

Teaching Practice: Guidelines for Initial Teacher Education Programmes

Acknowledgements



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Disclaimer

The contents of this document are the sole responsibility of the Work Integrated Learning Group under the leadership of Prof Carisma Nel of the Faculty of Education at the North-West University and can in no way be taken to reflect the views of the European Union.



Table of Contents

Ackno	wledgements	1					
1.	Introduction	3					
2.	Lexicon for Teaching Practice	6					
3.	Policy Context: TP	12					
	3.1 Contextualising TP	12					
	3.2 Requirements	12					
4.	Partnerships	14					
4.1	Partnerships between educational institutions	14					
4.2	Purpose	14					
4.3	Formalising a partnership: Memorandum of Understanding	15					
4.4	Communication, Collaboration and Support	15					
4.5	Structural considerations	16					
4.5.1	Roles and responsibilities of university partners	16					
4.5.2	Roles and responsibilities of district partners	20					
4.5.3	Roles and responsibilities of school partners	20					
4.6	Partnership Benefits	23					
4.7	Guideline statements	24					
5.	ICT Platform	25					
5.1	Communication, collaboration and support for mentor teachers, student teachers						
	and other WIL partners	25					
5.1.1	Benefits of an ICT Platform	25					
5.1.2	Google Apps for Education	26					
5.1.3	Learning Management System	28					
5.1.4	Database: Partnership Schools and Trained Mentors	28					
5.2	Guideline statements	28					
6.	Supervision and Mentoring	29					
6.1	Identifying appropriate workplace-based settings	29					
6.2	Criteria for selection of school mentor teachers	29					
6.3	Structured support for the student teacher	30					
6.4	Supporting student teachers experiencing difficulties	31					
6.5	Guideline statements	32					
7.	WIL Curriculum Framework	33					
7.1	Introduction	33					
7.2	Duration and timing of workplace-based placement	33					
7.3	What do student teachers need to know and know how to do?	34					
7.4	Proposed teaching practice curriculum framework	35					
7.4.1	Core practices	35					
7.4.2	Features of practice-based opportunities	36					
7.4.3	Pedagogical approaches	36					
7.5	Performance-based assessment	41					
7.5.1	MRTEQ guidelines	41					
7.5.2	Performance assessment measures student teachers by their teaching	41					
7.6	Guideline statements	41					
References 43							
Appen	dixes	48					

1. Introduction

In the Integrated Strategic Planning Framework for Teacher Education and Development in South Africa, 2011–2025, (RSA DoBE & DHET, 2011:3), it is stated that universities have the responsibility for ensuring that the programmes being offered are of high quality and lead to meaningful development for teachers. In South Africa, the HEQC review of 2007 identified conceptual coherence and strong links between theory and practice as marks of good quality teacher education programmes (CHE, 2010: 59, 95-6). The HEQC review of BEd programmes found that "the greatest problems in programme design result from institutions' incapacity to meet minimum standards of internal coherence, alignment with purpose and intellectual credibility in terms of the relationship between theoretical, practical and experiential knowledge" (CHE, 2010: 95). Although many programmes include practicums or teaching practice throughout their curriculum, the time that student teachers spend in schools is often not carefully planned like campus-based courses with a "clinical curriculum" (Turney, Eltis, Towler & Wright, 1985). According to Darling-Hammond (2009), student teachers and their mentor teachers are often left to work out the daily business of practice teaching by themselves with little guidance and connection to campus-based coursework, and it is often assumed that good teaching practices are caught rather than taught. In response to criticism all initial teacher education programmes in South Africa have been and are continuing to be revised and improved. The focus of the improvements being on subject knowledge, pedagogical content knowledge as well as properly supervised and mentored school based teaching practice (RSA DHET, 2011; 2015).

The US National Research Council document (2010:180) cited clinical experience as one of three aspects of teacher preparation likely to "have the highest potential for effects on outcomes for students". Research studies have shown the benefits of teacher preparation that is directly linked to practice (Boyd et el., 2008). Three critical features of such preparation are: 1) right integration among courses, and between course work and clinical work in schools; 2) extensive and intensively supervised and mentored clinical work integrated with course work; and 3) close, proactive relationships with schools that serve diverse learners effectively and develop and model good teaching (Darling-Hammond, 2006). The South African Council on Higher Education (2011:78) defines work integrated learning as "an educational approach that aligns academic and workplace practices for the mutual benefit of students and workplaces". Work integrated learning is seen as a purposeful, organised, supervised and assessed educational activity required for the completion of an ITE programme that integrates theoretical learning with its applications in the workplace (i.e., school and community settings). Zeichner (2010) argues for the creation of a "hybrid space" in preservice teacher preparation programmes that bring together school and university-based teacher educators and practitioner and academic knowledge in new ways to enhance the learning of prospective teachers.

As a part of the Initial Teacher Education Research Project (ITERP), a project designed to examine the extent to which initial teacher education programmes offered by universities are adequately preparing to teach in South African schools, JET undertook a large-scale survey of

final year BEd students in 2013. The results indicated that few of the initial teacher education programmes were structurally and conceptually coherent, the depth and breadth of instruction and learning subject and pedagogical knowledge varied widely, and work-integrated learning was inadequate, characterised by limited and skewed exposure to prevailing school practices and conditions, insufficient and inexpert supervision and inconsistencies in the amount and quality of feedback and assessment. ITERP findings suggest that universities and schools need to work together in a much more planned and coordinated manner with regard to providing student-teachers with authentic school and classroom learning experiences (Deacon, 2015). There is growing consensus that much of what teachers need to learn must be learned in and from practice rather than in preparing for practice (Hammerness, Darling-Hammond and Bransford, 2005).

Initial teacher education (ITE) graduates in South Africa should have the capability to successfully teach in today's diverse environments as well as have the skills to adapt to meet the needs of teaching in the future. The purpose of this document is to summarise what systematic reviews in various countries as well as rigorous, peer-reviewed research does and can tell us about key features of quality teaching practice within ITE programmes (i.e., features of work integrated learning arrangements that lead to stronger graduating teacher outcomes; that is, confident graduates who are able to use adaptive expertise to problem solve and lift learner achievement, and who are ready to teach when they start their first teaching position in a school). Questions about partnerships, roles and responsibilities of partners, the duration and timing of workplace-based placement, a teaching practice (TP) curriculum framework and student teacher performance-based assessment have been examined through research, and the results can provide directions as we work to improve teaching practice nationally.

We examined various published systematic reviews as well as international and national documents focusing only on teaching practice (related international terms include, clinical practice, practicum, residencies, internships, etc.) within initial teacher education programmes. Reducing the complex findings of research studies and documents to simple conclusions is risky business, and so our document is full of caveats. Nonetheless, in this summary review we have found evidence identifying important areas to be pursued.

The document should be read as a supplement to **The Minimum Requirements for Teacher Education Qualifications (as revised 2018)** policy document. The aim of this document is operational rather than exhaustive. Because local context matters when considering how to best operationalize teaching practice, we avoid making sweeping national recommendations, other than the guiding statements provided. Ultimately, our best intentions for this document are to bring about a common understanding of what comprises teaching practice and to ensure greater consistency in the workplace-based experience for all student teachers, given the centrality of that experience to the formation of the teachers of the future. This is a framework to build, maintain, and sustain a teaching practice partnership, which joins the needs of a university and local schools in the preparation of highly effective teachers to meet the needs of all learners. The document provides a clear blueprint for all involved in facilitating quality workplace-based placement experiences, and we hope that schools and universities will see how existing good practice in this area can be harnessed and developed incrementally for the benefit of all partners, especially student teachers and learners (cf. Figure 1.).



2. Lexicon for Teaching Practice

Authentic Assessment

Darling-Hammond and Snyder (2000) identify four characteristics of authentic assessments of teaching: 1) the assessments sample the actual knowledge, skills, and dispositions desired of teachers in real teaching and learning contexts; 2) the assessments integrate multiple facets of knowledge and skill used in teaching practice; 3) multiple sources of evidence are collected over time and in diverse contexts; and 4) assessment evidence is evaluated by individuals with relevant expertise against an agreed upon set of standards that matter for teaching performance (see Performance-based assessment).

Briefing

Briefing can be defined as orientating a person to an experience, which includes the instructions, goals and rules within which participants in the activity can achieve their goals (Pearson & Smith, 1986).

Collaboration

This occurs when those involved in workplace-based placement work together as partners to achieve the shared goal of developing the knowledge, skills and competencies which student teachers need while ensuring the best outcomes for learners during the process. This is underpinned by the sharing of knowledge and learning, the building of consensus and the improvement of skills critical to the success of workplace-based placement.

Community of practice

Learning which happens in a situated context is called situated learning. According to Lave and Wenger (1991:29-30), a situated learning space is one where learning and its application takes place in the same location. This usually happens with a group of people who are willing to work together and are prepared to support each other's learning. Situated learning as proposed by Lave and Wenger is a theoretical description of learning in a community of practice (Lave & Wenger, 1991:29). Lave and Wenger (1991:29) illustrate this by stating "learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community". In other words, this type of learning is influenced by socialisation and simulation. So the traditional method of transferring knowledge is not desirable within situated learning. However, a movement towards a context where a group of people come together (community) to enquire and

solve a problem is the focus giving rise to the community of practice.

Continuum of teacher education

This refers to the formal and informal educational and developmental activities in which teachers engage as life-long learners during their teaching career. It encompasses initial teacher education, induction, early and continuing professional development.

Curriculum framework

A set of guidelines defining and explaining what a curriculum is required to be like or to contain. A curricular framework is therefore not, as such, a curriculum. It sets the directions, standards and limits or boundaries of possible curricula. In other words, it is the guidelines for the construction of actual curricula.

Co-teaching

Co-teaching involves the mentor teacher and student teacher working together to plan, conduct and evaluate the learning activities for the same group of learners. It generally involves teachers teaching the same learners at the same time, although this is not always the case.

Debriefing

Debriefing can be defined as a purposeful reflection which can be undertaken by an individual or group (Pearson & Smith, 1986). It is a process where group members can discuss and work through ideas, issues, feelings or concerns which are generated by individuals within the group (Horsfall, 1990). Debriefing is not regarded as therapy or counselling, or as a vehicle for a 'gripe' session, or just having a chat. In order to be an effective educational activity, debriefing needs to be based upon specific learning intentions and be a regular activity that is closely linked to experiential learning. Debriefing is based on the premise that there is a positive connection between exposure to a practical experience and the process of learning from the experience after it has occurred (Lederman, 1984).

Dispositions

The values, commitments, and professional ethics that influence behaviours toward learners, families, colleagues, and communities and affect learners' learning, motivation, and development as well as the teacher's own professional growth. Dispositions are guided by beliefs and attitudes related to values such as caring, fairness, honesty, responsibility, and social justice. For example, they might include a belief that all learners can learn, a vision of high and challenging standards, or a commitment to a safe and

supportive learning environment.

Diverse/Diversity

The inclusion of differences based on race, gender, disability, age, national origin, colour, economic status, religion, geographic regions and other characteristics. Achieving diversity requires respect of differences, valuing differences, supporting, encouraging and promoting differences, and affirmation initiatives, such as recruitment, placement, and retention.

Functional Schools

Functional schools are schools which consistently strive to ensure that their learners achieve their full potential, despite challenging conditions that may exist. These are schools which understand the role that they need to play to support the development of the student teachers that they host, and which show commitment to playing this role (DHET, 2018:20).

Initial Teacher Education (ITE)

ITE refers to the foundation stage of learning to be a teacher when student teachers are engaged in a recognised teacher education programme provided by a Higher Education Institution.

Learners

Learners are at school (i.e., Grade R to Grade 12) and should be distinguished from students or student teachers (i.e., university).

Memorandum of Understanding

A memorandum of understanding (MOU) is a nonbinding agreement between two or more parties outlining the terms and details of an understanding, including each parties' requirements and responsibilities. They vary in length and complexity, but each understanding represents mutually accepted expectations between people or organizations.

Mentoring

In mentoring, one colleague supports the skill and knowledge development of another, providing guidance to that individual based on his or her own experiences and understanding of best practices (Hudson, 2012).

Mentor teacher

A mentor teacher is a teacher in the placement school who supports and guides the student teacher and who acts as a point of contact between the university and the school. In the intermediate phase, a student teacher may be placed in a number of different classes and may, therefore, have a number of different mentor teachers across a number of subject areas. In such circumstances, one teacher may take on a liaison role, seeking feedback from other mentor teachers and acting as the point of contact for the principal and university tutor.

Observation

Observation is the action or process of carefully watching someone or something. Classroom observation refers to formal or informal observation of teaching while it is taking place in a setting / learning environment. Observation is used as a tool to help support the student to develop their professional knowledge as well to contribute to their understanding and development of students' professional learning and development.

Parent

The term "parent" denotes parents and legal guardians of learners in professional practice schools, or teaching schools.

Partnership

Partnership refers to the processes, structures and arrangements that enable the partners involved in workplace-based placement to work and learn collaboratively in teacher education.

Performance-based Assessment

In a performance assessment, rather than choosing among pre-determined options, student teachers must construct an answer, produce a product, or perform an activity. Performance-based assessments include innovative ways of assessing student teacher knowledge and skill as well as their formative impact on student teacher learning and instructional practice. Examples include: Structured portfolios require student teachers to submit specific artifacts of teaching with standardized prompts that require direct responses. These artifacts and responses are then scored in a standardized way by trained raters using a common assessment tool, usually a rubric. In unstructured portfolios, what and how artifacts are selected depend on the purpose of the portfolios.

Portfolio

The term portfolio is used in this document to denote an instrument which is used by the student teacher to document his or her work, to support the process of reflection on his

or her practice and to identify areas in which he/she may need support or guidance. The portfolio also facilitates student teachers to become more conscious of the theories and assumptions that guide their practice and provides a basis for collaborative dialogue about teaching. An accumulation of evidence about individual proficiencies, especially in relation to explicit standards and rubrics, used in evaluation of competency as a student teacher or in another professional school role. Contents might include learning from practice and learning in practice assessments and tasks used for instructional or workplace-based purposes such as projects, journals, and observations by university tutors, videos, comments by mentor teachers, and samples of learner work.

Professional Practice Schools

Professional Practice Schools (PPSs) are defined as the type of schools, regardless of resource level, at which student teachers can receive quality support during their normal period of school-based training. They are thus not seen as 'extraordinary' schools; the idea rather being that PPSs can be drawn from the usual schools where students are placed for the workplace-based component of WIL. The idea is that student teachers would be able to engage in learning-in-practice in such schools, with proper mentoring. PPSs can also be utilised as hubs for the development of professional learning communities.

Reflection

Reflection is an integral part of the learning process. It includes the ability to reflect on one's actions to engage in a process of continuous learning. Reflection is a means of thinking which is focused, intentional and purposeful, and aims to deepen the student teachers understanding and to inform further thought and action. Put simply, reflection is essential to convert a life experiences into a learning experience as critical attention should be given to the practical values and theories which inform everyday actions, by examining practice.

Reflective journal

A reflective journal will aid student teacher learning, as it is a personal record of a student teacher's learning experiences. It is a space where student teachers can record and reflect upon their observations and responses to situations, which can then be used to explore and analyse ways of thinking.

Reflective learning

Reflective learning - is a way of allowing student teachers to step back from their learning experience to help them develop critical thinking skills and improve/inform future performance (teaching and learning opportunities) by analysing their experience.

Service learning

Service learning is a structured learning experience that combines community service with preparation and reflection. Student teachers engaged in service-learning provide community service in response to community-identified concerns and learn about the context in which service is provided, the connection between their service and their academic coursework, and their roles as citizens.

Student teacher

A student teacher is a student who is engaged in a programme of initial teacher education.

Teacher

The term "teacher" denotes a teacher registered with the South African Council for Educators (SACE).

Teaching Schools

Teaching Schools are defined as 'teaching laboratories'. These are seen as individual schools, located close to a teacher education delivery site, where student teachers can observe best practices, participate in teaching experiences and potentially link research and teaching (Gravett, Petersen & Petker 2014; Henning, Petker & Petersen 2015; Gravett & Ramsaroop 2015).

University Tutor

A University Tutor is a person engaged by a university to support and mentor student teachers and evaluate their practice while on placement.

Work Integrated Learning

WIL refers to an educational approach that aligns academic and workplace practices for the mutual benefit of students and workplaces.

Workplace-based Placement

The exposure and interactions required to practice the integration of knowledge, skills and attitudes required in the workplace. Workplace-based placement is designed to give the student teacher an opportunity to learn about teaching and learning, to gain practice in teaching, to apply educational theory in a variety of teaching and learning situations and school contexts and to participate in school life in a way that is structured and supported. It replaces the term "teaching practice" and more accurately reflects the nature of the experience as one encompassing a range of teaching and non-teaching activities.

3. Policy Context: Teaching Practice

In this section the requirements for **teaching practice** as specified in the MRTEQ policy document are outlined. The MRTEQ policy has been used as a "flashlight" for the literature review presented in this document.

3.1 Contextualising WIL

In the MRTEQ document it is stated that, "Practical learning involves learning from and in practice. Learning from practice includes the study of practice, using discursive resources to analyse different practices across a variety of contexts, drawing from case studies, video records, lesson observations, etc., in order to theorise practice and form a basis for learning in practice. Learning in practice involves teaching in authentic and simulated classroom environments. Teaching practice takes place in the workplace and can include aspects of learning from practice (e.g. observing and reflecting on lessons taught by others), as well as learning in practice (e.g. preparing, teaching and reflecting on lessons presented by oneself)." (DHET, 2018: 11)

3.2 Requirements

The requirements for teaching practice, as specified in the MRTEQ policy document, are formulated as questions to facilitate reading.

Where should TP take place?

The learning-in-practice, workplace-based component of TP for teacher education qualifications mostly take place *in classroom and school settings* but could also include a *small component of service learning in community settings*.

What types of schools can be used for TP?

It is possible for learning through TP to happen in all types of schools provided that they are purposefully selected to support the type of learning intended. *Extended TP periods* in the latter part of the ITE programmes must take place in *functional schools*. Functional schools are schools which consistently strive to ensure that their learners achieve their full potential, despite challenging conditions that may exist. These are schools which understand the role that they need to play to support the development of the student teachers that they host, and which show commitment to playing this role (DHET, 2018:20).

Who should arrange TP workplace-based placement?

It is the responsibility of the institution offering the qualification to formally arrange TP opportunities for students, in line with the requirements of the qualification as described in this policy.

What is the nature of the relationship between universities and TP partners?

Universities are responsible for arranging workplace-based placement. This requires institutions offering teacher education qualifications to develop mutually beneficial *partnerships with schools, districts and provincial department of education.*

How should TP be structured (supervision, duration, credits) within an ITE programme?

The workplace-based component of TP must be structured, supervised, and credit-bearing, integrated into the learning programme, spread across the learning programme and it must be formally assessed (DHET, 2018: 14)

TP must be spread out across the academic programme. The school experience component must take place in *blocks of varying duration* throughout the programme. Where a more extended period is envisaged, such as during part of a final year or within a structured mentorship programme, there must be a guarantee of proper supervision, suitable workplace-based placement and formal assessment (DHET, 2018: 14).

In a full-time contact programme, students should spend a *minimum of 20 weeks and a maximum of 32 weeks* in formally supervised and assessed school-based practices over the four-year duration of the degree. Students *must move from observation and other forms of learning from practice to supported teaching to independent teaching* (learning in practice). In *any given year besides the fourth year, a maximum of 12 such weeks* could be spent in schools. In part-time or distance mode programmes, students may be physically in schools for longer periods – for example, if they are employed as unqualified or underqualified teachers. However, the same amount of supervised and assessed school-based practice is required.

An extended period of TP of up to 16 weeks in the final year should be enabled, and it must be supervised, structured, assessed and there are opportunities for quality engagement with students by the university during this extended period, to allow for reflections on their learning. This TP period should preferably be delivered in a 'sandwich' modality, with time at school punctuated with time at the university to enable reflection on learning. *This TP period* must be used to ensure that the prospective new teacher graduates are *well positioned to meet expectations* as beginner teachers, and equipped to successfully participate in an employer induction programme which will lead to their full registration as professional teachers by the SACE if the requirements are met.

At least 50% of the credits [240 credits] must be focused on developing the teaching specialisation phase and/or subject(s), including subject-focused disciplinary, *pedagogical and practical learning*. At least 120 of these credits must be at Level 6 and 60 credits at Level 7 (DHET, 2018: 24).

The basis for specialising to teach each of the four Foundation Phase subjects must include disciplinary, pedagogical and practical learning of at least 15 credits at NQF Level 5, 30 credits at NQF Level 6 and 15 credits at Level 7 (DHET, 2018: 26).

What is the role of the SACE Professional Teaching Standards?

ITE programmes must lead to new teacher graduates meeting these standards at a *beginner teacher level* (DHET, 2018: 21). *This TP period* (i.e., extended TP period in the final year) must be used to ensure that the prospective new teacher graduates are *well positioned to meet expectations* as beginner teachers, and equipped to successfully participate in an

employer induction programme which will lead to their full registration as professional teachers by the SACE if the requirements are met.

What curriculum guidelines may be applicable to TP (i.e., learning from practice and/or learning in practice)?

All BEd graduates must be knowledgeable about inclusive education and skilled in identifying and addressing barriers to learning, as well as in curriculum differentiation to address the needs of individual learners within a grade.

All BEd graduates must be ICT competent and be able to integrate and *use ICT in teaching and learning* (DHET, 2018: 25).

4. Partnerships

Globally, initial teacher education is facing increasing criticism for not adequately preparing student teachers for the realities of teaching. Governmental reviews of teacher education in various countries (e.g., New Zealand Government, 2010; Teacher Education Ministerial Advisory Group, 2014; Carter, 2015) have argued for the need to significantly strengthen university-school teaching practice relationships in order to improve the quality of ITE. The following features are highlighted in literature reviews:

4.1 Partnership between education institutions

University-school partnerships and collaboration have been the most frequently recommended approaches to educational reform (Kersh & Masztal, 1998). One reason is that universities and schools provide each other with resources and benefits in research and practice (Stump, Lovitt, & Perry, 1993) and need each other to reach their common and respective goals (Goodlad, 1988). A university-school partnership represents a planned effort to establish a formal, mutually beneficial, inter-institutional relationship (Goodlad, 1988). The purpose of the partnership is to create a process and an accompanying structure that allow partners to draw on one another's complementary strengths to advance their interests (Goodlad, 1988).

Workplace-based placement is based on a partnership approach that is mutually enriching for universities, provinces, districts, school communities and student teachers. The goodwill of teachers and other partners and the voluntary nature of their participation is recognised. Partnership schools are encouraged to be communities of good professional practice and to engage of their own accord with ITE. Relationships based on mutual respect, trust and inclusion are paramount to the success of the workplace-based placement. In this context, it is important that student teachers are included and supported by all partners during their school placement. In turn, student teachers must recognise and respect the role of school personnel and have due regard for the policies, protocols and characteristic spirit that underpin the day-to-day life of the school.

4.2 Purpose

A university-school partnership takes place at the intersection of two cultures with differing aims and values (Brookhart & Loadman, 1992; Knight, Wiseman, & Smith, 1992), and the development of a partnership is often difficult (Goodlad, 1993). Thus, the process of developing a partnership should begin with the partners establishing mutual goals. In their review of the practicum (Cohen, Hoz, & Kaplan, 2013: 351-353) found 113 empirical studies conducted between 1996 and 2009. They isolated four goals of practica, each with a different potential purpose:

1. promote student teachers' professional abilities (sub-goals: to apply and integrate particular methods; to teach particular content by particular methods; to develop student teachers' domain and didactical knowledge)

- 2. getting to know the school environment (sub-goals: become better acquainted with the school's internal and external environment; expand acquaintance with the teacher's role)
- 3. promote student teachers' growth (sub-goals: develop student teachers' personal growth)
- 4. impact the school (sub-goals: boost school learners' achievements; influence mentor teachers and the community).

4.3 Formalising a partnership: Memorandum of Understanding

Developing a university-school partnership is also a gradual process of building a foundation and trust (Trubowitz, 1986) that requires approval from top-level administration (Goodlad, 1988). But with these supports in place, it is possible to formalize the partnership. We strongly encourage partner schools to formalise their arrangements with universities in order to clarify the activities and benefits for all involved. Evidence suggests that partnerships that enter into a formal agreement tend to be better formed and more sustainable.

There are several benefits to formalising a partnership through an MOU.

On accountability and governance, it provides:

- clarity for all partners about what each is putting in, what each is getting out and the timeframe for doing so;
- the opportunity for school management team and/or school governing bodies to scrutinise and sign off on a tangible body of work; and
- a document that can be shared with school leaders, parents and other school community stakeholders to give clarity about what the partnership involves, and how their school is benefiting from and contributing to the partnership.

On sustainability, it provides:

- a tool for integrating the partnership into the strategy and ethos of the school.
- an opportunity to safeguard the partnership by ensuring orderly transitions through staff changes.
- an opportunity to build a shared responsibility for delivery, ensuring that workload does not fall on a small number of individuals.

On evaluation, it provides an opportunity to build impact evaluation into the partnership from the outset and setting out clearly the achievements it hopes to realise.

4.4 Communication, collaboration and support

Efficient means for communicating and sharing information are also crucial to collaboration (Goodlad, 1988) (cf. Section 5). De Bevoise (1986: 11) notes that "a shared language helps break down traditional institutional barriers." The fostering of relationships, based on mutual respect, trust and inclusion, is vitally important for effective workplace-based placement. Clear and open communication between all partners is essential. In particular, effective communication with parents is critical. They should be made aware of the school's commitment to hosting student teachers on placement and of its policy in respect of such placements. In all communications, student teachers, mentor teachers, principals, university tutors/lecturers and all partners in the workplace-based placement process should respect the privacy of others and the confidentiality of

information gained in the course of workplace-based placement.

4.5 Structural considerations

Sirotnik (1988) suggests that structural considerations in a university school collaboration include recognizable and viable structures for making decisions and organizational arrangements within the partnership. Although "there probably is no best way to organize school-university partnership," one structural arrangement is an orderly process of endorsing and encouraging activities undertaken in the partnership (Goodlad, 1988, p. 27). Such a structural arrangement may involve each collaborator in complementing the other's responsibilities with his/her expertise and exercising accountability. Accountability is best acted on as a system of shared responsibilities among the partners in the educational leadership activity (Sirotnik, 1988).

4.5.1 Roles and Responsibilities of University Partners

Developing a partnership requires that participants adopt new roles and responsibilities. There is more to-ing and fro-ing between sites. Site-specific oversight roles must be created, with an accompanying increase in leadership responsibility for the school teaching practice coordinator/trained mentor teacher and the university academic teaching practice coordinator and/or the teaching practice manager (administrative). Their role is seen to be a "significant factor in building a more collaborative and less hierarchical approach to the practicum" (Grudnoff, Haigh & MacKisack, 2017: 186).

Le Cornu (2012) considered that in new conceptions of practicum as partnership, coordinators play a vital pedagogical leadership role and that we should no longer be thinking only about the triad of visiting lecturer, mentor teacher and student teacher. In her study, co-ordinators identified four key elements of high quality practicum: "the quality of Mentor Teachers (MTs); commitment from leadership; the quality of the University Tutors/lecturers; and the Program's commitment to the notion of a learning community" (Le Cornu, 2012: 22). The co-ordinators considered that their role was to develop relationships, encourage reflection and help maximise learning from a school perspective. They also directly supported the mentor teachers, which indirectly impacted on student teachers.

4.5.1.1 Student Teachers

Success during the workplace-based placement requires assuming responsibility for professional growth. This involves attention to four main areas: Attitude, Orientation, Observation, and Participation.

Professional attitude involves:

- recognition and acceptance that the welfare of the learners is of ultimate concern and that the school mentor teacher has the final responsibility for what occurs in the classroom;
- maintenance of an ethical and professional attitude towards all members of the school community;

- continuous evaluation of one's growth as a teacher;
- ability to accept critical suggestions and assessments in a cooperative and positive manner.

Orientation involves:

- familiarizing oneself with the philosophy, resources, policies, and rules of the school assigned;
- conferring with the TP academic coordinator, the TP manager and the university TP mentor/tutor prior to the beginning of each practicum (school-based placement) session.

Observation includes:

- determining the procedures to be followed in completing the assigned portfolio of evidence which are acceptable to the school mentor teacher;
- observing in a systematic and purposeful manner, remembering that the observation is designed for one's introduction to the educator's role;

Participation includes:

- increasingly assuming responsibility for more complex tasks;
- making oneself available for regular conferences (meetings/discussion sessions) with the school mentor teacher or university TP mentor/tutor;
- developing written plans for lessons and making them available to all supervisory personnel;
- participating in school activities beyond the classroom setting;
- engaging in critical self-reflection around teaching and professional conduct;
- attending all school-related meetings.

4.5.1.2 Academic Teaching Practice Coordinator(s)

The academic TP coordinators are expected to:

- Manage all academic functionalities within the TP office.
- Drafting of all TP documentation (e.g., TP manual, code of conduct, MoU coordination, etc.)
- Liaise with all university, district and school role-players.
- Develop the teaching practice curriculum.
- Conduct research on teaching practice.
- Complete a practicum report on each year group, after each semester, and provide a copy to the relevant line manager.

4.5.1.3 TP Manager

The TP manager is expected to:

- Oversee the quality control of all TP processes and procedures.
- Oversee the placement process.
- Ensure that all TP documentation that goes to schools is updated and accurate.

- Notify the Academic TP Coordinator of any borderline or at-risk student teachers as soon as possible so that additional support can be provided;
- Ensure the functionality of the database (schools, TP coordinators and trained mentor teachers).
- Complete a placement report after each placement period and submit to the academic TP coordinator.

4.5.1.4 Placement Officer

The practicum placement officer is expected to:

- Communicate the registration procedure for practicum (school-based placement) to all student teachers.
- Place all student teachers at identified University Professional Practice Schools.
- Handle all practicum placement problems as reported by student teachers and/or schools.
- Ensure that the Professional Practice Schools (PPS) and trained mentor teacher database is kept up to date.
- Send all PPS, via the ITC platform, the names and the numbers of the student teachers that will be placed at the school THREE WEEKS before the practicum is to commence.
- Send all PPS, via the ITC platform (e.g., Google Classroom), a copy of the TP Manual.
- Send all PPS, via the ITC platform (e.g., Google Classroom), a copy of the Handbook for School Mentor Teachers (e.g., Mentor teacher support to be provided to the student teacher).
- Provide the University TP Mentors/Tutors with a copy of the finalized practicum placement lists.

4.5.1.5 University TP Mentor/Tutor

The University TP mentor/tutor is expected to:

- continuously revise the TP practices-based curriculum based on evidence-based or evidence-informed research;
- maintain regular contact with district representatives, schools, school mentor teachers and student teachers during the practicum period.
- introduce student teachers to the requirements of each semesters Portfolio of Evidence (Year 1 through Year 4);
- be available during all practicum sessions for any at-risk situations;
- develop a professional growth plan, in collaboration with school role-players, for student teachers who have been identified as being at risk;
- train all university TP lecturers and TP discipline lecturers before the assessment of portfolios commences;
- co-teach, with the TP discipline lecturers, all contact and distance TP coursework lectures/learning from practice sessions;

- moderate 10% of all portfolios for the TP modules;
- co-establish, with the TP IT advisor, LCM (learning content management) sites for all TP modules.

4.5.1.6 TP Lecturers

The TP lecturers are expected to:

- be available during all school-based placements sessions for any at-risk situations;
- co-teach, with the university TP mentor, all contact and distance TP coursework lectures/learning from practice sessions;
- give input with regard to the professional growth plan for at risk student teachers;
- organise all TP professional orientation programme sessions.
- form part of the portfolio assessment team.

4.5.1.7 University TP Discipline/Phase Lecturers

The teacher educators are expected to:

- Integrate the coursework methodological aspects into the learning from practice aspects of the TP module;
- Co-teach and formatively assess with the university TP mentor and/or TP lecturers during the TP professional orientation programme sessions.
- Summatively assess all third and fourth-year student teachers during the practicum.

4.5.1.8 Provincial Area Coordinator

Provincial Area Coordinators are an extension of the TP Office. They represent what teaching practice is all about in the BEd Programme within the Faculty of Education. Their primary role is to assure quality outcomes for student teachers and the learners with whom we work in the schools. Through the relationships they establish and foster (district-level, school-level and within the classroom – school mentor teachers), they can influence teaching practices in the schools.

The following is a list of responsibilities of the provincial area coordinator (relevant for universities offering programmes via distance):

- Act as liaisons between TP office and district/schools where student teachers are placed.
- Provide feedback to schools regarding training for school mentor teachers.
- Assist the TP office in supervising and monitoring of student teachers assigned to their area.
- Ensure that all districts and schools have access to the ICT platform (e.g., Google classroom), so as to facilitate accurate and timely communication.
- Visiting PPS in their area at least once a year.
- Resolve problems, while keeping the TP Office informed.

4.5.2 Role and Responsibilities of District Partners

4.5.2.1 District Representative

The district representative is expected to:

- Collaborate with the University TP manager and the Practicum Placement officer to ensure that PPS are identified and that the district is aware of their inclusion as university PPS;
- Collaborate with the University Academic Coordinator in terms of CAPS issues that can affect the effective community of practice between university and schools, specifically school mentor teachers, such as district specific planning, assessment, etc. requirements;
- Inform the University Academic Coordinator of any professional development opportunities that could benefit student teachers.

4.5.3 Roles and Responsibilities of School Partners

4.5.3.1 School Mentor Teachers

School mentor teachers serve as mentors and coaches to student teachers by providing modelling, guidance and support in a number of varied and integrated areas. By accepting a student teacher, the school mentor teacher assumes the responsibility to mentor and coach someone who will soon be teaching in a public school. This role will require a new dimension of planning, teaching another adult, and hard work. School mentor teachers frequently become the most significant influence in the development of a competent and qualified student teacher.

Orientation and Observation

Mentoring in this phase includes:

- welcoming the student teacher to the school and the classroom;
- familiarizing the student teacher with the school mentor teacher's expectations;
- orienting the student teacher to the school, which includes providing information about the phase, the learners and the school/classroom, routines and procedures;
- Give an informative introduction to your class when the student teacher arrives. They should be treated as a professional and this attitude should be conveyed to your learners. Learners respond best to a student teacher who is introduced and approached as another teacher in class.
- Discuss with your student teacher the importance of being a role model in your classroom in the areas of respect for others, diversity, and appropriate dress and language, etc.
- providing the student teacher with adequate opportunities to observe the school mentor teacher's own teaching techniques and procedures.

Teaching Practice

Mentoring includes:

- enabling student teachers to progress from simpler to more complex teaching tasks;
- providing the student teacher with opportunities to co-teach and co-plan, moving student teachers gradually towards greater responsibility as appropriate;
- Model good teaching practices and use a variety of teaching strategies as the student teacher observes your class. When using "best practice" is not an option due to constraints outside your control, help your student teacher understand why, and what you have chosen to do instead.
- assisting student teachers in planning their own teaching strategies and in selecting and designing appropriate instructional material;
- guiding student teachers in developing sound classroom organization and management strategies;
- requiring the student teacher to prepare and submit detailed written lesson plans for each lesson and unit plans where appropriate;
- Establish specific guidelines for your student teacher to follow in formulating lesson plans and clearly indicate the amount of detail expected. Lesson planning helps emerging teachers to think through details and anticipate learner needs, increasing the likelihood of a successful lesson. The student teacher should keep a hard copy of all lesson plans taught during their time in your class.
- Give your student teacher opportunities to experience non-classroom activities such as playground duties, advising, and/or extracurricular activities. Let them work with school counsellors and participate in professional development sessions, parent meetings, and district meetings where appropriate, so long as they do not distract from the primary role of teaching.
- Allow your student teacher to assist you in planning lessons and learning activities. Provide reasons and clarification for them as to why you do what you do, so they can learn from your experience. Provide them with opportunities to prepare and develop original teaching materials that use a variety of teaching strategies. Model specific teaching strategies and then expect them to use these while you observe their use in the next lesson they teach. A deliberate, methodical approach to mentoring will help them grow and develop as an educator.
- Provide your student teacher with opportunities to work with learners starting the first day of practicum. Work collaboratively with your student teacher during co-planning to determine which co-teaching strategies support the goals of the lesson and enhance learners' learning.
- Familiarize your student teacher with classroom assessment techniques and procedures. Assessment of your learners should be done jointly, but you should make final decisions about learner marks, etc.
- Discuss difficulties with your student teacher as soon as they become apparent. Work together to develop strategies to overcome any issues
- Student teachers should not be used as long-term substitutes. If a need arises for the student teacher to fill in for the school mentor teacher on a short term basis it must be approved through the TP Office.
- requiring the student teacher to prepare thoughtful written self-reflection on lessons;

• providing formative feedback during the course of the practicum and completing assessment rubrics provided in the student teacher's portfolio.

Providing Feedback

Consistent daily feedback to student teachers is important to their growth and development as teachers and professionals. Providing feedback entails:

- Student teachers will vary in their readiness to independently perform certain teaching tasks. Some student teachers will require more assistance, guidance and encouragement than others;
- Make expectations clear from the outset;
- Ensure that the student teacher(s) take notes during observation;
- Set aside a few minutes each day to discuss their notes and progress;
- Always provide feedback on strengths and strategies for improvement;
- Feedback should be realistic, honest and fair. Student teachers should be mature enough to handle constructive criticism even when it sometimes stings. Unrealistic feedback lulls student teachers into false complacency and is thus a disservice to them;
- Some of the most valuable feedback is provided informally. This could happen during yard duty, over lunch, at the photocopier, on your way from the parking lot and into the building and so on;
- Use your daily feedback to student teachers as a basis for completing the portfolio assessment rubrics;
- Regular conferences (meetings/discussions) allow the student teacher to analyse their own instructional skills and to set goals and strategies for improvement.

4.5.3.2 School Administrators

The school principal/Deputy principal recommends teachers for mentor teachers who have demonstrated superior teaching practice and are eligible to serve in those roles. Principals must assure that the mentor teacher has adequate time to serve as an effective mentor for the student teacher. Principals consult with eligible teachers regarding their willingness to work with university student teachers and university lecturers/tutors. Additional responsibilities would include:

- Help student teachers to understand the philosophy, organization, and administrative regulations of your school.
- Select capable school mentor teachers in consultation with the school management team and possible input from the TP manager.
- Formally introduce student teachers to staff during a staff meeting.
- Acquaint student teachers with the community, school, and vicinity in order for them to become a valuable part of the school team. Included should be an orientation to feeder schools for your particular school, alternative public or private schools in your area, description of the socioeconomic status of members of the community, and the needs of the families your school serves.
- Orient student teachers to general policies and practices of your school and make the following available for future reference: mission and philosophy of your school and/or

district, code of conduct, calendar of school activities, and schedule for staff meetings, etc.

- Establish the same professional relationship with student teachers as you would with your own staff.
- Confer with the school mentor teachers relative to the progress of the student teachers assigned to your school. Communicate any concerns or problems to the TP manager and/or university TP mentor.
- Adhere to the Faculty of Education policy that student teachers are not to be used a substitutes for employed teachers, for long periods of time. They may serve as a short-term substitute for their school mentor teacher only, provided that someone is appointed to supervise them.
- student teacher's involvement in activities beyond the classroom setting (e.g., staff meetings, staff socials, learner activities, professional development days, parent/teacher meetings);
- cooperating with TP manager or the University TP academic coordinator in solving problems that may arise;
- providing both positive and critical feedback to the TP manager on the general performance of student teachers and the administration of the practicum sessions.

4.6 Partnership benefits

The final element required in a university-school partnership is an outcome that benefits the partners. As a university-school partnership is motivated by the partners' self-interests (Goodlad, 1988), successful partnership must produce gains for each partner; these may include increased curriculum services for schools, continuing professional development opportunities offered to teachers in collaboration with the district and/or province and research potential for the university.

A well-managed workplace-based placement is beneficial for all those involved. It presents opportunities for sharing ideas and new methodologies, fosters discussion on teaching and learning, and offers opportunities for real engagement and learning among teachers throughout their careers. From the school's point of view, the benefits of placement are many. Schools can develop as learning communities through the sharing of knowledge and skills, and through interaction with student teachers, and with universities. Mentor teachers, in particular, can observe and be informed about a variety of approaches to teaching and learning, and some universities provide continuing professional development (CPD) programmes for such teachers, in acknowledgement of their role in supporting the student teachers. Learners also benefit from a variety of enriching experiences through the structured participation of student teachers in schools.

Recognising the benefits of workplace-based placement for the school community, all members of that community should support student teachers on placement, and contribute to the development and implementation of the school's policy on workplace-based placement. Parents should be informed of the school's policy on workplace-based placement in a way that enables them to be supportive of student teachers while on placement.

At the heart of these guidelines is the principle that the school is a learning organisation,

promoting the learning of student teachers, teachers, university TP mentors and lecturers/tutors and learners on a continual and reciprocal basis. Therefore, a whole-school approach to school placement, under the guidance of principals as school leaders, is of vital importance.

Universities are also learning organisations. As they continue to develop their own knowledge and expertise in relation to workplace-based placement, they will have a significant part to play in fostering the learning of mentor teachers, principals and other teachers in the school. The provision of continuing professional development (CPD) for schools by universities provides a means of sharing professional expertise and knowledge between universities and schools, in conjunction with educational districts and/or provinces, and represents an acknowledgement of teachers' work in supporting their colleagues who will soon join the profession, and thus in facilitating effective placement.

4.7 Guideline statements

- There is a strategic partnership between educational institutions (the university, the province, district and the school).
- The purpose of TP is fully understood, negotiated and enacted by all participants.
- Roles and responsibilities are clearly defined and understood (especially those of the university TP academic coordinator, the university TP manager, the university lecturer and/or mentor, the mentor teacher and the student teacher).
- The partnership is formalised by means of a signed Memorandum of Understanding.
- Professional learning opportunities (e.g., mentorship training) are provided by the university to ensure that all partners (e.g., mentor teachers, university TP lecturers and student teachers) are fully prepared for their roles.
- The whole school takes responsibility for TP (not one mentor teacher in one classroom) and is a site of learning (a community of learning/practice) for all involved.
- TP documentation needs to be very explicit (e.g., placements lists, TP manual highlighting all rules and procedures, etc. TP Handbook for Mentor Teachers, etc.)
- One trained mentor teacher per school, per phase.
- Schools should be encouraged to develop their own workplace-based placement policy.

5. ICT Platform

5.1 Communication, collaboration and support for student teachers, mentor teachers and other TP partners

"The Internet is changing the very nature of society in ways unparalleled since the industrial revolution. The Internet is affecting local, national and global economies and their infrastructures. Information is available at any time from any place to any Internet user. This is creating tremendous opportunities for universities to provide a learning environment that is accessible to all" (Aggarwal, 2000: 2). Learning outcomes are impacted by teaching methods and introducing technology use into learning environments will involve changes in educational practice (Twining, 2002). The new digital learning environment has been compared to an ecosystem where learning flourishes (Tucker, 2014).

Ecosystems are defined by the network of interactions among organisms, and between organisms and their environment. They can be of any size but usually encompass specific, limited spaces (Chapin et al., 2000). In the world of education, ecosystems may be defined as the full variety of partners (i.e., living species) and all non-living elements in use for education through teaching and learning. The full variety of partners involves the population inside school (mainly mentor teachers, principals, learners, other staff) as well as the population outside school (districts, parents, families, etc.). The non-living (abiotic) elements inside this milieu are defined by all available material means (buildings, classrooms, external locations, tools, IT resources, etc.) and they influence the nature of interaction of populations. All these populations are connected through networks. Together they form a meta-population and inhabit the same milieu.

5.1.1 Benefits of an ICT platform

The benefits of developing an ICT platform which can be accessed by district, schools, mentor teachers and university TP staff include:

- Improved organisation of information and communication across the TP community documentation from the TP office to the school-based TP coordinator or trained mentor teacher (e.g., placement lists, TP code of conduct; TP manual, TP handbook for mentor teachers);
- Flexible access to training for mentor teachers via the ICT platform (e.g., Google Classroom);
- Easy access to a variety of TP-related resources (e.g., videos, teaching and learning resources, etc.)
- Range of information quickly and easily accessible (e.g., videos, resources, etc.)
- Flexible access
- Timely communication between the TP office and workplace-based TP coordinators and/or trained mentors;
- University and school TP staff can access and interact with documents that are circulated, amending and commenting directly on the documents, and also saving administrative time and effort;

- Improved coordination of information;
- A record and archive of information sent to TP coordinators and/or mentor teachers helps to ensure consistency and reduce duplication of information;
- Posting of information on new policies, curriculum changes, procedures and professional development opportunities keeps TP stakeholders informed;
- A more systematic flow of information to different stakeholders is being achieved. In some schools, the ICT platform is gradually becoming a one-stop shop with a shift towards a paperless community for the school.
- Enhanced communication between leadership using the ICT platform as a centralised information and communication hub provides easy and immediate ways to enhance communication between the TP office and mentor teachers and/or TP coordinators;
- opportunities to hold virtual meetings rather than face-to-face ones that are difficult to arrange;
- easier interaction for staff with documents online, so they can engage more fully in issues of planning, thus contributing to the smooth running of the school;
- Making best use of mentor teachers' time having access to the ICT platform on mobile device from anywhere in school, and from home too, provides mentor teachers with greater flexibility in where, and how, they carried out administrative tasks and curriculum planning. The ICT platform provides opportunities for flexible working by:
 - \circ $\,$ enabling mentor teachers to access documentation and other materials from home
 - enabling mentor teachers to upload teaching materials from home
 - providing opportunities to adapt materials immediately in response to student teacher inquiries, etc.
 - facilitating planning in 'downtime' (early morning, after school, evenings, weekends, holidays).

5.1.2 Google Apps for Education (GAFE)

Google Apps for Education (GAFE) is a suite of cloud-based integrated communication and productivity applications and Google is offering this software platform to educational institutions free of cost. The GAFE product line is also touted as the solution for academic institution's need for a unified digital technology platform to support the modern classroom. Not only does this product offer platform independent access to the integrated applications but also allows users unlimited digital storage space. GAFE has the potential to substantially lower the cost of technology expenditures for educational institutions, and investments in the adoption of GAFE can result in greater returns.

Infrastructure

The benefits GAFE adoption offers for infrastructure are substantial and for a university, most of the savings are achieved as a recapture of all the costs of purchasing physical computing systems and software. Along with the free outsourcing of a large amount of the physical hardware that is required for a robust twenty first century learning environment, the human resource costs for maintaining that system are also eliminated, as well as all costs for developing and upgrading the core product in the future. The infrastructure also consists of the software that runs on user's devices, and the software is the area where most of the

benefits of the GAFE product will be realized. Utilizing and developing advanced custom learning software will require the most effort and commitment for universities to leverage Google's programming environment to achieve maximum rewards.

Learning

The academic learning environment that the GAFE product can help standardize is based on principles derived from the learning sciences. Using the flexibility and power of GAFE technology, academic institutions can create an accessible learning ecosystem to engage the global learning community. Every university has a major role in researching the effectiveness of teaching practices using technology, so it can design the best online teaching resources that support the learning process for their student teachers.

Google Classroom

Google's learning and teaching management application, serves as an administrative dashboard for the digital learning environment. The top benefits for using Google's Classroom are its easy setup to share information in the class stream, simple assignment management, automatic filing of materials in Google Drive, and enhanced communication, integrated with all GAFE applications (Google, 2016a). The Chrome extension "Share to Classroom" allows the creation of interactive content that is pushed to the learner's device. The Google Classroom share button provides a seamless way for teachers and students to exchange digital classroom materials. Apps integration allows educators to access third-party add-ons. Chrome Web Store also has many applications and extensions that support learning objectives (Google, 2016b).

Accessing the integrated GAFE developers environment will aid in creating a digital learning management system and classroom dashboard for teachers to utilize in assessing and assisting student performance. Researchers have access to a cloud based programming architecture that supports responsive application design, custom programming, and data storage (cf. Appendix A).

Teaching

Using the GAFE product in teaching methods increases both the educator's and student's competency in using twenty first century technology. Utilizing the GAFE product allows educators opportunities to engage with their learners anywhere anytime and provide the online resources that are specifically designed with research to improve learning outcomes.

Leveraging Digital Communication

The tools and resources needed by contemporary information technology personnel to perform the collaborative effort of supporting universities information technology systems, are similar to the tools and resources needed by modern students to communicate, collaborate and interact with their peers and the digital learning community. Improving communication supports better outcomes in both corporate and learning environments. GAFE applications have similar functionality as many of the competing communication and productivity software products. The learning environment is a student's connection to academic partners who share similar passions. It becomes valuable to a student if teachers design curriculums that utilize the GAFE products to develop productivity skills and most importantly to engage the digital learning environment, so students have the opportunity also encourages a student to participate in the public space of the Internet, in a way that represents appropriate academic use. Teachers have a role in developing a student's academic digital portfolio of

resources as part of the learning process. Teachers validate student contributions to the educational process and assist in improving the quality and promoting academic communication.

5.1.3 Learning Management System

A learning management system (LMS) is a software application for the administration, documentation, tracking, reporting and delivery of educational courses, training programs, or learning and development programs.[1] The learning management system concept emerged directly from e-learning. Learning management systems were designed to identify training and learning gaps, utilizing analytical data and reporting. LMSs are focused on online learning delivery but support a range of uses, acting as a platform for online content, including courses, both asynchronous based and synchronous based. An LMS may offer classroom management for instructor-led training or a flipped classroom, used in higher education. An LMS delivers and manages all types of content, including video, courses, and documents. In the education and higher education markets, an LMS will include a variety of functionality that is similar to corporate but will have features such as rubrics, teacher and instructor facilitated learning, a discussion board, and often the use of a syllabus (cf. Appendix B).

5.1.4 Database: Professional Practice Schools and Trained Mentor Teachers

Formally, a "database" refers to a set of related data and the way it is organized. Access to this data is usually provided by a "database management system" (DBMS) consisting of an integrated set of computer software that allows users to interact with one or more databases and provides access to all of the data contained in the database (although restrictions may exist that limit access to particular data). The DBMS provides various functions that allow entry, storage and retrieval of large quantities of information and provides ways to manage how that information is organized. A database can assist the teaching practice office to store data related to the professional practice schools used by the university as well as indicate whether these schools have trained mentor teachers (cf. Appendix C).

5.2 Guideline statements

- A sustainable and cost-effective ICT platform should be identified to enhance communication, collaboration and support for mentor teachers, student teachers and selected TP partners.
- It is recommended that universities have a database in which contains information related to their professional practice schools as well as the trained mentor teachers. The database can be utilized to ensure accurate placement, monitoring and supervision by the universities of the school-based placement.

6. Supervision and Mentoring

6.1 Identifying appropriate workplace-based settings

Universities have overall responsibility for the placement of student teachers. Every effort should be made to ensure that student teachers gain teaching experience in a variety of school contexts to reflect the socio-economic and cultural mix of society. Professional Practice Schools are encouraged to be communities of good professional practice and to engage of their own accord with ITE. It is recognised, however, that it may not always be easy for HEIs to identify a suitable PPS, having regard to the extended duration of workplace-based placement and the fact that the system operates on a goodwill basis. For that reason, it is recommended that a more structured approach to the identification, involvement and support of PPS should be put in place, following consultation with all stakeholders. Such a structured approach would bring greater coherence to, and address issues of imbalance and capacity in, the placement of student teachers across schools nationally.

Over the course of all his/her workplace-based placements, a student teacher at primary level should be exposed to all grade levels within a specific phase (e.g., Grade R to Grade 3 in the Foundation Phase) and, if practicable to multi-grade classes. In planning for this, Universities and schools should have regard to a range of variables, e.g., the timing of the placement in the school calendar, and the stage the student teacher is at on the initial teacher education (ITE) programme.

The following criteria may be used to select professional practice schools:

- Input and guidance from the educational districts may be sought in terms of school selection;
- Functional schools (as defined in the MRTEQ);
- Schools willing to provide a whole school approach to mentoring;
- Schools that are willing to host student teachers within all grades within a specific phase;
- Schools that have a trained mentor teacher; and
- Schools with a functioning ICT infrastructure in order to facilitate communication and support to mentor teachers.

6.2 Criteria for selection of school mentor teachers

School mentor teachers are identified as "master teachers" qualified to mentor a student teacher as part of a teacher preparation training programme. School mentor teachers must be experienced and highly competent teachers, but also have the skills and knowledge to help others learn to be effective teachers. They must be good at mentoring other adults. Listed below are criteria that could be used as you select school mentor teachers:

• Possess the level of academic preparation recommended for the teaching position they occupy.

- Possess full registration and teach in the major content area of their preparation (e.g., Foundation Phase teaching). Student teachers they mentor will be registering in the Foundation Phase and teach the Home Language offered at the PPS.
- Have a minimum of three years teaching experience.
- Recommended as a school mentor teacher by the principal and school management team.
- Show evidence of mentor qualities including personal experience with adult learners, respect for and from peers, and knowledge of developmental sequences and processes.
- Willingly schedule the time to give one-on-one mentoring of student teachers.
- Complete initial and on-going training on how to observe, evaluate, and mentor others, either from the Faculty of Education or through other accredited bodies/organisations.
- Build trust, rapport, and communication with student teachers and the University TP mentor.
- Is recognized as being innovative and using best practices in assessment, instruction, and professionalism.
- Effectively collaborate with grade level team members, school administration, staff, and parents.
- Demonstrate the value of professional learning communities (PLC) to student teachers through their participation.
- Understands how to work with and mentor an adult learner.
- Is an excellent communicator and listener.
- Is able to articulate the skills needed to become a successful teacher.
- Has the skills to provide constructive feedback based on observations.
- Has a positive impact on the learning of the learners.
- Encourages exploration, experimentation and innovation.
- Is current on educational issues and practices and considers themselves to be lifelong learners.
- Is an active member of the school community (e.g., serves on school committees, attends school functions).
- Has a willingness to share and work collaboratively using co-planning and coteaching strategies and practices.

6.3 Structured support for the student teacher

The provision of structured support for the student teacher is a key element of workplacebased placement. The university TP academic coordinator and/or the university TP mentor have primary responsibility for the provision of such support. The trained mentor teacher, mentor teachers and/or school TP coordinators will also provide structured support to student teachers, having regard to capacity. The role of the mentor teacher in providing structured support and guidance to student teachers is pivotal, though it is not evaluative, in terms of assessing the student teacher's work on behalf of the HEI. Additional support may also be provided by other HEI staff, the school community and other student teachers. It is acknowledged that the whole school community provides important informal support to student teachers, for example, by the welcome it extends to them and by the effort it makes to include student teachers in general school life experiences, as well as by making school facilities available to them. All student teachers on placement should be assigned a suitable mentor teacher who is committed to working with and supporting them. It is envisaged that, over the course of workplace-based placement on an ITE programme, the student teacher will move gradually from a strongly supported experience in the classroom to teaching independently.

Structured support may include the provision of advice and guidance, sharing ideas and approaches, co-planning, co-teaching, opportunities for student teachers to observe mentor teachers teaching, and opportunities for the student teacher to have his/her teaching observed. Research evidence indicates that observation and feedback are the two most valued elements of structured support. Guidance on observation of the student teacher's practice will be issued to the trained mentor teacher and/or mentor teacher by universities. This guidance will address, amongst other things, the following:

- the expectations and requirements of the particular placement
- conducting observation and providing feedback
- engaging with the TP mentor
- the role of the student teacher as active agent in his/her own development.

The university academic TP coordinator and/or the university TP mentor provide support to school mentor teachers to ensure the guidance is implemented in a consistent manner. As a matter of professional courtesy, all stakeholders in the TP partnership should collaborate, as appropriate, in relation to any recommendations made or advice given to student teachers. Feedback to a student teacher (by the school mentor teacher, school principal, university TP lecturer, etc.) should be provided in a timely fashion. It should be based on evidence gleaned in the course of observation and be appropriate to the requirements and expectations of the particular placement. The content of feedback messages should be clear, fair and honest; be communicated in language that is appropriate to a dialogue on teaching and learning, and be provided in an encouraging and sensitive manner. The observer should seek to engage the student teacher in critical reflection on his/ her practice, so as to identify strengths, areas for improvement, and possible strategies for improving practice.

6.4 Supporting student teachers experiencing difficulties

Support for the student teacher who may be experiencing difficulty in classroom practice is particularly important and should be given at the earliest possible opportunity during the placement. It should be designed to enable him/ her to fulfil the requirements of the placement. While the HEI is primarily responsible for supporting student teachers experiencing difficulties, a collaborative approach to such support is important and is in the best interests of learners. Where serious concerns are identified in relation to a student teacher's practice or professional conduct, the mentor teacher should advise the school principal at the earliest possible opportunity. In such circumstances, the principal should notify the university TP academic coordinator or the university TP manager who will facilitate appropriate interventions. These may include timely additional supports being put in place for the student teacher.

6.5 Guideline statements

- Criteria for mentor teacher selection should be agreed upon by educational partners.
- The university should take responsibility for workplace-based placement.
- The university should ensure effective and timely communication as well as ensure that collaboration and support is provided to all mentor teachers.
- Structured support should be provided to all student teachers.
- Student teachers identified as being at risk of not completing their workplace-based placement successfully should be provided with a professional growth plan.

7. TP Curriculum Framework

7.1 Introduction

Learning to teach is not easy. Effective teachers have knowledge and skill sets that less effective teachers do not. This type of knowledge and skill is not developed from reading books or studying about teaching alone (Phelps, 2009; Ball & Forzani, 2009). Rather, it is cultivated through high-quality opportunities to practice, coupled with support and feedback. Research in medicine, the military, and other performance-based fields consistently demonstrates that expertise is developed through repeated, well-structured opportunities to practice using knowledge and skills in authentic contexts. These practicebased opportunities teach novices to integrate critical knowledge and skills they need to teach effectively while receiving valuable feedback. Most importantly, it is the commitment toward deliberate opportunities to practice, rather than experience, that separates experts from their peers (Ericsson, 2014). Practice-based opportunities that are coherent, sequenced, and scaffolded can help student teachers automatize their knowledge and skill for teaching prior to entering complex classroom settings. Carefully structured practice sequences allow novices to develop skill fluency and decision-making abilities prior to entering settings in which mistakes can be costly. Student teachers need a seamless experience from preservice to inservice that is strategic, where knowledge and skills are gradually developed and internalized, and where student teachers employ metacognitive strategies to continually reflect upon their experiences and grow in their practice. Practice-based experiences matter; they provide student teachers time to apply content pedagogy, to gain real experience, to understand school relationships and, most importantly, to work with learners within a supervised context.

Most of the research on teacher preparation provides little guidance on how to design initial teacher preparation programmes, including workplace-based, learning in practice experiences, to best prepare teachers to teach effectively to the Curriculum and Assessment Policy Statements (CAPS) and other rigorous learning goals for all learners. A starting point for developing and testing a Teaching Practice Curriculum Framework for initial teacher education programmes is to answer questions about what we believe student teachers need to know and know how to do, and how we think student teachers learn those knowledge and skills. It is critical that we include not only the process of teacher learning (i.e., structures), which has dominated research to date, but also the substance of teacher preparation (i.e., knowledge and skills) because the field currently lacks consensus on both the what and the how of TP teacher preparation. The framework proposed in this document is aligned with the SACE professional teaching standards so as to ensure a common language between initial teacher education and in-service teacher education.

7.2 Duration and timing of workplace-based placement

The MRTEQ provides a number of guidelines with regard to the credit allocation, duration and timing:

TP must be spread out across the academic programme. The school experience component must take place in blocks of varying duration throughout the programme. Where a more

extended period is envisaged, such as during part of a final year or within a structured mentorship programme, there must be a guarantee of proper supervision, suitable workplace-based placement and formal assessment (DHET, 2018: 14).

In a full-time contact programme, students should spend a minimum of 20 weeks and a maximum of 32 weeks in formally supervised and assessed school-based practices over the four-year duration of the degree. Students must move from observation and other forms of learning from practice to supported teaching to independent teaching (learning in practice). In any given year besides the fourth year, a maximum of 12 such weeks could be spent in schools. In part-time or distance mode programmes, students may be physically in schools for longer periods – for example, if they are employed as unqualified or under-qualified teachers. However, the same amount of supervised and assessed school-based practice is required.

An extended period of TP of up to 16 weeks in the final year should be enabled, and it must be supervised, structured, assessed and there are opportunities for quality engagement with students by the university during this extended period, to allow for reflections on their learning. This TP period should preferably be delivered in a 'sandwich' modality, with time at school punctuated with time at the university to enable reflection on learning. This TP period must be used to ensure that the prospective new teacher graduates are well positioned to meet expectations as beginner teachers, and equipped to successfully participate in an employer induction programme which will lead to their full registration as professional teachers by the SACE if the requirements are met.

At least 50% of the credits [240 credits] must be focused on developing the teaching specialisation phase and/or subject(s), including subject-focused disciplinary, *pedagogical and practical learning*. At least 120 of these credits must be at Level 6 and 60 credits at Level 7 (DHET, 2018: 24).

The basis for specialising to teach each of the four Foundation Phase subjects must include disciplinary, pedagogical and practical learning of at least 15 credits at NQF Level 5, 30 credits at NQF Level 6 and 15 credits at Level 7 (DHET, 2018: 26).

With regard to the timing of the placement, sensitivity to the needs of student teachers and of the professional practice schools is required.

7.3 What do student teachers need to know and know how to do?

Shulman (1987) wrote a foundational paper classifying different types of knowledge necessary for effective teaching. Refined over time (e.g., Ball, Thames, & Phelps, 2008), this work made an enormous contribution by building a trajectory of work that has helped explicate the complexity of expert teaching practice. Critically, this line of research makes clear that expert teaching requires not only deep content knowledge and specialized knowledge to develop learners' knowledge of content, but also skills to manage content within the interpersonal relationships in a classroom (Lampert, 2010). Because orchestrating the interactions among individuals in a classroom is core to teaching and is also an applied skill, it follows logically that those learning to teach need to practice these skills in addition to acquiring knowledge and theoretical understanding about content and instruction. This represents an important evolution of Shulman's framework in that the field of teacher education currently embraces the idea that pedagogical skills and routines,

as opposed to just "knowledge", are important in what student teachers need to learn because they embody the actual "practice" of teaching (Ball & Forzani, 2009; Lampert, 2010; Lampert, Beasley, Ghousseini, Kaemi, & Franke, 2010).

7.4 Proposed Teaching Practice Curriculum Framework

This framework is a tool for initial teacher education institutions as well as teacher educators to use when considering the quality, type and frequency of practice-based opportunities provided to student teachers within teaching practice coursework and during teaching practice (i.e., school-based placement) as well as across the breadth of the initial teacher education programme (cf. Table 7.1).

Student teachers are more likely to be effective and to stay in the profession when their preparation experiences are connected to classroom practice (Boyd, Grossman, Lankford, Loeb & Wyckoff, 2009; Ronfeldt, 2012). Therefore, there has been considerable pressure and effort to strengthen student teacher teaching practice experiences so that they happen early and often within initial teacher education programmes. This framework is designed to guide initial teacher education institutions as well as teacher educators in integrating practice-based opportunities, inclusive of the essential features, into existing teaching practice coursework and teaching practice (school-based placement) experiences. The framework can be used to facilitate a decision-making process among faculty around improving the quality of teaching practice coursework and teaching practice school-based experiences that students encounter during their preparation programmes.

7.4.1 Core practices

The move toward core practices is an attempt to weave together student teachers' development of meaningful knowledge for teaching with their capacity to actually enact ambitious teaching in particular disciplines in the classroom. The emerging community of teacher educators, practitioners, and researchers focused on core practices attend to the problem of enactment by specifying aspects of teaching practice that are essential to the work of teaching, and which student teachers can learn to enact during their initial teacher education programmes.

While the field has not yet settled on a common understanding of the concept of a core practice, Grossman, Hammerness, et al. (2009) have set forth a preliminarily list of criteria that all core practices might share:

- Practices that occur with high frequency in teaching,
- Practices that student teachers can enact in classrooms across different curricula or instructional approaches,
- Practices that student teachers can actually begin to master,
- Practices that allow student teachers to learn more about learners and about teaching,
- Practices that preserve the integrity and complexity of teaching, and
- Practices that are research-based and have the potential to improve learner achievement.

High-leverage practices are the basic fundamentals of teaching. These practices are used constantly and are critical to helping learners learn important content. The high-leverage practices are also central to supporting learners' social and emotional development. These

high-leverage practices are used across subject areas, grade levels, and contexts. They are "high-leverage" not only because they matter to learners' learning but because they are basic for advancing skill in teaching.

7.4.2 Features of practice-based opportunities

The power of practice-based opportunities can be lost if they are not carefully and strategically organized and delivered. All opportunities to practice can be strengthened considerably when teacher educators are mindful of the essential features of high-quality, practice-based opportunities. According to Benedict et al. (2016: 7), essential features include:

- Modelling (how teacher educators provide student teachers with examples of what expert performance looks like in practice)
- Spaced learning (opportunities to practice the knowledge and skills acquired in coursework over a period of time, that are sustained and repeated, and that are scaffolded to deepen student teacher expertise).
- Varied learning opportunities (opportunities to practice the knowledge and skills they learned in their coursework across varying contexts, with a diverse range of learners, and with differing degrees of support).
- Coaching and feedback (opportunities are those in which teacher educators provide explicit coaching and constructive feedback as student teachers practice the knowledge and skills they acquired in their coursework. The focus of the coaching and feedback is on improving student teachers' practice and expertise).
- Analysing and reflecting (opportunities are those in which student teachers practice the knowledge and skills they acquired in their coursework while engaging in analysis and reflection upon both their practice and their impact on learners' learning).
- Scaffolding (practice-based opportunities are those in which student teachers apply the knowledge and skills they acquired through their coursework, within teaching practice experiences that gradually increase in complexity over time with fading support from teacher educators/mentor teachers to promote deeper learning of content, improved instructional implementation, and, ultimately, autonomous performance).

Teaching educators need to determine to what extent the essential features of practicebased opportunities are implemented within the initial teacher education programmes.

7.4.3 Pedagogical approaches

By integrating pedagogical approaches that incorporate the features of deliberate practice described in section 7.4.2, teacher educators can support student teachers in developing their readiness or preparedness for delivering effective instruction. Although the list of practice-based opportunities is not all-inclusive, it can serve as a starting point for teacher educators. Some pedagogical approaches include:

- Microteaching
- Case-based instruction
- Virtual simulations
- Laboratory-like experiences
- Video analysis
- Coaching and Tutoring
- Lesson study

Teaching Practice Category	SACE Professional Teaching Standards	Core Practices	Essential Features for core practices						Practice-based Opportunities							Implementation Levels Practice-based Coursework and Teaching Practice					
			Modelling	Spaced	Varied	Coaching and Feedback	Analysis and Reflection	Scaffoldingg	Microteaching/Rehearsals	Case-based instruction	Virtual Simulation	Laboratory-like experiences	Video Analysis	Tutoring/Coaching	Lesson Study	Code 0	Code 1	Code 2	Code 3	Code 4	Rating
Professionalism and Ethics	Teachers collaborate with others to support teaching, learning and their professional development.	 Communication with families: Conducting a meeting about a learner with a parent or guardian Writing correct, comprehensible, and professional messages to colleagues, parents and others 																			
Context: Learning Environments	Teaching requires that well-managed and safe learning environments are created and maintained within reason.	Implementing norms and routines for classroom discourse and work Building respectful relationships																			

Table 7.1: Teaching Practice Curriculum Framework

		Implementing organisational routines										
Learner Development	Teaching based on an ethical commitment to the learning and wellbeing of all learners.	Learning about learners										
Technology integration	Teacher support social justice and the redress of inequalities within their educational institutions and society more broadly. Teachers understand how their teaching methodologies are effectively applied.	Using instructional technologies										
Planning	Teachers make thoughtful choices about their teaching that lead to learning goals for all learners. Teachers are able to plan coherent sequences of learning experiences.	Analysing instruction for the purpose of improving it Designing a sequence of lessons on a core topic										

	Teachers understand that language plays an important role in teaching and learning.											
Instruction	Teaching is fundamentally connected to teachers' understanding of the subject(s) they teach. Teachers understand how their teaching methodologies are effectively applied.	Explaining and modelling content Leading a group discussion Posing questions about content Choosing and using representations, examples and models of content Eliciting and interpreting learner thinking Small group work Enacting a sequence of lessons on a core topic Analysing instruction										
Assessment	Teaching involves monitoring and assessing learning.	Selecting and using specific methods to assess learners' learning in a formative and summative manner Interpreting learner work Providing feedback										

Key:

Code 0

There is no evidence that the core practices have been accommodated in the module/course in terms of essential features, providing practice-based opportunities or during teacher practice.

Code 1

Must contain at least one essential feature and one practice-based opportunity in the module/course and during teaching practice.

Code 2

Must contain at least two essential features and two practice-based opportunities in the module/course and during teaching practice.

Code 3

Must contain at least three essential features and three practice-based opportunities in the module/course and during teaching practice.

Code 4

Must contain at least four essential features and four practice-based opportunities in the module/course and during teaching practice.

Rating

Rate each item as the number of the highest variation receiving an X under it.

(Adapted from: Benedict, Foley, Holdheide, Brownell & Kamman, 2016)

7.5 Performance-based assessment

7.5.1 MRTEQ guidelines

The workplace-based component of TP must be structured, supervised, and credit-bearing, integrated into the learning programme, spread across the learning programme and it must be formally assessed (DHET, 2018: 14)

And

This TP period (i.e., extended TP period in the final year) must be used to ensure that the prospective new teacher graduates are well positioned to meet expectations as beginner teachers, and equipped to successfully participate in an employer induction programme which will lead to their full registration as professional teachers by SACE if the requirements are met.

7.5.2 Performance assessment measures student teachers by their teaching

Teacher preparation programmes and professional practice schools work together to ensure that every learner has access to well-prepared teachers. Insisting that student teachers provide evidence of effective classroom practice is increasingly recognized as a key to meeting that goal. In response, a new generation of performance assessments has been developed and is being widely implemented. Student teachers who complete performance assessments demonstrate that they can teach by sharing examples of their work with mentor teachers, the university TP mentor and the TP assessment team. The evidence may include lesson plans, learners work samples, written reflections, audio recordings and classroom video of actual teaching performance. These assessments complement assessments of subject-matter expertise by documenting a student teacher's ability to deliver, monitor, and adjust instruction in a classroom setting. Videos used for performance assessment and the expert feedback from those videos give student teachers opportunities to better understand the knowledge and skills necessary to be effective beginning teachers.

7.6 Guideline statements

The following guidelines emanated from the literature. We found that:

- Student teachers need to have school experiences early in their programme (e.g., from their first year).
- Teaching practice should be a significant component of an initial teacher preparation programme (e.g., at least 16 credits per year).
- Student teachers need to be taught how to approach early observation/immersion/ relationship building in school settings.
- Fewer longer teaching practice placements appear to be more useful than a series of short teaching practice placements. Teaching Practice needs to be long enough for genuine relationships to develop and be maintained.
- There is some evidence that having a professional practice school setting is important in terms of student teachers gaining a sense of "belonging" and "being"—both needed for their development. At least one setting must offer student teachers with a diverse school context.
- The teaching practice component needs to be integrated with teaching practice coursework.

- Groups of 4–6 student teachers assigned to a school which then selects an appropriate mentor teacher for each student teacher
- School selects one teacher to have overall professional responsibility for all student teachers in the school and to work with the mentor teachers
- University selects one lecturer to work with school. The principal is involved in designing the practicum that is appropriate for their school

All teaching practice experiences must be planned with clear links to the rest of the programme. Learning from and learning in practice experiences must provide evidence that the student teacher has been actively supported to:

- integrate theory and practice throughout the programme
- plan, implement, assess, evaluate and reflect on their teaching practices
- analyse and interpret practices they observe in schools in relation to research, theories and other knowledge gained throughout the programme
- reflect on their own learning and practice to develop personal and professional goals.
- Core teaching practices, practice-based features and opportunites as well as performance assessments aligned with SACE professional teaching standards should be considered.
- Student teachers should be formally assessed at least twice (once in the third year and once in the fourth year) by university-based TP lecturers/TP discipline/phase specialists.

OR

- The lesson presentations made by student teachers may be video-recorded (only if all ethical practices have been complied with) by a trained TP assessment team for formal assessment by the assessment team.
- All university-based TP lecturers forming part of the assessment team should be trained to ensure validity, reliability as well as adherence to ethical guidelines.
- Assessment should NOT be focussed on discrete lessons, but aim to include at least one to two transitions in lessons (e.g., Foundation Phase transitioning from English Home Language to Mathematics to Life Skills, etc.)
- When planning lessons, the focus should be on a sequence of lessons and not only one lesson plan.

References

- Aggarwal, A. (2000), Web-Based Learning and teaching technologies: Opportunities and Challenges. Idea Group publishing, Hershey PA
- Ball, D., Thames, M. H., & Phelps, G. (2008). content knowledge for teaching: what makes it special. Journal of Teacher Education, 59(5), 389–407. doi: 10.1177/0022487108324554
- Ball, D. L., & Forzani, F. M. (2009). The work of teaching and the challenge for teacher education. Journal of Teacher Education, 60(5), 497–511.
- Benedict, A., Foley, A., Holdheide, L., Brownell, M., & Kamman, M. (2016). Learning to teach: A framework for crafting high-quality, practice-based opportunities. Washington, DC: American Institutes for Research, Center on Great Teachers and Leaders, and Gainesville, FL: University of Florida, Collaboration for Effective Educator Development, Accountability, and Reform Center. Retrieved from http://ceedar.education.ufl.edu/wp-content/uploads/2016/06/Learning-to-Teach-Rubric.pdf
- Boyd, D. J., Grossman, P. L., Lankford, H., Loeb, S., & Wyckoff, J. (2009). Teacher preparation and student achievement. Educational Evaluation and Policy Analysis, 31(4), 416-44.
- Brookhart, S. M., & Loadman, W. E. (1992). School-university collaboration: Across cultures. Teaching Education, 4(2), 53–68.
- Carter, A. (2015). Review of initial teacher training (ITT). Retrieved fromwww.gov.uk/government/publications
- Chapin, F. S., III, E. S. Zavaleta, V. T. Eviner, R. L. Naylor, P. M. Vitousek, H. L. Reynolds, D. U. Hooper, S. Lavorel, O. E. Sala, S. E. Hobbie, M. C. Mack, and S. Diaz. 2000. Consequences of changing biodiversity. Nature 405:234–242.
- Cohen, E., Hoz, R., & Kaplan, H. (2013). The practicum in preservice teacher education: A review of empirical studies. Teaching Education, 24(4), 345–380.
- Council on Higher Education. 2010. Report on the national review of academic and professional programmes in education. Higher Education Monitor 11. Pretoria: Council on Higher Education.
- Council on Higher Education. 2011. Work-Integrated Learning: Good Practice Guide. Higher Education Monitor No. 12. Pretoria: Council on Higher Education.
- Cram, F., Kennedy, V., Te Huia, M., & Paipa, K. (2012). Background papers: Maorimedium initial teacher education outcomes. Graduate profile and effective practicum and induction experiences. Report prepared for the Ministry of Education. Auckland: Katoa.
- Darling-Hammond, L. 2006. Powerful teacher education: Lessons from exemplary programs. San Francisco, CA: Jossey-Bass.
- Darling-Hammond, L. 2009. Teacher education and the American future. Charles W.Hunt Lecture. Presented at the annual meeting of the American Association of Colleges for Teacher Education, Chicago.
- Darling-Hammond, L. & Snyder, J. (2000). Authentic assessment of teaching in context. Teaching and Teacher Education, 16: 523-545.
- Deacon, R. 2015. Report on the 2013 survey of final year initial teacher education students. Johannesburg: JET Education Services.
- De Bevoise, W. (1986). Collaboration: Some principles of bridgework. Educational Leadership,43(5), 9–12.

Ericsson, K. A. (2014). The road to excellence: The acquisition of expert performance in the arts and sciences, sports, and games. Florence, KY: Psychology Press

- Forzani, F. M. (2014). understanding "core practices" and "practice-based" teacher education: Learning from the past. Journal of Teacher Education, 65(4), 357–368.
- Goodlad, J. I. (1988). School-university partnerships for educational renewal: Rationale and concepts. In K. A. Sirotnik & J. I. Goodlad (Eds.), School-university partnerships in action: Concepts, cases, and concerns (pp. 3–31). New York: Teachers College Press.
- Goodlad, J. I. (1993). School-university partnerships and partner schools. Educational Policy, 7(1): 24–39.
- Google, (2016a), Google Classroom: Top benefits. Retrieved February 7, 2016 from https://support.google.com/edu/classroom/answer/6020279?hl=en.
- Google, (2016b), Get Google Products. Retrieved February 6, 2016 from <u>https://www.google.com/edu/products/class-content/</u>.
- Gravett, S., Petersen, N. & Petker, G. (2014). Integrating foundation phase teacher education with a "teaching school" at the University of Johannesburg. Education as Change, 18(S1): S107-S119.
- Gravett, S. & Ramsaroop, S., 2015, 'Bridging theory and practice in teacher education: Teaching schools – A bridge too far?', Perspectives in Education 33(1), 131–146.
- Grossman, P., Hammerness, K., & McDonald, M. (2009). Redefining teaching, reimagining teacher education. Teachers and Teaching: Theory and Practice, 15(2), 273–289.
- Grudnoff, L., Haigh, M., & MacKisack, V. (2017). Re-envisaging and reinvigorating school–university practicum partnerships. Asia-Pacific Journal of Teacher Education, 45(2), 180–193.
- Hammerness, K., Darling-Hammond, L., Bransford, J. 2005. How teachers learn and develop. In: Darling-Hammond, L. & Bransford, J. Eds. Preparing teachers for a changing world. San Francisco, CA: Jossey-Bass.
- Henning, E., Petker, G. & Petersen, N. (2015). University-affiliated schools as sites for research learning in pre-service teacher education. South African Journal of Education, 35(1): 01-08.
- Horsfall, J. (1990). Clinical placement: Pre-briefing and debriefing as teaching strategies. Australian Journal of Advanced Nursing, 8, 3–7.
- Hudson, P. (2012). How can schools support beginning teachers? A call for timely induction and mentoring for effective teaching. Australian Journal of Teacher Education, 37(7), 70-84.
- Knight, S. L., Wiseman, D., & Smith, C. W. (1992). The reflectivity-activity dilemma in school-university partnerships. Journal of Teacher Education, 43,269–277.
- Kriewaldt, J., & Turnidge, D. (2013). Conceptualising an approach to clinical reasoning in the education profession. Australian Journal of Education, 38(6), 103–115.
- Lampert, M. (2010). Learning teaching in, from, and for practice: what do we mean? Journal of Teacher Education, 61(1–2), 21–34.
- Lampert, M., Beasley, H., Ghousseini, H., Kazemi, e., & Franke, M. (2010). using designed instructional activities to enable novices to manage ambitious mathematics teaching. in M. K. Stein & L. Kucan (eds.), Instructional explanations in the disciplines (pp. 129–141). New York: Springer.
- Lave, J. & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge, England: Cambridge University Press.
- Le Cornu, R. (2005). Peer-mentoring: Engaging pre-service teachers in mentoring one another. Mentoring and Tutoring, 13(3), 3555–3366.

- Le Cornu, R. (2012). Leaders of learning in professional practice. Australian Journal of Education, 37(3), 18–33.
- Le Cornu, R., & Ewing, R. (2008). Reconceptualising professional experiences in preservice teacher education ... reconstructing the past to embrace the future. Teaching and Teacher Education, 24, 1799–1812.
- Lederman, L. (1984). Debriefing: A critical re-examination of the use of postexperience analytic process and implica-tions for its effective use. Simulation and Games, 15,415–431.
- McLean Davies, L. (2017). Clinical teaching in education. MESH Guide, 2017, from http://www.meshguides.org/guides/ node/593
- McLean Davies, L., Anderson, M., Deans, J., Dinham, S., Griffin, P., Kameniar, B., Tyler, D. (2013). Masterly preparation: Embedding clinical practice in a graduate preservice teacher education programme. Journal of Education for Teaching, 39(1), 93–106.
- McLean Davies, L., Dickson, B., Rickards, F., Dinham, S., Conroy, J., & Davis, R. (2015). Teaching as a clinical profession: Translational practices in initial teacher education—an international perspective. Journal of Education for Teaching, 41(5), 514–528.
- National Research Council. 2010. Preparing teachers: Building evidence for sound policy. Washington, DC: Author.
- NCATE. (2010). Transforming teacher education through clinical practice: A national strategy to prepare effective teachers. A report by the NCATE blue ribbon panel. Author.
- New Zealand Government. (2010). A vision for the teaching profession. Education workforce advisory group report to the Minister of Education. Wellington: New Zealand Government.
- Pearson, M. & Smith, D. (1986). Debriefing in experience-based learning. Simulation Games for Learning, 16,155–172.
- Phelps, G. (2009). Just knowing how to read isn't enough! Assessing knowledge for teaching reading. Educational Assessment, Evaluation, and Accountability, 21(2), 137–154.
- Republic of South Africa. Department of Education. 2008. National reading strategy. Pretoria: Government Printer.
- Republic of South Africa. Department of Basic Education and Department of Higher Education and Training. 2011. Integrated strategic planning framework for teacher education and development in South Africa 2011-2025. Pretoria: Government Printer.
- Republic of South Africa. Department of Basic Education. 2014. Report on the Annual National Assessment of 2014. Grades 1 to 6 & 9. Pretoria: Government Printing.
- Republic of South Africa. Department of Higher Education and Training. 2011. Policy on the Minimum Requirements for Teacher Education Qualifications. Pretoria: Department of Higher Education and Training.
- Republic of South Africa. Department of Higher Education and Training. 2015. Revised Policy on the Minimum Requirements for Teacher Education Qualifications. Pretoria: Department of Higher Education and Training.
- Republic of South Africa. Department of Higher Education and Training. 2018. Revised Policy on the Minimum Requirements for Teacher Education Qualifications. Pretoria: Department of Higher Education and Training.
- Republic of South Africa. Department of Basic Education and Department of Higher Education and Training. 2011. Integrated strategic planning framework for teacher

education and development in South Africa 2011-2025. Pretoria: Government Printer.

- Ronfeldt, M. (2012). Where should student teachers learn to teach? Effects of field placement school characteristics on teacher retention and effectiveness. Educational Evaluation and Policy Analysis, 34(1), 3–26.
- Shulman, L. (1987). Knowledge and teaching: foundations of the new reform. Harvard Educational Review, 57(1): 1-22.
- Shulman, L. (2005). The signature pedagogies of the professions of law, medicine, engineering and the clergy: potential lessons for the education of teachers. Paper presented at the Maths Science Partnership Workshop, Irvine, CA.
- Sirotnik, K. A. (1988). The meaning and conduct of inquiry in school-university partnerships. In K. A. Sirotnik & J. I. Goodlad (Eds.), School-university partnerships in action: Concepts, cases, and concerns (pp. 169–190). New York: Teachers College Press.
- Stump, C. S., Lovitt, T. C., & Perry, L. (1993). School-university collaboration: A yearlong effort. Intervention in School and Clinic, 28,151–158, 164.
- Teacher Education Ministerial Advisory Group. (2014). Action now: Classroom ready teachers, 2017, from http://www. studentsfirst.gov.au/teacher-education-ministerial-advisory-group
- Trubowitz, S. (1986). Stages in the development of school-college collaboration. Educational Leadership, 43(5), 18–21.
- Turney, C., Eltis, K., Towler, J. & Wright, R. (1985). A new basis for teacher education: The practicum curriculum. Sydney: University of Sydney Press.
- Tucker, S., (2014), Transforming Pedagogies: Integrating 21ST Century Skills and Web 2.0 Technology. Turkish Online Journal of Distance Education, ISSN 1302-6488 Volume: 15 Number: 1 Article 12, p 166-171. Leveraging Digital Communications
- Twining, P., (2002), Conceptualizing Computer Use in Education: Introducing the Computer Practice Framework (CPF). British Educational Research Journal, Vol. 28, No. 1 (Feb., 2002), pp. 95-110.
- Zeichner, K. (2010). Rethinking the connections between campus courses and fi eld experiences in college and university-based teacher education. Journal of Teacher Education, 89 (11), 89–99.

Appendix A: Google Classroom - An example



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Appendix B: Learning Management System - An example



Appendix C: An Example of a Database

A	В	с	D	E	F	G
Province	District	Learning Support Centres	Residential area	School	Medium	Qualified Mentor
NORTH WEST						
	DR KENNETH KAUNDA		KLERKSDORP	AKOFANG PRIMARY SCHOOL	SETSWANA	QUALIFIED
				ALABAMA PRIMARY SCHOOL	PARALLEL AFR/ENG	QUALIFIED
				ARE-ITSHOKENG PUBLIC SCHOOL	SETSWANA	
				CURRO KLERKSDORP PS	ENG	QUALIFIED
				DIPHETOGO PRIMARY SCHOOL	SETSWANA	
				EDUCATORS PRIMARY	ENG	
				GLENLY PRIMARY SCHOOL	ENG	
)				GOUE AREND PRIMÊRE SKOOL	PARALLEL AFR/ENG	
1				ITHUSENG PRIMARY SCHOOL	TSW/ENG	
2				ITIRELE PRIMARY SCHOOL	ENG	
3				KAKATLELA PRIMARY SCHOOL	TSW/ENG	
1				KLERKSDORP METHODIST PRIMARY SCHOOL	ENG	
5				KLERKSDORP PRIMARY SCHOOL	ENG	QUALIFIED
5				LS GOUDKOP	AFR	QUALIFIED
7				LS LA HOFF	AFR	QUALIFIED
3				LS MEIRINGSPARK	AFR	QUALIFIED
)				LS PRESIDENT	AFR	QUALIFIED
)				LS ROOSHEUWEL	PARALLEL AFR/ENG	
1				LS SAAMTREK	AFR	QUALIFIED
2				LS UNIE	PARALLEL AFR/ENG	
3				MANZILPARK PRIMARY	ENG	
1				MASEDI PRIMARY SCHOOL	ENG	
5				SEDIKO PUBLIC SCHOOL	ENG/TSW	
5						
7						
3			HARTBEESFONTEIN	KABELANO PRIMARY SCHOOL	SETSWANA	
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1						
2			STILFONTEIN	LS DRIEFONTEINE	PARALLEL AFR/ENG	
3				ABONTLE PRIMARY SCHOOL	PARALLEL TSW/ENG	QUALIFIED
1				TUKISANG PRIMARY SCHOOL	ENG	
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		NORTH-WEST UNIVERSITY,		BERT'S BRICKS PRIMARY SCHOOL		