

# The Primary Teacher Education Project – towards the end of the beginning

PrimTEd, as an initial four year project, is now near completion and will be wound up in its present form after the end of March 2020. This newsletter looks at some of its achievements and at what can be

carried forward into further stages of its development in those higher education institutions in South Africa, both public and private, involved in initial teacher education.

PrimTEd wishes to thank all those who have contributed to this project, not least to the European Union for its ongoing financial support.



PrimTEd Annual National Dialogue 17-18 October 2019

## Literacy & Mathematics teacher standards presented

Finally, after three years of work and consultation, the knowledge and practice standards for literacy and mathematics teachers were presented and discussed at PrimTEd's Annual National Dialogue held in October 2019 in Johannesburg.

The meeting was well attended: PrimTEd Working Groups, public universities, the DBE, Provincial DoEs, SACE, Teacher unions, the ETDSP SETA, NECT and private HEIs.

The literacy standards (available on the PrimTEd website) are in four sets: knowledge, practice, EFAL and FAL. The mathematics standards deal with Guiding principles, General pedagogic standards, Mathematical acting and thinking, Numbers and Algebra, and Geometry and measurement. After further refinement based on submissions from the meeting, the finalised standards are likely to be released within the next few months.

The extent to which these standards, once issued, influence the future curriculum, courses, modules and teaching practice in initial teacher education will be the acid test of whether PrimTEd has achieved this particular aim of producing "research-informed knowledge and practice standards".

# Standards update



## More on the Standards

Both the draft literacy and mathematical sets of standards had been through an extensive process of construction and revision – the literacy standards were in their sixth iteration!

The Mathematical Knowledge and Practice Standards for Prospective Foundation and Intermediate Phase Teachers include a set of guiding principles and sets of standards for General Pedagogy for mathematics teaching, Mathematical Acting and Thinking, Number and Algebra, and Geometry and Measurement.

The sub-set of standards focusing on mathematical thinking stress the need for educators to encourage playful engagement to develop, or search for, mathematical insight so that learners can represent and use mathematics, develop mathematical productions and reason and reflect on the process. teachers interaction with learners should focus on learning and doing mathematics together. The rationale states:

“Teachers themselves need to have experienced the processes and practices that constitute authentic mathematical activity and support mathematical thinking. That is, teachers need to have the capacity to and experience of engaging effectively in mathematical thinking in appropriate contexts. Given the wide awareness of shortcomings in access to mathematics within basic education, it is imperative that time and resources are made available in pre-service primary teacher education for broad ranging access to what is involved in acting and thinking mathematically.”

The rationale for the literacy teaching standards stress that teachers need to have knowledge of “the theoretical, historical, and research-based-foundations of reading and writing, of language structures and conventions, of speaking, listening, viewing, reading, and presenting, and of the processes and phase appropriate instruction used in teaching and developing these.” In addition they need to know about of role of the language and literacy teacher within and across subjects.

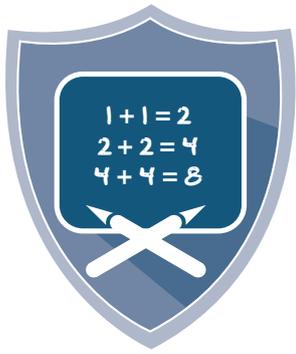


Professor Leketi Makalela (Wits) addressing the standards discussion



Discussion within the literacy standards grouping





## Mathematics update

### PrimTED at SAARMSTE 2020

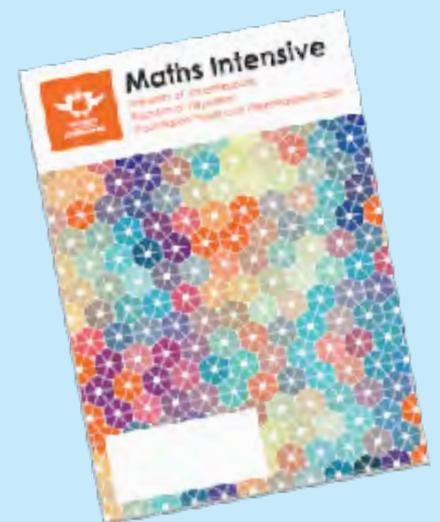
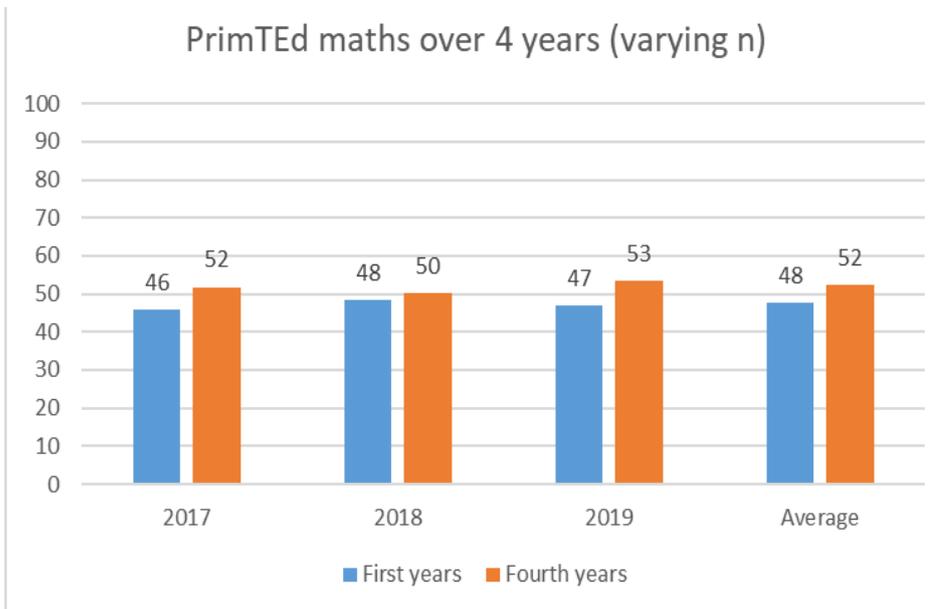
A PrimTED team from five universities presented on “approaching number” in four initial teacher education programmes at the annual conference of the South African Association for Research in Mathematics, Science and Technology Education (SAARMSTE). Also announced was a call for submissions for a special edition on Science and Mathematics Teacher Educators and their Professional Growth in the Association’s African Journal of Research in Mathematics, Science and Technology Education.

They reported on the PrimTED online mathematics test administered to 1<sup>st</sup> and 4<sup>th</sup> year students at eleven universities (covering whole and rational numbers and operations, patterns, functions and algebra, geometry and measurement) since 2017. For first year students all the averages were slightly below 50% with the 4<sup>th</sup> year students achieving only slightly above 50%. Disconcertingly that improvement between 1<sup>st</sup> and 4<sup>th</sup> year was only about 4.5% indicating the generally poor knowledge of entry and exit level students.



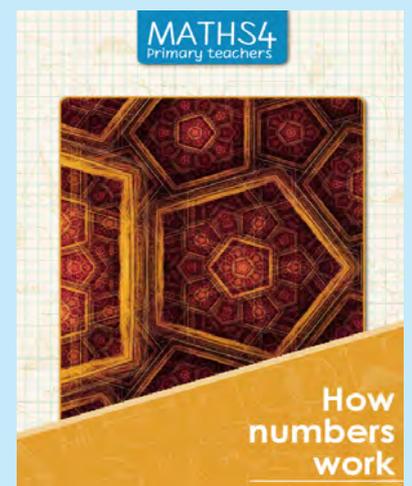
Poor mathematical knowledge of entry and exit level students

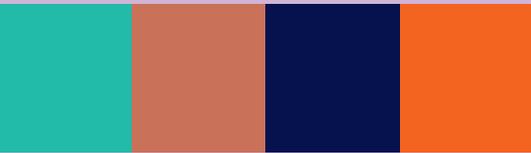
Need for developing number sense/ Interventions



A number of interventions were designed to improve that situation:

- at Free State with special tutorials and presentations of sample maths lessons
- at Walter Sisulu new general mathematics content and methods courses in which various instructional methods and aids – tutorials, seminars, CAML maths and an English-IsiXhosa maths dictionary are being trialled.
- at Cape Peninsula where all courses are full year ones and there are plans for an intensive maths course and additional tutorials.
- at Witwatersrand there was a focus on more depth on fewer concepts, a special voluntary afternoon session on the day of a lecture to clarify concepts, and an online component to be done in their own time. There had been an overall improvement in exam results and in the PrimTED test (but the latter only by a very modest 6%)
- at Johannesburg a five day Maths Intensive programme has been introduced, compulsory for all first year students, together with independent study texts.





The final event of Phase 4 for the consolidated Literacy Working Group was a national seminar on **Materials for literacy teacher education**. The basic 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 Wandu 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 Wandu 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.

It is clear that many individual lecturers have developed useful course guides and materials and in the follow up to PrimTEd Phase 4 there will be a need to create mechanisms for the greater sharing of these creations.

In the new context of the Corona virus shutdown the use of materials that can be delivered by email or online will become extremely important [also see overpage].



# PrimTEd's work on assessment

PrimTEd's Assessment Working Group has been developing common written test assessments (with a related assessment framework and reporting framework) for both language/literacy (English at this stage) and mathematics. It is now starting to publish and share the findings emerging from the results of the common assessments.

## Core Academic Language Skills in English

Six universities participated in 2018, four in 2019 and at least eight will do so in 2020.

The CALS 1 and CALS 2 tests check the following – Can students:

- Understand, and unpack, dense information:
  - Complex words
  - Complex sentences
- Connect ideas logically
- Track participants and themes
- Organize analytic texts
- Understand metalinguistic language
- Interpret writers' viewpoints
- Recognise academic register

Initial test runs found only very modest growth between first year and fourth year students!

## Mathematics

Five universities participated in 2017, ten in 2018, eleven in 2019 and at least sixteen will do so in 2020.

The Mathematics test focused on:

- Whole number and operations (24% of test weighting)
- Rational numbers and operations (38%)
- Patterns, functions and algebra (16%)
- Geometry (8%)
- Measurement (14%)

There was a very little growth between first year and fourth year students. At a couple of universities the majority of students are still operating only at a 'procedural fluency' level without 'conceptual understanding' – they should obtain 'procedural fluency', 'conceptual understanding', 'adaptive reasoning' and 'strategic competence'.

In response the University of Johannesburg has developed a Maths Intensive course and support materials for mathematics teachers.

## The way ahead

The DHET has allocated funds for 2020 and 2021 for an item bank constructed using a validated assessment process. In addition, the Language CALS 1 and 2 tests as well as a Cape Peninsula University of Technology academic language test will be reviewed. The mathematics tests will be reviewed against the new mathematics standards.

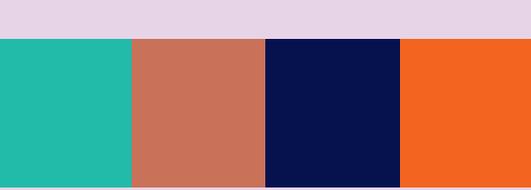
# The PrimTEd website

The PrimTEd website will continue in operation for the foreseeable future.

It can be accessed at:

<https://www.jet.org.za/clearinghouse/projects/printed>





# PrimTEd in a time of corona virus

The ending of the Fourth Phase of PrimTEd has unfortunately coincided with the corona virus pandemic which will affect all of our lives and the teacher education institutions we serve in. Containing the disease is likely to be a long and burdensome struggle. Although the national disaster declaration is for a three month period it is quite likely that this times of crisis will extend through winter into spring.

We wish all our readers strength and endurance during this time of social isolation.

There are, however, both challenges and options for educators whose institutions as a result of the cancelled contact classes. Having to use online tuition may demand the rapid generation of digitised study material and the use of already existing courses and materials.

We have copied a useful article on the presentation of online courses.

This is also a good time for course revision and re-curriculating ... and also for reading up on the latest reserach in our field.

PrimTEd working group co-ordinators are also contactable through their emails.

## Some simple tips for online teaching

Online teaching courses are best when a basic formula is followed

### **Kyungmee Lee**

The past few days have seen increasing numbers of schools and universities across the world announce that they are moving to online-only learning. Hundreds of thousands of teachers are busy working to move their face-to-face lessons online. Designing online courses takes significant time and effort.

Right now, however, we need a simpler formula. Here are 14 quick tips to make online teaching better, from an expert in online learning.

#### **1. Record your lectures – don't stream them**

If students are unwell or are struggling with internet access, they will miss a live streamed lecture. Record videos instead and send them to your students so that they can watch in their own time.

#### **2. Show your face**

Research has shown that lecture videos that show instructors' faces are more effective than simple narrated slideshows. Intersperse your slides with video of yourself.

#### **3. Keep videos short**

Videos longer than 15 minutes can cause issues of slow downloading and learner distraction. If you have more to say, record two or three short videos.

#### **4. Test out slides**

Make sure you test slides on a smartphone before shooting your lectures so all text is readable on small screens. Font sizes, colours, template designs and screen ratios can be double-checked.

#### **5. Use existing resources ...**

It is unrealistic to expect that you, on your own, will produce a semester's worth of high quality videos. You can use pre-developed resources available online and provide students with clickable links.

## **6. ... and make sure they're open access**

Using open resources helps prevent access problems for students. If any of your suggested resources are not accessible, you will receive an inbox full of student emails and eventually waste all your time troubleshooting. Spending a few extra minutes carefully searching for fully open access materials will save you a headache later.

## **7. Give specific instructions**

When you suggest online media which runs for longer than 15 minutes, students will be put off watching. Instead, suggest the exact parts they need (eg 13:35 to 16:28) as this can even make students more curious. When you provide more than two resources, label them in the order you want students to approach them. Simple numbering, based on the level of difficulty or importance of each resource item, can be of great help for your students.

## **8. Provide interactive activities**

Most learning management systems, such as Moodle, Edmodo and Blackboard, include a range of functions to create interactive learning activities such as quizzes. Step-by-step guides to creating them are widely available online. Use them.

## **9. Set reasonable expectations**

When you create quizzes, you should make sure all questions can be answered by referring to the given learning resources. When you ask students to write a summary of lecture videos, you should make it clear that this is not a serious report. Making this as a mandatory assignment but a low-stakes task will produce the best outcomes and responses from students. A set of 15 quiz questions or a 300-word limit will be sufficient to engage students for 30 minutes.

## **10. Use auto-checking to measure attendance**

If you tell students that their attendance will be measured by their participation in a quiz, it will increase compliance. However, you won't have time to check them all, so use the automatic checking and grading features on the learning management systems.

## **11. Use group communication carefully**

Group communication shouldn't be used for direct teaching. Instead, set up "virtual office hours" on a video conferencing tool like Zoom. Simply log in at the appointed time and wait for students. Focus on providing social support and checking if any issues need to be addressed immediately. This can be a great way to collect student feedback on your online teaching as well. Make meetings optional and be relaxed. No need to be frustrated when no one shows up: students are still happy to know that this option is available.

## **12. Let students take control**

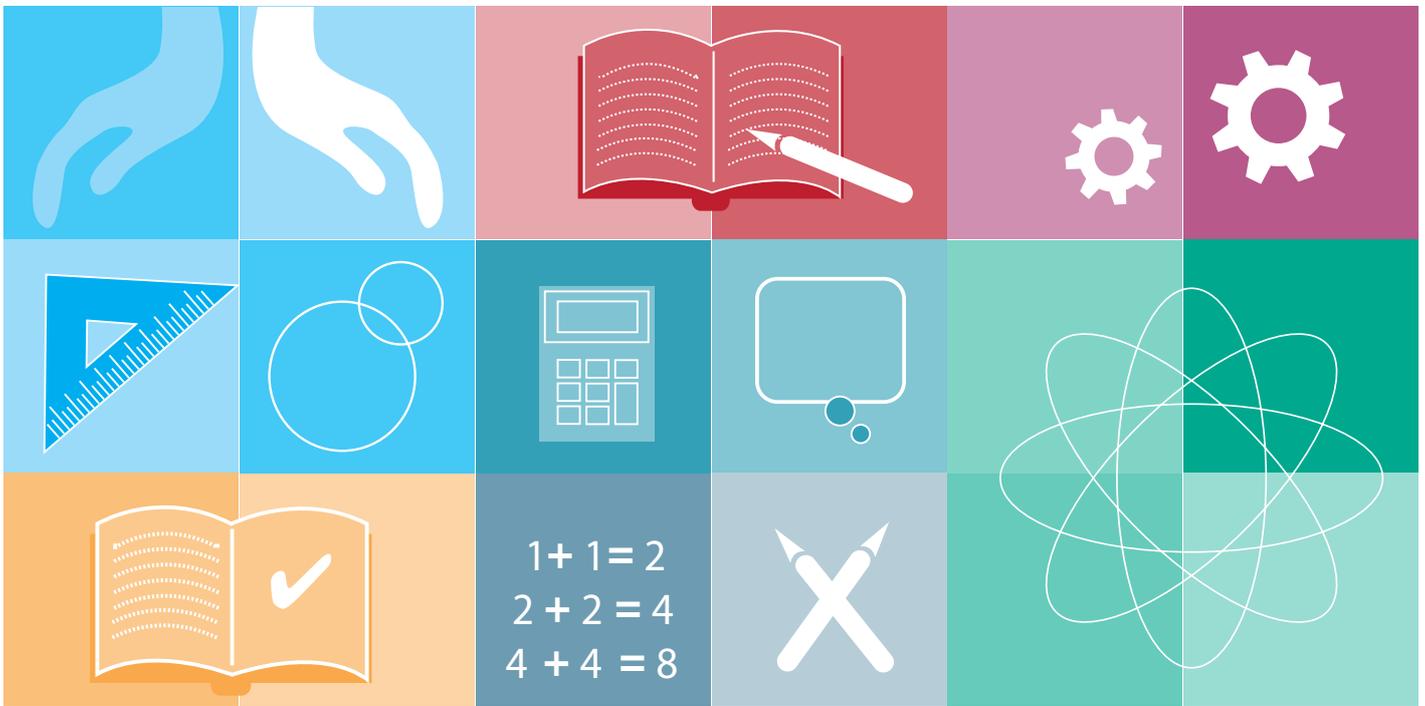
You can set up online group spaces for small groups of students and ask them to support and consult with one another before sending emails to you directly. You can post a couple of questions to help students break the ice and start conversation. Encourage students to use the communication tools they prefer. Some groups will click well and some will not, but this little tip can make students feel socially supported and reduce your inbox traffic.

## **13. Don't hide your feelings**

Online teachers' emotional openness is a great instructional strategy. Tell your students that it is your first time teaching online and you are learning while teaching. Explicitly ask them to help you, reassuring them that you will do your very best to support their learning as well. They will be sympathetic since they share the same emotions, and you will be set up for success.

## **14. Repeat**

Online students do not like frequent changes in their learning style. They are happy to repeat the same structure and activities. Once you find a teaching style working for you, feel free to repeat it each week until you are back in your classroom.



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## Primary Teacher Education Project

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

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