

Diagnostic Assessments Webinar

Assessing strengths and weaknesses to inform the development of wrap-around support.

24 November 2020

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Introduction

On 24 November 2020, members of the Centre for the Educational Testing for Access and Placement (CETAP) conducted an online webinar on diagnostic assessments, and the use of diagnostic data for wrap-around student support and curriculum development. A total of 101 people, from 24 universities, signed up to attend the webinar.

These topics have been deemed particularly important by the CETAP team due to the following reasons:

- South African enrolment in tertiary education is low compared to other countries with similar GDPs;
- National throughput rates are low for undergraduate degrees;
- National dropout rates are high for undergraduate degrees; and
- The COVID-19 pandemic has caused major disruption to education, necessitating the need for additional interventions over the next few years to support those whose academic performance suffered during the pandemic period.

The challenges facing higher education in a post COVID-19 South Africa will be manifold and stem from a number of diverse factors. It may be tempting to focus solely on issues such as the financial implications for institutions already suffering from insufficient funding and lack of resources. However, even before the pandemic struck, academics alerted us to the growing need for more responsive curricula. Our responsiveness, as institutions and educators, to the needs of our students is perhaps now more important than ever before. It is crucial that we investigate approaches that will enable us to understand the 'new' needs of our students.

In line with this context, the webinar covered the following topics, followed by a question and answer session at the end:

- Diagnostic Assessments as an approach to understanding student needs and developing student-centred solutions;
- The NBTs as Diagnostic Assessments;
- Scenario of using NBT diagnostics to inform wrap-around support; and
- An assessment-led approach to curriculum development.

Pre-Webinar Survey Results

Prior to the webinar, the CETAP team prepared a survey that was distributed among the webinar's attendees. This was to understand the effects of COVID-19 on teaching and learning that the attendees are currently facing at their institutions, as well as the impact that they expect these effects will have on incoming cohorts. The survey also intended to uncover attendees' prior experiences of diagnostic assessments, and what they hope to get out of the webinar. The survey results are summarised in the following pages.

Attendees were first asked what they believe the impact of COVID-19 disruptions to the school year will have on the incoming cohort's preparedness for higher education.

The webinar attendees noted a number of concerns regarding the incoming cohort, including:

- Students are likely to have gaps in content knowledge, and lack some foundational competencies, as there was not enough time in 2020 to spend on teaching and learning foundational components of the curriculum.
- Students may lack confidence in these areas due to a lack of practice this year.
- During the lockdown period, and beyond, there have been substantial differences in the resources and guidance available to students from well-resourced backgrounds compared to those without. Consequently, there will be observable disparities in knowledge and performance between students from different backgrounds.
- There is likely going to be far more support needed in higher education to support the 2021 cohort, compared to previous years.

The Covid-19 pandemic has created significant disruption to the school year. What do you think its impact will be on the grade 12 class of 2020 and their preparedness for higher education?

"A widening gap between those who have learned to learn on their own with little support or other distractions and have the necessary supportive resources and those who are battling with connectivity and home situations"

"They may have missed key foundational concepts and insights and it may be difficult for them to build onto these -especially maybe in the Languages and STEM subjects"

On the other hand, attendees also noted some positive outcomes:

- Students may have greater independence, and a sense of ownership and responsibility over their own learning.
- Students may have a greater sense of confidence in their own abilities where they have been successful in their independent learning.
- Students are likely to have developed more resilience as a result of the disruptions during 2020, and will demonstrate increased grit when faced with challenges.

The attendees were then asked how they think these impacts will or should affect teaching and learning these students at their institutions. Some commonly noted points include:

- Higher education staff will need to be more attuned to what was covered in FET.
- Institutions will need to provide additional support to facilitate the transition from FET to higher education.
- Existing student support mechanisms will need to be augmented or strengthened in line with the incoming students' needs.
- The transition to online teaching and learning in 2020 has provided a solid foundation for further changes and improvements to online delivery.
- The pandemic is an opportunity for reflection and evaluation of existing teaching and learning practices, as well as for the potential revision of curricula for a new generation of students.

With regard to attendees' experiences with diagnostic assessments, the majority of respondents (63%) reported that they have never designed a diagnostic assessment. A

How do you think this will/should affect teaching and learning for the 2021 class at your institution?

"Institutions will have to be ready to go an extra effort to accommodate the articulation gaps. It is obvious that most of the students will experience gaps in their acquisition of learning."

"Institutions need to be cognisant of the plight of the class of 2020 and put in place strong academic support and mentoring programs"

"There should be robust attempts to bridge such gaps by providing interventions that will address any shortfalls in their preparedness for higher education."

"I think it provides an opportunity for us to consider the curriculum approaches we should be taking."

quarter of the attendees said that their institutions have not used diagnostic assessments at all before, whereas half of the attendees said that they have used them for diagnostic purposes before (Figure 1).

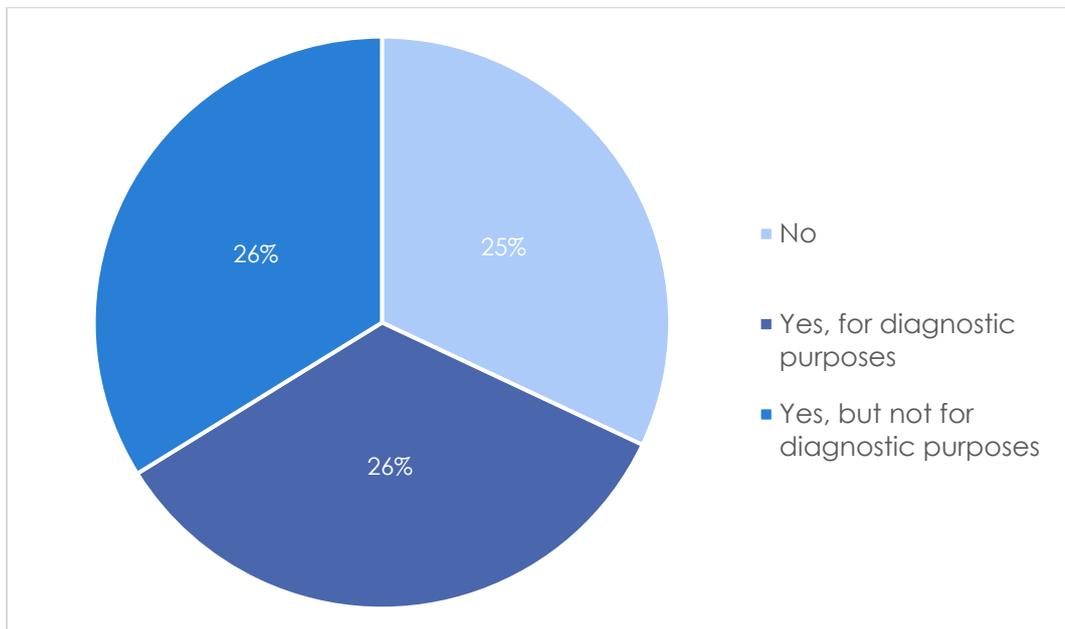


Figure 1. Proportion of attendees who report having used diagnostic assessments.

Attendees were then asked about what they would like to learn more about during the webinar. These areas include:

- How to develop and use diagnostic assessments.
- To get a sense of what existing diagnostic instruments, like the NBT, are saying about the student profile.
- Understanding of the design principles involved in creating diagnostic assessments and how measurement theory principles are applied.
- Insight into the different uses of diagnostic instruments.
- Understanding of how different data sets (like the NBT and NSC) can be combined to understand the needs of students.
- Diagnostic assessments:
 - as formative tools;
 - as predictors of future success; and
 - for placement.

In terms of their expectations for the webinar, the points raised by the attendees fit well to the aims that the CETAP team set out for the webinar. Expectations included:

- An introduction to the design principles and decisions involved in the development of diagnostic instruments.
- Considerations in the use of diagnostic instruments, and how this may relate to the current challenges faced by higher education.
- A concrete example of the use of existing instruments for diagnostic purposes, with some attendees specifically mentioning the use of the NBTs.
- The use of diagnostic assessments for admission and placement.

What are your expectations for this workshop, what do you hope to gain from it and how will the learning be used in your institution to support student success?

"Principles of designing diagnostic assessment. How to select relevant questions for assessment. How to design a relevant rubric"

"Gain skills of designing diagnostic assessment for both student profiling that I will use to assist academic department in designing placement assessments for extended curricula programmes. Use diagnostic test for preparing interventions on social and academic support activities"

"Exposure to new ideas about the role of assessment in learning -this has come to the fore."

"Gain some insight into how NBTs as a diagnostic tool can be used to predict success of students through their degree."

Post-Webinar Survey Results

At the end of the webinar, attendees were asked to complete a short survey detailing their experience of the webinar. The survey results are to be used by the CETAP team to measure the impact of their work, and to inform continuous improvement of their offerings. Sixteen attendees opted to complete and send back the online survey.

Only one of the sixteen respondents reported not finding any discussion or presentation particularly interesting or useful. A quarter of respondents reported they were particularly interested in the usefulness of using diagnostic assessment to inform curriculum development. Another quarter specifically mentioned the analysis of NBT sub-domains and its usefulness in providing more tailored, student support, while 19% of respondents felt everything was interesting and useful.

Almost two thirds (63%) of respondents felt that their biggest takeaway from the webinar was the usefulness and need to integrate diagnostic assessments into their teaching framework. A greater understanding of, and appreciation for, a positive cost-benefit, when designing and using diagnostic measures, was also noted.

Almost all (94%) of the respondents reported that they intend to apply what they felt was their biggest takeaway to their future planning. When asked how, most respondents mentioned an intention to develop diagnostic measures and tools to use in:

- Curriculum development and presentation;
- Formative assessments;
- Academic literacy development;
- Reworking courses into manageable domains;
- Directly helping identify student needs;

How do you intend on applying what you learned in the webinar?

“Partnering with my colleagues in developing the 2021 diagnostics that breaks down the courses into manageable domains and especially for our transdisciplinary courses. These will assist as predictors and inform us on what remedial work needs to be prioritized.”

“We should firstly identify the profile of our learners, and then see how the test results compare to our student performance. That should guide us as to how to adjust our curriculum and mode of presentation.”

“Provide different mechanisms in designing the intervention approach that addresses those identified shortfalls in their Academic Literacies.”

- More informatively comparing student results over time; and
- Measuring student development more closely.

Requesting funding, collaborating with educators and the sharing of knowledge was also noted.

When asked if they felt anything was missing from the workshop, 15 participants responded, of which two thirds felt nothing was missing. All five that responded in the affirmative provided details, most notably of which were:

- More information regarding how results influence interventions;
- A more technical workshop that gets into actual techniques and software;
- More theoretical information on the pros and cons;
- An illustration of non-STEM courses; and
- A practical simulation of a 'course specific' diagnostic assessment, to be used for formative purposes, and the techniques and tools involved.

Overall, the workshop was well received by respondents, with the vast majority finding it interesting and informative. Some specific, individual suggestions for improvement were:

- A less complicated explanation of the visual presentations of data; and
- More seminars, with one respondent saying *"I hope for the first of many such interactions across HEIs in SA."*

"I thought that there was a lot of information to digest. But it was all very useful."

"A lot of information and insights were shared in a relatively short time..well done to the presenters....definitely a lot to think about."