadequacy, low teacher efficacy and an unfavorable attitude towards teaching (Fallin and Royse 2000) whereas extensive and well-planned field experiences can help prospective teachers develop confidence, self-esteem and an enhanced awareness of the profession.

In this study the context provided prospective teachers with situations where lesson outcomes had to be formulated, tests and memoranda had to be compiled and internet and library facilities had to be used in order to execute the responsibilities of a teacher. It was found that the six months WIL experience helped students to refine their capabilities with respect to the preparation of lessons (a mean of 4.20 and 1.04 SD), the formulation of lesson outcomes from the assessment standards (a mean of 4.20 and 0.80 SD), the formulation of appropriate as-

essment criteria when setting a test (a mean of 4.12 and 0.96 SD) and the compilation of memoranda without mistakes (a mean of 4.18 and 0.87 SD). All four of these aspects obtained means between 4.12 and 4.2 which indicated the students' agreement with the questionnaire statements. With the exception of question 2 regarding the preparation of lessons, the standard deviations of all four questions were below 1, which indicates that all participants who answered those questions opted for responses within one point of the mean. These findings indicated the students' agreement in their perceptions with regard to these four questions.

It is unfortunate that the availability of library facilities (a mean of 3.06 and 1.27 SD) and computers (a mean of 3.14 and 1.43 SD), and access to internet facilities (a mean of 2.63 and 1.31 SD) at many schools are still not what it should be and therefore could contribute less to an enriching WIL experience. An agreement level of 3.06 out of a possible 5 was obtained in question 16 regarding library facilities and 3.14 out of 5 in question 17 with regard to the availability of computers. Question 18 addressed the availability of internet facilities to support teacher preparation. It scored an even lower mean of 2.63, indicating that just over half of the participants agreed with the statement that internet facilities enhanced their preparation of activities that were presented to the learners.

### ***The Relationship with the Mentor***

We now look into the relationship of teacher trainees with their mentors and the effect that these relationships had on their teaching efficacy. Clifford and Green (2004) view a mentor-protégé relationship as a significant factor in pre-service teacher education. A positive rapport of a good mentor-protégé relationship can foster pre-service teachers' development of teaching competence and self-efficacy beliefs. To strengthen the argument further, Li and Zhang (2000) determined that pre-service teachers who perceived their mentors to be highly efficacious had significantly higher general teaching efficacy than their counterparts. The outcome of positive mentoring influences on student teachers can be observed in the results obtained within this construct dimension. When comparing the means calculated on the questions in this construct dimension to the means calcu-

lated on questions in the other three construct dimensions, it can be seen that the range of the means in the construct dimension addressing mentor-trainee relationships is the smallest. The highest and lowest mean in this construct dimension differ by only 0.17 points. This means that the students' perceptions regarding the aspects addressed in questions 8, 9, 10, 11, 12 and 13 were very similar and 3.87 points out of a possible 5 were scored by the participants on average for these six questions.

The results for individual questions will now be mentioned. Students' perceptions that support from mentors enhanced their confidence to teach obtained a mean of 3.82 and 1.29 SD while their opinion about whether they benefitted from their mentors' subject knowledge provided a mean of 3.84 and a 1.05 SD. Asked whether they benefitted from a mentor's variety of facilitation skills, a mean of 3.94 and a 1.10 SD were obtained. Guidance and nurturing by the mentor to enhance a love for the subject resulted in a mean of 3.92 and a 1.13 SD. The influence of a mentor's positive attitude towards teaching gave a 3.92 mean and a 1.04 SD. Lastly, the question concerning the mentor's interpersonal relationships in the school set-up contributing to the development of a positive professional identity, provided a mean of 3.77 with a supporting standard deviation of 1.01. These results indicated that the students were positive about their relationships with the mentors.

### **Teaching Efficacy and Classroom Management**

The management of a classroom is a teaching reality which student teachers only come into contact with once they stand in front of a class of real children. This is often an eye-opening experience to most student teachers. The influence of WIL on the student teacher participants in this study was positive as reflected in the means and standard deviations of indicators of classroom control and the handling of disruptive learners (questions six and seven). The student teachers felt that after WIL they had obtained the ability to control learners without fear and hesitation. A mean of 4.31 in question 6 indicates that the participants really felt that WIL contributed to their ability to handle learners without fear. This is the second highest mean obtained, as only question 1 had a higher mean of 4.33, and is therefore important. A stan-

dard deviation of 0.71, which was the lowest obtained in all of the questions, indicated the participants' consensus on the worth of WIL with regard to classroom control. Question 7 asked whether the participants were of the opinion that they could handle disruptive learners successfully and competently. A mean of 3.89, which is in line with the average mean of 3.84 for all the questions in the questionnaire, indicates the teacher trainees' confidence. It is furthermore supported by a standard deviation of only 0.84, suggesting that the participants were in agreement about their abilities.

### **CONCLUSION**

Work-integrated learning is expected to enhance students' confidence and their overall self-belief and self-efficacy (Subramanian and Freudenberg 2007). The findings of the study support the assertion. An assessment of the students' experiences of WIL over a period of six months showed that the students had positive recollections of their experiential time at schools. The four construct dimensions that were analysed showed the following perceived average levels of teaching efficacy by the participants. "Teaching experience and efficacy" reached a mean of 3.94 out of a possible 5 points while "The role of context in teaching efficacy" obtained a mean of 3.68. "Relationships with the mentor" provided a mean of 3.87 and the fourth construct, "Classroom management", reached the highest mean of 4.10.

Overall, it can be said that work-integrated learning is a contributing and necessary component of teacher training and is also seen by the students as such. It serves the purpose of exposing teacher trainees to aspects regarding their future careers within the context of a real classroom where authentic problems and situations are encountered and have to be solved and handled.

### **RECOMMENDATIONS**

Work-integrated learning needs to be planned and supervised carefully. The students need to be prepared thoroughly by the training institution and the host schools should create an enabling environment for the student teachers to grow personally as individuals and as professionals and collectively as members of a team of

teachers. Furthermore, student teachers need to be monitored and assessed thoroughly throughout the six months that they spend at the host schools. A follow-up qualitative study could be done to ensure that what the students reported in this study was actually practiced while they were at the schools.

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