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Evaluation of the Primary Teacher Education (PrimTEd) Project - Implementation

Report No. 2

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Executive summary – Implementation evaluation of the Primary Teacher Education (PrimTEd) Project

Background

Implementation has been defined as 'a specified set of activities designed to put into practice an activity or programme of known dimensions'. According to this definition, implementation processes are purposeful and are described in sufficient details such that independent observers can detect the presence and strength of the specific 'set of activities' related to implementation. The observer must be aware of two sets of activities (intervention level activities, and implementation level activities) and two sets of outcomes (intervention outcomes and implementation outcomes). [1] Different implementation frameworks exist to analyse implementation. Since implementation is a process and not an event, there are also various stages of implementation to consider.

During the completion of the design evaluation phase the PrimTEd project convened an Annual National Dialogue (AND: 17-18 October 2019) event to discuss progress, to engage participants in the various working groups and to strategise towards the finalisation (end of funding period) of the PrimTEd project in 2020. The Working groups subsequently submitted progress reports towards the end of 2019 and these were captured in a consolidated project report (December, 2019). The literacy Working Group convened a national meeting in the first week of February 2020 and other groups were planning to have feedback sessions before developing the final reports for PrimTEd.

The COVID-19 pandemic, the attendant lock-down procedures, the travel limitations, the closure of universities and schools and other measures that occurred since March 2020 in South Africa (and internationally) severely affected the work of the Working Groups. Very little, if any face-to-face teaching happened at universities and most institutions have been busy developing their capacity for online provisioning of teaching and learning, requiring the refocusing of resources, energy and focus.

While still being very cognizant of the debilitating effects of the COVID-19 pandemic, the objective of this evaluation report is to address the evaluation questions related to implementation and provide an analysis of how the implementation process has unfolded in this period.

The Evaluation

The analysis of the implementation is informed by reports, observations and interviews during the Annual National Dialogue meeting in October 2019; some reflections and interpretations of the content of the PrimTEd Consolidated Report of December 2019; observations and interviews during the Literacy Working Group national meeting in February 2020; analysis of implementation survey feedback administered during February 2020; on-line responses to semi-structured interviews conducted with the Coordinators of the Working Groups June/July 2020; and a an analysis of the final progress reports of the Consolidated Literacy Working Group, The Mathematical Thinking Working Group, The Knowledge Management Working Group and the Work Integrated Learning (WIL) Working Group for 2019/2020.

[1] Fixon, D., Naoom, S.F., Blasé, K.A., Friedman, R.M., Wallace, F. 2005. Implementation Research: A synthesis of literature. University of South Florida (USF).

Findings

All the Working Groups of PrimTEd were required to develop project plans and they operated on the basis of approved plans and budgets. As a commentary on the effectiveness of the project implementation; the annual reports for the Working Groups reflected that most of the Working Groups had met or exceeded their targets for the two periods – 2017/2018 and 2018/2019 – and were on track where targets still needed to be met. A summary of the financial records reflected overspending and underspending by all of the Working Groups. This had to do with delayed payment of tranches, the pressure of this on the spending cycles and incompatible financial management systems at some universities.

The sustained and growing interest in PrimTEd Working Group activities by most public Higher Education Institutions (HEIs) in South Africa did not necessarily translate into deep engagement with the PrimTEd Working Group output and ideas. For some attendees at the Annual National Dialogue meeting, this was their first encounter with the work of PrimTEd that was already in its third year of existence. The process of the development of standards was a long process and its implementation is still continuing. The notion of having standards is not an un-contested reality. Teacher educators in the Literacy and Mathematics fields question approaches that differ from their theoretical and ideological perspectives. There is a need for more sustained engagement and experimentation at the institutional or university level for the benefits of having standards-informed curriculum frameworks.

Recommendations

The following recommendations for implementation of PrimTEd are derived from the engagement with the project, the documents, the Coordinators, the members and would be feasible if 'all things were equal'.

- University-based Curriculum Working Groups should be adequately resourced to engage with the draft standards produced.
- Each university site of implementation (WG) should develop its own theory of change as a programme theory can be a very useful way of bringing together existing evidence about a project/ strategy, and clarifying where there is agreement and disagreement about how the project is understood to work, and where there are gaps in the evidence.
- The obvious challenges of the financial administrative systems, the academic workload and the split in the focus of the central task should be clearly addressed
- PrimTEd and Department of Higher Education and Training (DHET) will have to devise strategies to facilitate decentralised development and engagement with the standards, while managing a quality assurance process that can ensure coherence and compliance.

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List of Abbreviations

AMESA	Association for Mathematics Education if South Africa
ANA	Annual National Assessments
B Ed	Bachelor of Education
CAPS	Curriculum and Assessment Policy Statement
COVID	Coronavirus
CPUT	Cape Peninsula University of Technology
DBE	Department of Basic Education
DHET	Department of Higher Education and Training's
DVC	Deputy Vice Chancellor
EDF	Education Deans Forum
EFAL	English First Additional Language
FP	Foundation Phase
HOD	Head of Department
HL	Home language
IP	Intermediate Phase
ITE	Initial Teacher Education
ITERP	Initial Teacher Education Research Project
JET	Joint Educational Services
KM	Knowledge Management
LOLT	Language of learning and teaching
MDG	Millennium Development Goal
MRTECH	Minimum Requirements for Teacher Education Qualifications
NGO	Non Government Organisation
NMU	Nelson Mandela University
NQTS	Newly qualified teachers
NWG	National Working Group
NWU	North West University
PGCE	Postgraduate Certificate in Education
PrimTEd	Primary Teacher Education
RU	Rhodes University
SAARMSTE	S A Association Research Mathematics, Science and Technology Education
SAERA	South African Education Research Association

SARCHI	South African Research Chairs Initiative
SACMEQ	Southern and Eastern Consortium for Monitoring Education Quality
SACE	South African Council of Educators
SAMF	South African Mathematics Foundation
SPU	Sol Plaatjie University
SSI	Semi-Structured Interview
TLDCIP	Teaching and Learning Development Capacity Improvement Programme
TIMSS	Trends in Mathematics and Science Study
TOC	Theory of change
UCT	University of Cape Town
UJ	University of Johannesburg
UNISA	University of South Africa
UNIZULU	University of Zululand
UP	University of Pretoria
UWC	University of the Western Cape
WG	Working Group
WGC	Working Group Coordinator
WGM	Working Group Member
WIL	Work Integrated Learning
WITS	Wits University
WSU	Walter Sisulu University

1 Brief background to the PrimTEd Project

1.1 Background and findings for the design study (first phase)

The PrimTEd project is built on the premise that teachers, and the actions they take in the classroom, have fundamental impacts on student learning; and that teachers are the most important resource at the school level for improving the quality of teaching and learning.[2] Teacher competencies and preparation are recurring themes as countries, including South Africa, struggle with recruiting, training and retaining good teachers. The low standards in performance at school level have also 'infiltrated' universities. A learner only needs to get above 50% in four of seven subjects in order to pass well enough to gain university entrance. Teacher education programmes have lower entrance requirements in comparison with most other disciplines and students are accepted without any reference to their motivation to become teachers.[3] These and other factors, such as a dearth in research outlining primary school teachers' reading literacy and teaching practices especially in the Intermediate Phase[4], informed the Initial Teacher Education Research Project (ITERP) to investigate the quality of the English and mathematics curricula offered to B Ed students. This study opined that in-service interventions over the last two decades have had limited impact and that the greatest opportunity for improving the quality of schooling lies in strengthening initial teacher education at Universities. The Primary Teacher Education (PrimTEd) Project is the embodiment of this proposal.

The aim of the PrimTEd project is to provide standards intended to guide the restructuring of the theory and practice components of the language and mathematics curricula for prospective primary school teachers. The programme theory identifies poor teaching by teachers at primary schools level as the reason for learners' poor performance. It takes its lead from the revised policy on the minimum requirements for teacher education qualifications[5]. The policy wants the higher education system to produce teachers of high quality, in line with the needs of the country. This informs the basis for the development of core curricula for Initial Teacher Education (ITE), as well as Continuing Professional Development (CPD) programmes for teachers.

The PrimTEd project is a component of the Department of Higher Education and Training's (DHET) Teaching and Learning Development Capacity Improvement Programme (TLDCIP), and as such is under the overall authority of the DHET's Director-General. It is managed by the Chief-Directorate for Teaching and Learning Development, located in the University Education branch of the DHET. The project is supported financially by the European Union and the Zenex Foundation.

Seven Working Groups were created; one for literacy and three for mathematics and three cross-cutting groups; Assessment; Knowledge Management and Work Integrated Learning, each with a Coordinator based at a university.

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[2] Nordstrum, L.E., 2015. Effective teaching and education policy in sub-Saharan Africa: A conceptual study of effective teaching and review of educational policies in 11 Sub-Saharan African countries. USAID.
[3] Centre for Development and Enterprise (CDE). 2015. Teachers in South Africa. Supply and Demand 2013 – 2025. Johannesburg, South Africa.
[4] Taylor, N. 2014. Thinking, Language and Learning in Initial Teacher Education. Presentation to the Seminar: Academic Depth and Rigour in ITE. 30-31 October 2014, University of the Witwatersrand.
[5] Department of Higher Education and Training. 2015. National Qualifications Framework Act, 2008 Revised Policy on Minimum requirements for Teacher Education Qualifications. South Africa

A first phase evaluation study of the design of the PrimTEd project (PrimTEd, 2019) was completed in September 2019: Design referring to the overall framework, the plans, the policies, structures and mechanisms put in place to manage the programme and to execute the plans. The table below lists the completed, current and planned evaluation studies for the PrimTEd project.

Table 1: Completed and planned evaluation stages

Report	Main purpose	Target Date	Completed
INCEPTION AND FIRST FORMATIVE ASSESSMENT	Design of PrimTEd	31 August 2019	23 September 2019
SECOND FORMATIVE ASSESSMENT (present report)	Implementation of WG plans	30 June 2020	September 2020
FINAL SUMMATIVE REPORT	Take up of PrimTEd products by DHET and universities	15 July 2021	

The initial study found that the PrimTEd project was based on a common agreement that primary schooling in South Africa was in a crisis and the extent of the crisis had been highlighted by the poor results in core subjects such as mathematics and literacy. The poor performance of the learners in the national assessments such as Annual National Assessments (ANA), in regional assessments such as Southern and Eastern African Consortium for Monitoring Education Quality (SACMEQ) and international assessments such as Trends in Mathematics and Science Study (TIMSS) stimulated and informed further research studies such as the Initial Teacher Education Research Project.

The PrimTEd project was based on systematic research and research results that indicated a main cause for the learners' poor results, as the inability of the primary school teachers to adequately convey the content knowledge and skills of the subjects they are teaching. Additional research (ITERP) found that the initial teacher education curricula, their content of modules varied widely among institutions, with the greatest variation in the amount of time devoted to and the quality of literacy and mathematics, in both their theory and teaching practice components.

The PrimTEd intervention was directed at establishing standards intended to guide the improvement/ redevelopment/re-creation of the curricula (content and processes) for primary school teacher preparation at universities with special emphasis on mathematics and literacy. It was expected that such an adjustment to the university teaching programmes would produce teachers with improved knowledge levels (subject content knowledge) and better teaching practices (pedagogical content knowledge). The research informed nature of the intervention made it relevant (appropriate) to the problem it was attempting to address.

Adding to the relevance of the design was the involvement of university based practitioners and academics as the architects of the curriculum change process. This enhanced ownership of the outputs, understanding of the content, and streamlined wider application and implementation at the universities. The Working Groups also developed 'organically' with three literacy focused working groups morphing into one Consolidated Literacy Working Group. It futher found that there

was good synergy between the Higher Education policy intents, national priorities and the programme framework documents. The purpose of the PrimTEd project was articulated as the development of consensus about approaches to the teaching and learning for mathematics and literacy in primary schools.

The study concluded that the project design was found to be relevant and appropriate for the objective it wanted to achieve despite the challenge of incompatible financial administrative systems at some universities.

The recommendations from the design evaluation included a proposal that possible external financial administrative support be sought to combat the unwieldy university financial administrative systems, or alternately that the university financial administrative systems be streamlined to accommodate the work of the Working Groups. Other recommendations were that each Working Group develop a theory of change involving the uptake by universities to include university level contextual factors. The development and the elevation of a narrative of 'common high standards' would need vigorous advocacy (read resources), both during the development of the standards, which is where PrimTEd ends, and then during the implementation of the standards. The study noted that there needed to be clear policies and strategies that would support the curriculum change efforts of the PrimTEd project. The entry requirement for teacher education programmes was one such policy.

1.2 Preliminary findings towards the implementation of PrimTEd

The design evaluation also looked at initial implementation, the strategies employed, the processes used to engage with stakeholders, and the types and number of projects established. A National Working Committee (NWC), consisting of representatives from DHET, the Working Groups and the National Programme Coordination and Management Body provided intellectual leadership and technical support at a national level. Overall programme management and coordination and day-to-day intellectual and technical guidance to the subject-based working groups (WGs) and cross-cutting working groups (CCWGs) was provided by JET that also acted as secretariat to the National Working Committee. The management and support functions performed by JET were funded separately by the Zenex Foundation. This was found to be a 'successful' design and implementation strategy that avoided the complication of this necessary support service competing for the same pool of resources and freed up additional funding for the work of the Working Groups.

The Working Groups managed to involve a diverse range of people – novices/ experts from different universities. While the project succeeded in involving more and more participants from different institutions, there was still limited active engagement across all universities in South Africa.

Some recommendations were provided to strengthen implementation. Each Working group was encouraged to generate a theory of change and the programme theory should include themes for success that emerged from participants. 'professional development'; 'sustained momentum'; 'collegiality' and 'consensus building'. It also was recommended that the Working Groups consider the use of time, the effects of time and the consequences of time as a factor for personal and organisational development and moreover, the time-bound nature of projects in the curriculum innovation process. The recommendation related to 'time' has become even more significant because before this notion could be engaged with, there were external factors related to the pandemic and the project is coming to a close.

2 Objectives and method of the (second phase) implementation evaluation

During the first phase of the evaluation, several informants were not part of the design process of the programme and some of the implementation evaluation questions were used to gather evidence of their experiences with the implementation of the programme. Some of the findings and recommendations, as reported in previous section, have been included in the first phase report. The following evaluation sub-questions were utilised – these evaluation questions remain the focus of this evaluation report.

- Was PrimTEd being implemented as planned?
- Where not, what were the reasons for non-implementation?
- What are the strengths and weaknesses of the PrimTEd project implementation?

Implementation

Implementation has been defined as 'a specified set of activities designed to put into practice an activity or programme of known dimensions'. According to this definition, implementation processes are purposeful and are described in sufficient details such that independent observers can detect the presence and strength of the specific 'set of activities' related to implementation. The observer must be aware of two sets of activities (intervention level activities, and implementation level activity) and two sets of outcomes (intervention outcomes and implementation outcomes). [6] Different implementation frameworks exist to analyse implementation. Since implementation is a process and not an event, there are also various stages of implementation to consider.

During the completion of the design evaluation phase the PrimTEd project convened an Annual National Dialogue (AND: 17-18 October 2019) event to discuss progress, to engage participants in the various working groups and to strategise towards the finalisation (end of funding period) of the PrimTEd project in 2020. The Working groups subsequently submitted progress reports towards the end of 2019 and these were captured in a consolidated project report (December, 2019). The literacy Working Group convened a national meeting in the first week of February 2020 and other groups were planningto have feedback sessions before developing the final reports for PrimTEd.

The COVID-19 pandemic, the attendant lock-down procedures, the travel limitations, the closure of universities and schools and other measures that occurred since March 2020 in South Africa (and internationally) severely affected the work of the Working Groups. Very little, if any face-to-face teaching happened at universities and most institutions have been busy developing their capacity for online provisioning of teaching and learning, requiring the refocusing of resources, energy and focus.

While still being very cognizant of the debilitating effects of the COVID-19 pandemic, the objective of this evaluation report is to address the evaluation questions related to implementation and provide an analysis of how the implementation process has unfolded todate. In line with the project theory of change outlined in the PrimTEd Project Plan[7], implementation here is focused on the plans and achievements of the Working Groups that had the intention to design and implement collaborative processes to produce standards, frameworks and materials for their components with the necessary technical support. A final evaluation phase will assess the level of incorporation of the Working

[6] Fixon, D., Naoom, S.F., Blasé, K.A., Friedman, R.M., Wallace, F. 2005. Implementation Research: A synthesis of literature. University of South Florida (USF).
[7] PrimTEd Project 2015/16- 2019/20. Teaching & Learning Development Capacity Improvement Programme (TLDCIP), DHET.

Groups outputs into university teacher education programmes and how these have influenced the graduates.

2.1 Method and sample

The analysis of the implementation is informed by reports, observations and interviews during the Annual National Dialogue meeting in October 2019; some reflections and interpretations of the content of the PrimTEd Consolidated Report of December 2019; observations and interviews during the Literacy Working Group national meeting in February 2020; analysis of implementation survey feedback administered during February 2020; on-line responses to semi-structured interviews conducted with the Coordinators of the Working Groups; and a brief analysis of the final report of the Work Integrated Learning Working Group.

Table 2 Data sources and instruments

Data source	Observation	Interview	Reflections	Survey
Annual National Dialogue M	1	3	1	
PrimTEd Consolidated Report			1	
Literacy WG national workshop	1	4	1	
University staff linked to PrimTEd				60
Working Group Coordinators		6	1	
PrimTEd Newsletter 1-6			1	
Working Group (WIL) report			1	

The following universities, targeted in the design evaluation, again featured in the list of universities where the survey respondents were located. This time, more universities were represented including, the University of Cape Town (UCT), University of Stellenbosch, University of Fort Hare (UFH, Free State University (FSU), University of KwaZulu-Natal (UKZN) and the University of Pretoria (UP). PrimTEd participants from private institutions and Non-government organisations (NGOs) and Non Profit Organisation (NPOs) were not surveyed.

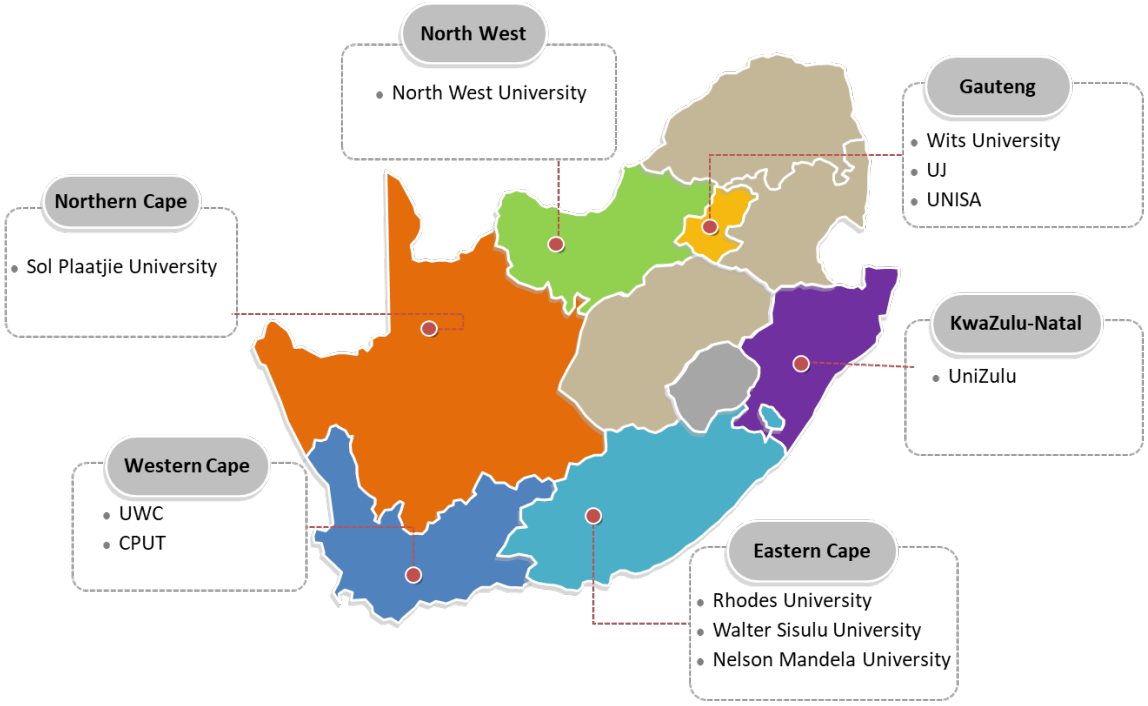

Figure 1 Universities of survey respondents

2.1 Limitations

Only four interviews were conducted face-to-face during the national meetings. It was not possible to travel to the universities as was done during the design evaluation. Some of the interviewees in the first round had moved on, or were on leave and it was not possible to interview the same people. The COVID-19 pandemic forced universities to re-prioritise and it was very difficult to reach individuals for sustained engagement around the PrimTEd project.

3 Presentation of findings of 'towards implementation' evaluation

The findings for the implementation evaluation are presented in terms of the data sources available as outlined in data sources table above. The data sources aslo align with the stages of implementation for the project.

Post-design phase: This is year three of the project, 2019 when Working Groups have become more settled and were more able to manage the administrative process related to the PrimTEd project.

Pre COVID-19 phase: This phase is the brief period in 2020 when planning for the PrimTEd end cycle had started.

COVID-19 and future phase; This marks the the period since the lockdown in March 2020 to date.

3.1 Reflections on the PrimTEd 'Post-design phase'

The achievements of the different working groups were reported on in the previous report. Examples of output by the Working Groups included the annotated bibliography for African languages, academic papers presented at conferences, curriculum frameworks, literature reviews, the toolkits, lesson plans, guidelines, assessment results, the website and newsletters and other

outputs. The successes of the implementation strategies, according to the respondents could be clustered around four main themes; these were 'professional development'; 'sustained momentum'; 'collegiality' and 'consensus building'. The annual reports of the Working Groups reflected that most of them had met or exceeded their targets for the periods – 2017/2018 and 2018/2019 – and were on track where targets still needed to be met. The unwieldy university financial requirements for inter-university projects was cited as a major challenge, as was the workloads of individual staff members.

Late in 2019 the National Working Committee of PrimTEd arranged its Annual National Dialogue (AND) meeting. The purpose of the AND was expressed as to present the Knowledge and Practice Standards for Primary Mathematics and Literacy for discussion among relevant stakeholders, and to understand how these were related to the Professional Teaching Standards developed by the South African Council of Educators (SACE). All public universities offering BEd and/or PGCE programmes for Foundation Phase and/or Iintermediate Phase teachers were invited. Two delegates per institution with expertise in literacy or mathematics (FP or IP) and responsible for curriculum development in those areas were encouraged to attend. Delegates from provincial Departments of Education with matching interests were also invited to attend the Annual National Dialogue event that took place 17-18 October 2019.

The meeting was well attended by the PrimTEd Working Groups, public universities, the DBE, Provincial DoEs, SACE, Teacher unions, the ETDP SETA, NECT and private Higher Education Institutions. It was opened and introduced by a top official Dr Green of the Department of Higher Education and Training (DHET). He alerted to a gradual policy shift for teacher education, where the initial emphasis was on size and shape, universities now also had to account for the substance of teacher education. That is, the exit standards for student teachers when they leave the institututions and how these competencies cohere with ongoing professional development of teachers, particularly the mathematics and language teachers at primary schools.

The larger gathering of teacher educators and others was then split into two groups where in one group, 29 of the participants, representing 12 public and 4 private HEIs and a number of NGOs and union members, discussed the draft set of mathematics standards (Knowledge and Practice Standards for Prospective Foundation and Intermediate Phase) that included guiding principles, general pedagogic standards for mathematical acting and thinking, numbers and algebra, and geometry and measurement. This draft was the result of an amalgamation of three sets of standards pertinent to their respective areas of focus (Mathematical Thinking, Number Sense and Geometry).

The other group of 48 participants – representing 16 public and 6 private HEIs and a number of NGOs and teacher unions participated in the Literacy discussion at the Annual National Dialogue. It was discovered that a good proportion of the participants had not yet been exposed to the standards. An input on the 'Deconalisation of Literacy' also steered the focus of the discussions in a direction that pricked individual and institutional interests rather than the broader standards focus. The discussions in this group were robust, animated and the participants were very engaged and interested in particularly the elements of teaching reading at primary level in all languages.

For a few of the participants attending the Annual National Dialogue (AND) it was the first time to engage at this level with the Working Group activities. They were delegated or selected by their departments or faculties. Most had attended one or more activities. They knew each other also through conference attendance and other teacher educator sectoral events in their regions or nationally. (Observation)

The outcomes and achievements of the Annual National Dialogue (AND) were reported as the output 1 (one) for the core curriculum standards in the **cumulative report for the PrimTEd project, December 2019.**

This report comments on five additional outputs. 'Output 2' reported on the progress of the Assessment Working Group where the main activity was the development of tests in English and Mathematics that were administered to first and fourth year BEd students across a growing number of universities.

The Core Academic Literacy Skills (CALS) instrument was used to assess academic comprehension of academic texts with skills such us; unpacking complex words; comprehending complex sentences; connecting ideas; tracking themes; organizing argumentative texts; and awareness of academic register. The PrimTEd mathematics test consists of 50 items on different mathematics concepts pertaining to foundation and intermediate phase school mathematics for teaching. Both tests had been administered at 15 HEIs for Maths and 7 for English. The report provides the results for these tests but add that both tests were undergoing revision and a change of format. The idea is to develop an item-bank of questions that could be utilised across all universities and administered on a platform where results could be easily shared.

For Output 3 (three), the report listed some of the teaching and learning materials that were developed by the different Working Groups. The Geometry Group developed Teaching Units (TUs) that outline what teacher educators do with pre-service teachers when they engage with them during contact (and/or non-contact time) with regards to developing them into proficient beginner mathematics teachers. Three Teaching Units:

- Transformations – Tessellations
- Properties of Objects and Shapes
- Measurement - Big Idea Teaching Unit

are systematically structured to deal with the main topics in the CAPS curriculum: The Geometry Group, in collaboration with the Work Integrated Learning (WIL) Working group, developed Toolkits to support student teachers during their WIL periods of work in schools. They focus on key sub-topics within each of the main CAPS topics addressed by the TUs.

The Knowledge Management Working Group has ensured that the materials developed were accessible and available. The JET Education Services website was designed for this purposes (see https://www.jet.org.za/clearinghouse/projects/primted). The site went live in the later part of 2017 and new components on Teacher Knowledge and Practice Standards and Curriculum Frameworks have been added.

For Output 4 (four), the work of the Work Integrated Learning (WIL) was reported on. How the piloting of a new system for WIL had been completed with a structure that followed the principles

outlined in the Integrated Strategic Planning Framework for Teachers Education and Development (DHET/DBE, 2011). A full set of materials for the operationalization of the model was listed and the Working Group planned to embark on roadshows to share the guidelines with Higher Education institutions.

For Output 5 (five) the report provided details of the results of the professional development and collaboration efforts of the PrimTEd initiatives. The level of participation generated by the project was recorded as follows.

Table 3 PrimTEd Participants

Number of participants in PrimTEd activities	
Public Higher Education Institutions	294
Private Higher Education Institutions	22
National, provincial government departments, Teacher Unions, NGOs and Donors	73
TOTAL	389

The level of participation was reported as one of the most striking successes of PrimTEd. The activities related to the participation included advocacy for the improvement in the quality of ITE for primary school teachers, the development of standards, the production of teaching materials and the formulation of a more effective model for teaching practice (work integrated learning).

The research produced by the Working Groups was presented as Output 6 (six) and this included published and unpublished papers produced and papers presented at conferences and workshops. A list of products representing those completed by November 2019 and planned for early 2020 was provided. The list is substantial and impressive and covers the work of the Consolidated Literacy Working Group (30), Geometry (15), Number Sense (6), Mathematical Thinking (3), Work Integrated Learning (11), Assessment (23), and Knowledge Management (3). Furthermore, the report notes that the PrimTEd project had raised awareness of the poor quality of Initial Teacher Education (ITE) and a number of universities have developed new and innovative practices to improve their offering and they have expressed interest in the materials produced by the PrimTEd project.

3.1.1 Key Point summary

- The PrimTEd project, through the activities of the Working Group managed to sustain the interest of a large number of teacher educators from both public and private institutions and as well as other parties interested in teacher development.
- The sustained and growing interest in most public HEIs in South Africa did not necessarily translate to deep engagement with the PrimTEd Working Group output and ideas.
- The development of standards was/is not an un-contested process. Teacher educators in the Literacy and Mathematics fields approach tasks informed by differing theoretical and ideological perspectives.
- The volume of output by the Working Groups has been exceptional. The research products and support materials can be considered intervention outcomes, the utilisation and use in context will result in implementation outcomes.

3.2 Reflections on the 'Pre COVID-19 phase'

Although March 2020 was earmarked as the end of (the initial funding phase) the PrimTEd project, the Working Groups (coordinators and active members interviewed early in 2020) were more than pleased with progress made, the materials produced, the interest generated, and the possibilities for positive changes to the curriculum for Initial Teacher Education.

The Consolidated Literacy Working Group hosted a national seminar in February 2020 on materials for literacy teacher education. The purpose of the event was to provide exemplars of materials – whole courses/modules, support materials and enhancements that could be used by universities busy designing or re-curriculating their literacy teacher programmes – that were congruent with the knowledge and practice standards and curriculum framework developed by PrimTEd.

The Sesotho and IsiZulu Reading Project (SIRP), hosted by the University of Johannesburg, and the Rhodes University short courses (that are linked to the Funda Wande materials) presented what will become available as fully developed courses/modules. The University of Fort Hare, the Zenex Foundation, Molteno Institute for Language and Literacy and the Funda Wande organisation showed examples of course support materials, including study guides, teacher classroom guides, videos and materials to be used by teachers with learners. The University of Fort Hare also reported on their bilingual English/IsiXhosa Bachelor of Education programme.

The seminar was very well attended and most of the public universities (18 out of 24 offering ITE for primary school teachers) were represented as well as private universities and NGOs. This was impressive as universities and invitees had to carry the costs of travel and accommodation. The overwhelming majority of the seminar participants engaged with during the seminar expressed appreciation for the opportunity to listen to the experiences of the presenters and the related pedagogical lessons that accompanied the sharing. There was another view expressed that questioned the selection of the presentations (some). From this person's perspective, there were more examples of good practices in the field of literacy teaching in South Africa including his/her own. The conveners of the seminar made it clear that the presentations were exemplars only and that there was a need to create space and opportunities for others to share their innovations.

Soon after this seminar an online survey was sent to the PrimTEd contact list of public university participants. Working group coordinators, Education Department Official and NGOS were excluded. The survey was sent out to 220 email addresses provided on the contact PrimTEd contact list. 33 of the emails sent were returned as error messages, 'not able to send to recipients' and 29 respondents indicated that they did not have enough information about PrimTEd and could therefore not respond. 60 responses were received, a response rate of roughly 38%. This was after two reminders were sent to potential respondents. The responses came from 21 of the 24 public higher education institutions. Most of the respondents were associated with the Consolidated Literacy Working group. See the figure 2 below, 'other' was a select option.

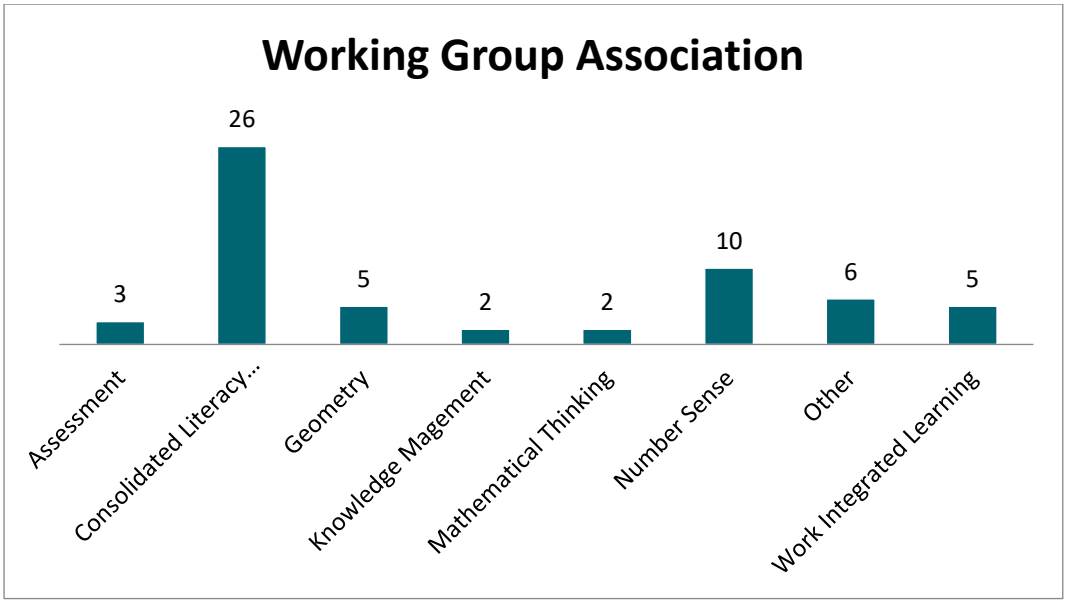

Figure 2 Respondent's Working Group Association: n=60

16 of the respondents indicated that they attended one to two sessions or activities of the PrimTEd Working Groups. 20 indicated between two and five activities and 23 stipulated that they attended more than five activities involving the PrimTEd Working Groups.

Implementation Drivers of the PrimTEd project

For this phase of the evaluation it was important to assess, from the participants' vantage point, their knowledge of the implementation drivers of the PrimTEd project. Implementation drivers are key components of the infrastructure and capacity that influence the successful use of an innovation[8]. There are three implementation driver domains: competency drivers, organisation drivers, and leadership drivers.

Competency drivers

The domain of 'competency drivers' involve selection, coaching (interpreted as support) and assessment (the review processes present). For the survey, respondents were asked to express their level of agreement or disagreement with statements that related selection. Most respondents (37) strongly agreed that the Working Group participants 'are well suited to be part of the Working Group processes'. 20 of the respondents indicated that the participants were well suited because they were 'experts' and another 23 indicated they were well suited because 'they have the required experience. While most (27) 'somewhat agreed' that most of the participants were self-selected, there was a wide range of responses to this statement. See figure below.

[8] Blase, K.A., Fixon, D.L., Sims, B.J. and Ward, C.S. 2014. Implementation Science: Changing hearts, minds, behavior, and systems to improve educational outcomes.

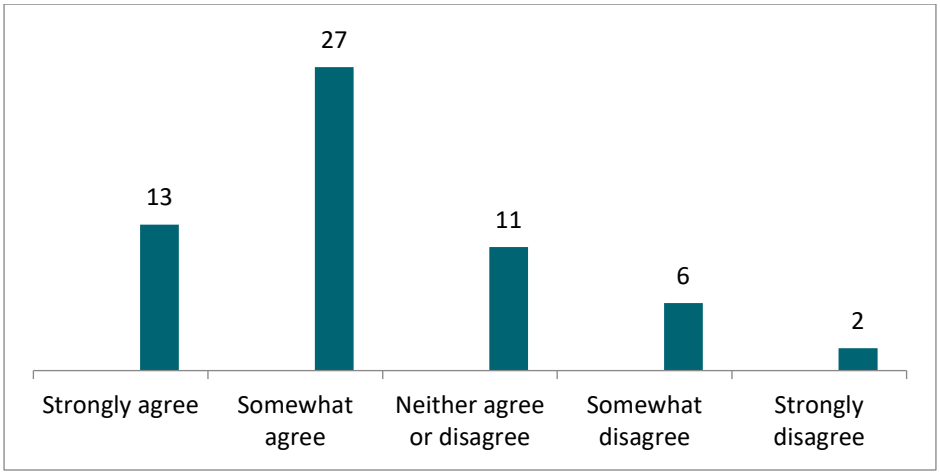

Figure 3: Selection of Working Group Participants=60

There was also general agreement and strong agreement with later statements that 'most working group members were delegated by their departments to represent institutions; and that most were invited by coordinators of the Working Groups to be members. It is clear that Working Group participation was facilitated through different means and participation was as a result of multiple strategies. A good majority agreed (32) and / or stated maybe (17) that South African universities were well represented on the Working Groups.

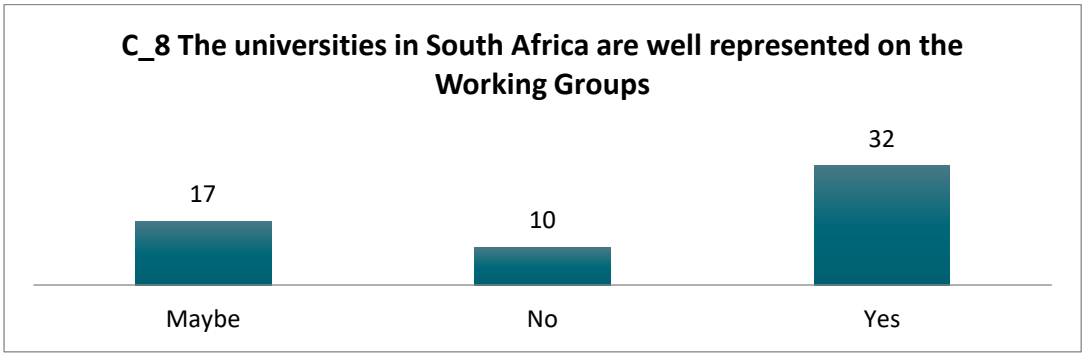

Figure 4 Universities well represented on Working Groups=60

There was overwhelming agreement that most Working Group members had high levels of skills and competence in the WG focus area and that the Working Groups could give adequate account to the level of adoption and competence of their participants. There was tentative agreement with the statement that the Working Groups had feedback systems that track the development of the planned outputs/outcomes, but more definite agreement with the statement about Working Groups having plans, see below:

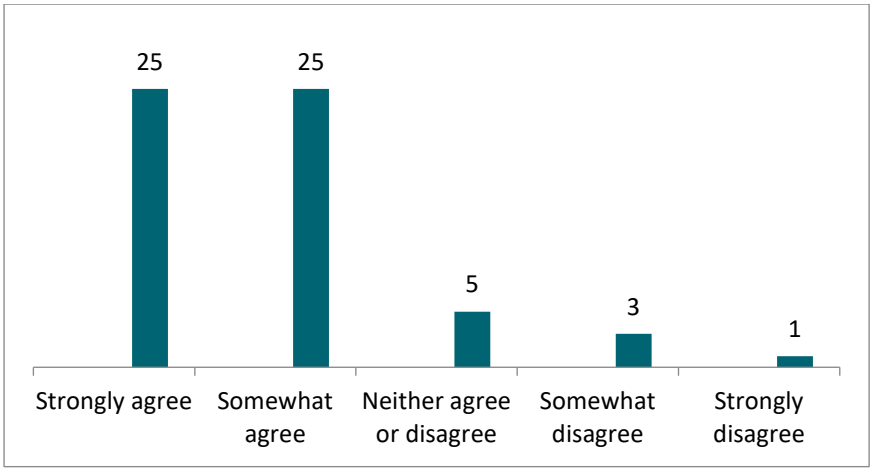

Figure 5 Working Group has a clear strategy and plan: n=60

The majority of the respondents (20+) either strongly agreed or somewhat agreed with the following statements linked to coaching, or the provision of support to participants, and the ability of the Working Group to review its activities.

- Our Working Group is led by a coordinator who is clear about the direction (way forward) for the group
- The WG Coordinator provides the necessary coaching and support for Working Group Participants
- The WG coordinator uses available data to review and revise strategies together with the participants

There was general agreement, with some strongly agreeing that most colleagues at their own institutions were aware about the activities of the Working Groups.

Organisation drivers

The 'organisation drivers' domain refers to the systemic components that are essential for creating an enabling environment for ongoing improvement. It includes systems interventions that reduce institutional barriers; a facilitative administrative system that maintains a hospitable environment; and a decision supporting data collection system that assist with decision-making. The respondents were asked to respond to related statements and the majority (20+) Strongly agreed or Somewhat agreed with the following statements.

- The WG uses updated information to review and assess its progress
- The WG engages in continuous quality improvement of it processes and products
- The data collected by the WG can be considered reliable, practical, actionable and useful
- The overall administration of the WGs has evolved from the design stage to the implementation stage
- The administration of each WG has managed to secure the provision and allocation of resources for the tasks

There was a wider range of responses to the statement about the ability of the Working Group Administration to reduce barriers in the institution see below:

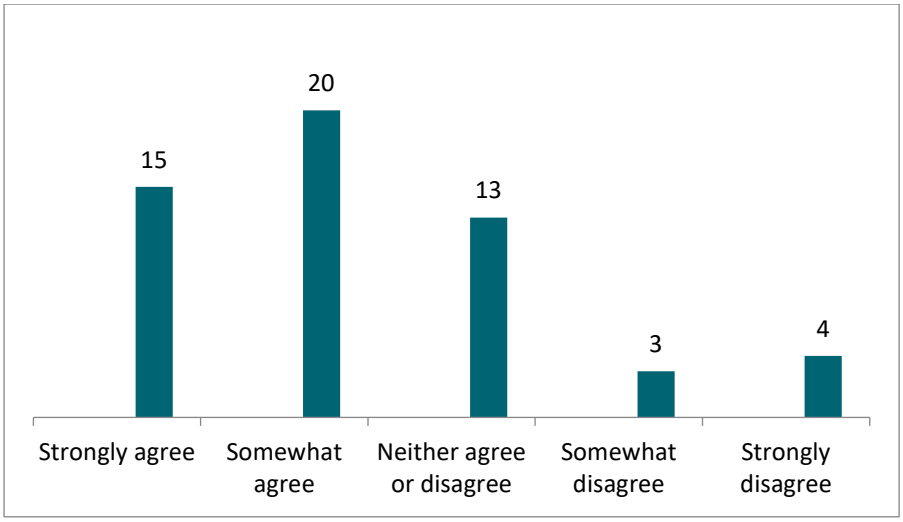

Figure 6; Administration and reducing barriers: n=60

Leadership drivers

The leadership drivers are the leadership approaches that transform systems and facilitate change. Adaptive leadership skills are needed to clarify the institutional or organisational vision and technical leadership skills are needed to manage continuing implementation support.

Respondents were asked to express their level of agreement with the following statement. “The Working Groups have developed leadership practices that address and support the development of adaptive skills to manage change, feelings of loss, and incompetence”, and there was stong and general agreement, see below.

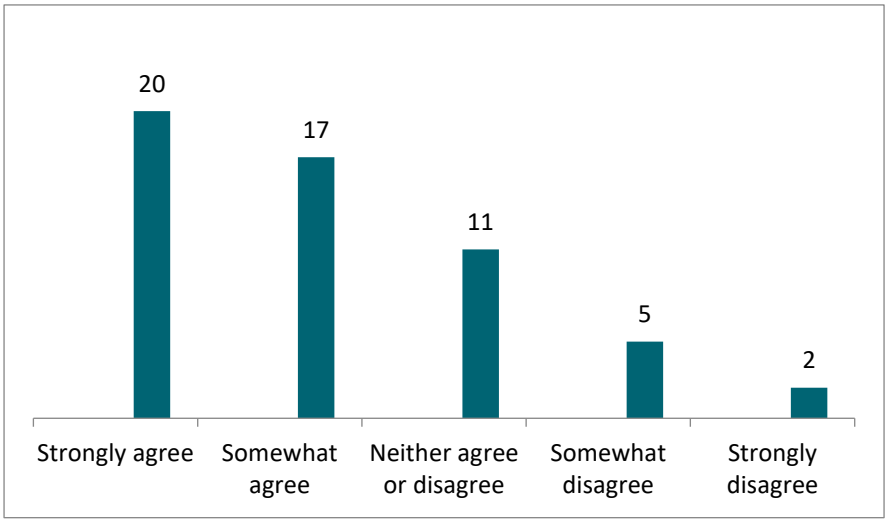

Figure 7: Leadership skills of Working Groups: n=60

Similarly, there was strong and general agreement with the following statements about the leadership skills and orientation of the Working Groups.

- The Working Groups have developed leadership practices that ensure intervention practitioners have the necessary technical knowledge and practical skills to effectively carry out a specified practice.
- My institution has provided much of the leadership required for the Working Group (PrimTEd)

3.2.1 Key Point summary

- There is keen interest among teacher educators in available innovative teaching materials in the literacy field. Activities, materials, toolkits allow for practical application of ideas and understanding.
- There exists some suspicion among some institutions about the intentions of the originators of the innovative materials.
- The Working Groups members were either self-selected, delegated by insitutions and or identified by Coordinators. Diverse strategies were used.
- The Working Group Coordinators provided the necessary of support to participants and they were able to review their activities.
- Not all academics at institutions are aware of the activities of the PrimTEd Working Groups.
- The incompatible university administrative systems proved to be a barrier to rapid development and delivery.
- The Working Groups have developed leadership practices that address and support the development of adaptive skills to manage change, feelings of loss, and incompetence.

3.3 COVID-19, and future PrimTEd phase

The COVID-19 pandemic has been all-encompassing. Not a single individual, group, institution, organisation, network, establishment has not been affected by the dynamics of the disease and international, national and local responses to the pandemic. The lockdown measures also forced universities, schools and other educational institutions to review their technological capacity to engage their learners online and, more significantly, there was a concern about the lack of capacity of the students and their limited access to required technology to engage in the online environment. Universities have responded to this challenge very unequally and the blended learning process remains a challenge for all the universities. The stop-start schooling process will affect the teaching practice requirements of student-teachers. The school curriculum for this year is destined for change and will affect the school programme for next year. The Work Integrated Learning Working Group has completed its piloting and planned activities for the PrimTEd project. The final report is now available but it is clear that the COVID-19 pandemic fall-out, the limited access to schools and the new-normal of social distancing will affect how this report is received and engaged with by education faculty members.

The Coordinators of the Working Groups are still hard-pressed to complete their final reports for the PrimTEd project as the demand on their time at their different insitutions is escalating. Fortunately most of them (6 out of 7) responded to an online questionnaire asking about their experiences and perceptions of the PrimTEd project. Since the Coordinators were excluded from the survey reported on earlier, their views remained absent. They were asked to reflect on the successes and challenges of PrimTED, about the situation for the Working Groups before the pandemic. About how the pandemic affected some of the the strategies and thinking and what they think should be some of the policy considerations going forward.

Responses to: What have been the most rewarding W.G. experience(s) for you as part of the project implementation?

> *The most rewarding experience has been able to be part of a team made up of academics across South Africa. What was significant about working with these academics was the approaches and pedagogical understandings of mathematics. The engagement of various*

academics allowed for a rigorous unpacking of mathematical concepts and ideas related to developing "number sense". What is rewarding was the fact that different institutions and academics had to work in ways that would help to produce articles or standards for frameworks that could be "owned" by everyone. The open spaces for dialogue concerning the teaching and learning of "number sense" was most rewarding.

Working with other teacher educators to develop a consensus on the important aspects of mathematical thinking that we would like to generate in our teaching of primary pre-service educators.

Working together with colleagues, getting to know different people at the various universities, building up a broader perspective on early literacy instruction, putting together literacy documents that are sure to be useful and helpful to colleagues in education faculties

These responses all highlight **the collegial efforts** and the **inter-institutional collaboration** as being rewarding at a personal level. They also suggested that others, the members and particpants valued the same things.

They were also asked about the challenges experienced;

Administrative problems at universities. I didn't have to deal with it personally, but it created tremendous stress with colleagues who had to deal with it.

I was not given special leave to do Prim TEd work, nor was I paid, so finding time within a busy academic schedule to do Prim TEd work was a constant challenge. Having occassional retreats away from work/home demands over weekends helped to create time, space and dialogue with colleagues to get some work done.

The most difficult aspect was the split focus in the project. Between working to generate a deepened consensual understanding of mathematical thinking in the field and producing formalized standards for policy.

The negative experience of the financial administration through Universities was reported on in the design evaluation and this remains a challenge experienced by the Coordinators as well as the strain of the time commitments associated with the PrimTEd project but the busy academic schedule still being a constraint. The split in the conceptual understanding of the core task of a Working Group also delayed progress and implementation. The Coordinators generally felt that the workloads of academics prevented many of them to engage properly, this resulted in demographically skewed composition of presentations leading to unnecessary animosity. There were also ideological and theoretical differences in perceptions about early literacy instruction and what counts as evidence in research, indicating that the 'reading wars' have not quite reached a state of truce in the country.

In terms of siginicant achievements, the Coordinators referred to the standards produced, the teaching support materials, the paper presentations, the articles, the bibliography, the book chapters and very many products that can be used/adapted by various universities.

The Coordinators were asked to rate the work of their Working Group on a scale of 1 to 5. 1 being 'exploratory' and 5 'full implementation (where the latter is defined as utilisation in the T.E. curriculum at all universities. Most respondent indicated 3 (three) and only 1 (one) indicated a

rating of 5. Some of the reasons for the the rating included the split in initial understanding, and the death of a colleague,

> *Generating such a consensus throughout each of the universities in the country as well as across different offerings related to mathematics in these courses will require an extensive amount of sharing, discussion and deliberation within and across universities.*

There was general and strong agreement with the following statements:

- The administration of your WG has adequately evolved from the design stage to the implementation stage
- Over time, the W.G. has managed to secure the participation of a mixture of proven experts and relative novices in the respective academic fields.

The Coordinators were asked about uptake (knowledge of) PrimTEd at the universities. (Pre-Covid-19) How widespread, at university level (i.e. knowledge of/ participation in) would you estimate the work/processes of your Working Group to be?

Responses were rated as follows for the uptake of and involvement with PrimTEd at the university level.

Individual lecturers	Groups of lecturers in different departments	Most departments and most lecturers	All departments and most lecturers	Entire Education Faculty or Department
1	2	3	4	5

The respondents were very positive with one providing a 2 rating; three a 3 rating; and two giving it a 4 rating. They were also asked about the effect of COVID-19 on the short- and longer term implementation and outcomes of the PrimTEd project. Currently, the project was at a point of submitting the final reports and documentation. The pandemic has resulted in postponing most activities as staff are not allowed on campus. At the same time, academic loads have increased due to online teaching resulting in them not having the necessary time to submitting outputs that are required to close the project.

> *Without the interpersonal mediation of people who carry this deepened experience of mathematics, this is more difficult. That is, it is difficult to engender an experience that is new to a person, through an online, low data medium. (And low-data online teaching is required for many of our students under COVID because of poverty and data costs.)*

> *In terms of the longer-term effect, we cannot be sure. However, I think that the same issues experienced currently at universities will impact teacher education. The first issue would be the implementation of the core curriculum standards and the various frameworks at a practical level. Another issue would be how academics come together to discuss and to share their knowledge in a virtual space.*

> *At the moment, this is difficult to say, because we are currently in the process of attempting to develop feasible solutions. But it could be expected that this could make this work more difficult and slower to implement.*

The last question posed to the Coordinators related to what they thought should/ must/ could be done at a national (DHET) level and at local university level to enhance the possibility of the objectives of the PrimTEd project – the improvement of the teaching of mathematics and literacy in primary schools – to be achieved.

There was a feeling expressed that the DHET should be more explicit in terms of what universities should do and not to leave too much to autonomous implementation. It was also proposed that all universities should be involved in the implementation of the standards and that the assessment of implementation can be piloted with a few institutions first. Further work was needed to generate and deepen a consensus on incorporating mathematical thinking effectively into the universities. The crux of this work needs to be on communication - generating and allowing discussion around this issue. DHET also needs to ensure that any new modules that are being written for BEd Foundation phase courses comply broadly with the standards documents. There was a strong recommendation that DHET must provide grants to set up curriculum development teams at universities supported by core workgroup teams.

3.4 Project implementation-Working group reports

The final progress reports (2019/2020) of the Working Groups submitted to JET provide information about progress against targets (outputs). The reports are summarized below with the comments provided by the WGs and Management Team (JET) that received these reports.

3.4.1 Consolidated Literacy Working Group

Output 1: Development of core competency teaching standards for literacy	**Output 2:** Research on literacy teaching	**Output 3:** Assessment items developed and trialled	**Output 4:** Materials Development
2019/2020: Exceeded expectations	**2019/2020:** Some progress but expectations not met	**2019/2020:** Some progress but expectations not met	**2019/2020:** Some progress but expectations not met

The Literacy Working Group had set the pace for the other WGs in terms of the Standards and Curriculum Frameworks according to the Project Manager. This WG still had unspent monies in its budget that could fund activities planned for the period 30 June 2020 – 31 March 2021. The actvitities included key research products and teaching materials in support of the standards and curriculum framework.

3.4.2 The Mathematical Thinking Working Group

Output 1:	**Output 2:**	**Output 3:**	**Output 4:**	**Output 5:**
Curriculum Standards	Assessment tools	Development of learning materials	Professional development and collaboration activities	Integrated Research
2019/2020:	**2019/2020:**	**2019/2020:**	**2019/2020:**	**2019/2020:**
Has met expectations	Has met expectations	Has met expectations	Has met expectations	Has met expectations

The Mathematical Thinking Working group met all the set targets for the 2019/2020 period. It was active in the field of professional development, meeting regularly to develop the products, both with the members of the WG and with the other WG coordinators. The larger WG involved 14 academics from 12 universities. The WG has made several presentations to national (SAARMSTE, SAERA, AMESA) and international (WERA, PME) conferences. It also interacted with the other two maths WGs in the PrimTEd project.

3.4.3 The Knowledge Management Working Group

Output 1:	**Output 2:**	**Output 3:**	**Output 4:**
Courses and materials in multimedia	Website for all PrimTEd products accessible to all	Research from PrimTEd WGs communicated and applied for use	Reports and communications
2019/2020:	**2019/2020:**	**2019/2020:**	**2019/2020:**
Has met expectations	Has met expectations	Has met expectations	Has met expectations

The KMWG has accumulated an array of materials, including a range of readings and research papers. These have been made available on a website and summarised in newsletters. This Working Group, in collaboration with the Literacy working group, conceptualised and helped procure funding from the Nedbank Foundation for the development of university courses on the teaching of reading in Sesotho and IsiZulu.

3.4.4 The Work Integrated Learning WG

Output 1: WIL framework and innovation configurations for clinically based WIL	**Output 2:** Materials Development	**Output 3:** Assessments	**Output 4:** Research
2019/2020: Has met expectations	**2019/2020:** Has met expectations	**2019/2020:** Has met expectations	**2019/2020:** Has met expectations

The Work Integrated Learning WG produced a document, 'Teaching Practice: Guidelines for Initial Teacher Education Programmes' . The guidelines define the concepts, outlines the partners their roles and responsibilities and spells out the policy contexts and related matters. 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. The feedback received about how practice-teaching is unfolding during this uncertain period has been mixed and confusing. Mixed because different institutions had different plans and confusing because the plans changed over a short period of time.

3.4.5 Key Point summary

- Not a single individual, group, institution, organisation, network, establishment has not been affected the dynamics of the COVID-19 pandemic and the international, national and local responses to the disease.
- The most rewarding aspects of the PrimTEd project relate to the collegial efforts and the inter-institutional collaboration opportunities according to the Coordinators.
- The key challenges included the university financial administrative systems that stymied the smooth execution of tasks, the academic workloads and a split in understanding of WG core task.
- Without the interpersonal mediation of people who carry a deepened experience of mathematics teaching and learning it will be difficult share the standards produced – in an online learning environment
- The Working Groups met the expectations for their outputs for the period 2019/2020. Very many useful documents, including, 'Teaching Practice: Guidelines for Initial Teacher Education Programmes' have been produced.

4 Discussion and conclusions

The PrimTEd project, through the activities of the Working Groups has managed to sustain the interest of a large number of teacher educators from both public and private institutions as well as other parties interested in teacher development. It should be mentioned that the Working Groups presented their work in progress to different universities and institutions (the Education Deans'Forum), at various conferences (SAAMSTE,AMESA, SAERA etc). The evaluation questions for this report still remain:

- Was PrimTEd being implemented as planned?
- Where not, what were the reasons for non-implementation?
- What were the strengths and weaknesses of the PrimTEd project implementation?

As was reported, all the Working Groups were required to develop project plans and they operated on the basis of approved plans and budgets. As a commentary on the effectiveness of the project implementation; the annual reports for the Working Groups reflected that most of the Working Groups had met or exceeded their targets for the two periods – 2017/2018 and 2018/2019 – and were on track where targets still needed to be met. A summary of the financial records reflected overspending and underspending by all of the Working Groups. This had to do with delayed payment of tranches, the pressure of this on the spending cycles and incompatible financial management systems at some universities.[9]

The sustained and growing interest in PrimTEd Working Group activities by most public HEIs in South Africa did not necessarily translate into deep engagement with the PrimTEd Working Group output and ideas. For some attendees at the Annual National Dialogue meeting, for the purpose of engaging with the draft standards, this was their first encounter with the work of PrimTEd that was already in its third year as a funded project. The process of the development of standards was a long process and its implementation is still continuing. The notion of having standards is not an un-contested reality. Some teacher educators in the Literacy and Mathematics fields question approaches that differ from their theoretical and ideological perspectives. There is a need for more sustained engagement and experimentation at the institutional or university level for the benefits of having standards informed curriculum frameworks.

The Working Groups have generated sufficient output to inform this process. The research products and support materials, the intervention outcomes, should be used by well resourced on-campus working groups so that they can generate curriculum frameworks that will become the implementation outcomes. It is a fact that much of the intellectual capital for many innovative and practical strategies for teaching and learning resides outside of the formal public education institutions. When these were show-cased at a PrimTEd national meeting howeverthey were met with suspicion by some participants. Instead, public higher education should embrace these innovations, learn from them and generate their own materials for use in their own contexts.

Working Group members indicated that they became part of the PrimTEd process through diverse means, self-selection, being delegated as well as being nominated by WG Coordinators. While the Working Group Coordinators provided the necessary support and guidance, not all education (relevant) academics at the universities were/are aware of the activities of the PrimTEd Working

[9] PrimTEd Design Evaluation 2019

Groups. Much of this has to do with poor communication within Faculties of Education on each of the campuses. The implementation of PrimTEd proceeded as planned during the first three years of the project; adjusting mainly for the incompatible administrative university systems encountered; overcoming workload pressures of individuals who had to find time to attend to PrimTEd matters; and developing consensus around the development of standards within some Working Groups.

The implementation of PrimTEd has been greatly affected by the COVID-19 pandemic and the Coordinators provided some insights about the stages of implementation before and after for PrimTEd. They found that the most rewarding aspects of the PrimTEd project, for themselves and others, were the opportunities for the collegial efforts and the inter-institutional collaboration. They listed similar challenges, such the incompatible financial administrative systems, academic workloads and the initial split in understanding of the WG core task. The Coordinators fear that without interpersonal mediation of knowledgable individuals, the task of sharing the conceptual understanding of Mathematical thinking or the precepts of literacy learning will be difficult in online environment. DHET has provided a further 24 months for the tasks to be completed. It is likely that the research outputs will continue for years to come, given the widespread interest generated by PrimTEd and the time lag between the initiation of research initiatives and publication of the results.

5 Recommendations towards implementation

Recommendations generally and normally flow from the discussion (as above) and some of the concluding statements about issues and concerns raised. The recommendations should also be feasible, that is, they should be implementable. The following recommendations for implementation of PrimTEd are derived from the engagement with the project, the documents, the Coordinators, and participants in the project. Implementation here refers to the strategies beyond the development of standards and frameworks, but the uptake and use of these plans and concepts in the teacher development settings on the different university campuses.

- University-based Curriculum Working Groups should be adequately resourced to engage with the draft standards produced. DHET has apparently agreed to make implementation grants available.
- Each university site of implementation (WG) should develop its own theory of change as a programme theory can be a very useful way of bringing together existing evidence about a project/ strategy, and clarifying where there is agreement and disagreement about how the project is understood to work, and where there are gaps in the evidence.
- The obvious challenges of the financial administrative systems, the academic workload and the split in the focus of the central task should be clearly addressed
- PrimTEd and DHET will have to devise strategies to facilitate decentralised development and engagement with the standards, while managing a quality assurance process that can ensure coherence and compliance.

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