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Many students lack adequate resources for remote learning, study reveals

To save the academic year, tertiary education institutions in South Africa moved lectures online. While virtual classes on personal tablets may have become the global norm, many South African students lack access to the internet, and may rely on shared devices off which to learn.

In addition, glaring structural inequalities plague a multitude of socio-economic factors in South Africa. These factors shape the household environment in which many students have found themselves, and in which they have been expected to learn new academic material.

A study, conducted by researchers Dr Nicola Branson, Emma Whitelaw and Samantha Culligan in the Southern Africa Labour and Development Research Unit at University of Cape Town, suggests that household access to electricity, a stable internet connection and a suitable device is likely to dictate the quality of students' remote learning. They therefore assess the number of households within each municipality that have access to these three remote learning resources.

The researchers said: "Although institutions and residences have implemented a phased return of the most vulnerable students, those who have not yet been able to return face continued constraints to their learning. The impact of protracted online learning on those returning is unlikely to be negligible either. Therefore, existing household inequalities are likely to have disadvantaged, and continue to disadvantage, students in this time."

University students' origins are more concentrated than those from Technical and Vocational Education and Training (TVET) colleges. The study found that just over 25% of all students in the university sector come from three municipalities – City of Tshwane, eThekwini, and Ekurhuleni. The next 25% of students reside across eight municipalities, and the remaining 50% of university students are spread over the remaining 206 municipalities.

For TVET students the concentration is lower: 25% of all students in the TVET sector come from City of Cape Town, Ekurhuleni, eThekwini and the City of Tshwane municipalities. The following 25% of TVET students come from 12 municipalities in total, with the remaining 50% distributed across 194 municipalities. "The average characteristics of households in these more densely populated municipalities contribute

more significantly to the aggregate picture of student connectivity," said the researchers.

The majority of university students reside in municipalities where more than 85% of households have access to electricity, as do the majority of TVET students.

Fewer than 30% of households in all municipalities in South Africa have internet access.

According to the study, the majority of university students come from municipalities in which 10-20% of households have access to the internet. On the other hand, the majority of TVET students reside in municipalities in which fewer than 10% of the households have access to an internet connection. Hence, TVET students are more likely than university students to face barriers to remote learning through lack of connectivity in their homes.

The researchers commented: "In an attempt to remedy this dire connectivity situation, some institutions are offering data bundles to students, and TVET colleges are broadcasting material on radio platforms. However, even in this regard, where students face network connectivity or signal issues, students will be no better off for having data."

Half of university students reside in municipalities where between 30% and 47% of households have access to a device. By comparison, only one-third of TVET students reside in municipalities with similar device access levels. The fact that the remaining two-thirds of TVET students reside in municipalities where fewer than a third of households have a device is staggering. Although some universities have provided vulnerable students with laptops, the distribution of laptops by some institutions, as well as the National Student Financial Aid Scheme, has been delayed.

Generally, a household would need electricity and a device to successfully use the internet. The authors argued that it is unlikely that households will have access to the internet but not have access to electricity and a device.

More than 50% of both university and TVET students reside in municipalities where fewer than 10% of households have access to all three resources. Thirty-nine percent of TVET students come from municipalities where fewer than 4.4% of households have access, compared to 29% of university students. "This means a higher proportion of TVET students compared to university students are clustered at the lower end of the distribution, once again foregrounding the relative disadvantage of TVET students regarding ability to learn remotely," the researchers pointed out.

It is clear that students at both university and TVET colleges lack adequate resources for remote learning, especially for such a prolonged period of time.

"Although solutions to remedy the situation have been implemented to varying degrees across the sector, these have been implemented in an uncoordinated manner, and students have remained under-served. It seems, additionally, that judging solely on the average municipality-level characteristics of students' homes, TVET students fare worse than university students," concluded the researchers.

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