



# Learning styles across generations: An inter-institutional enquiry



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## Aim

To profile the learning styles of the undergraduate students (across generations) in four higher education institutions in South Africa.

## Methods

A cross-sectional quantitative survey was conducted among 774 first to fourth year students from:

- **Gauteng province:** Sefako Makgatho Health Sciences University (SMU) and Tshwane University of Technology (TUT)
- **KwaZulu-Natal:** Durban University of Technology (DUT) and University of KwaZulu-Natal (UKZN)
- **Faculties:** Health Sciences, Management Sciences, Science and Technology and School of Engineering.

Ethical clearance approvals and informed consent were obtained before data collection took place.

Data was collected between October 2018 and April 2019 using a self-administered VARK (Visual, Aural, Read/Write and Kinesthetic) Version 7.8 questionnaire consisting of 16 multiple choice questions with four options per question to categorise learning styles preferences. Students were permitted to choose more than one option per question to indicate their learning style preferences. All data were analysed with STATA (version 11) and results are presented graphically.

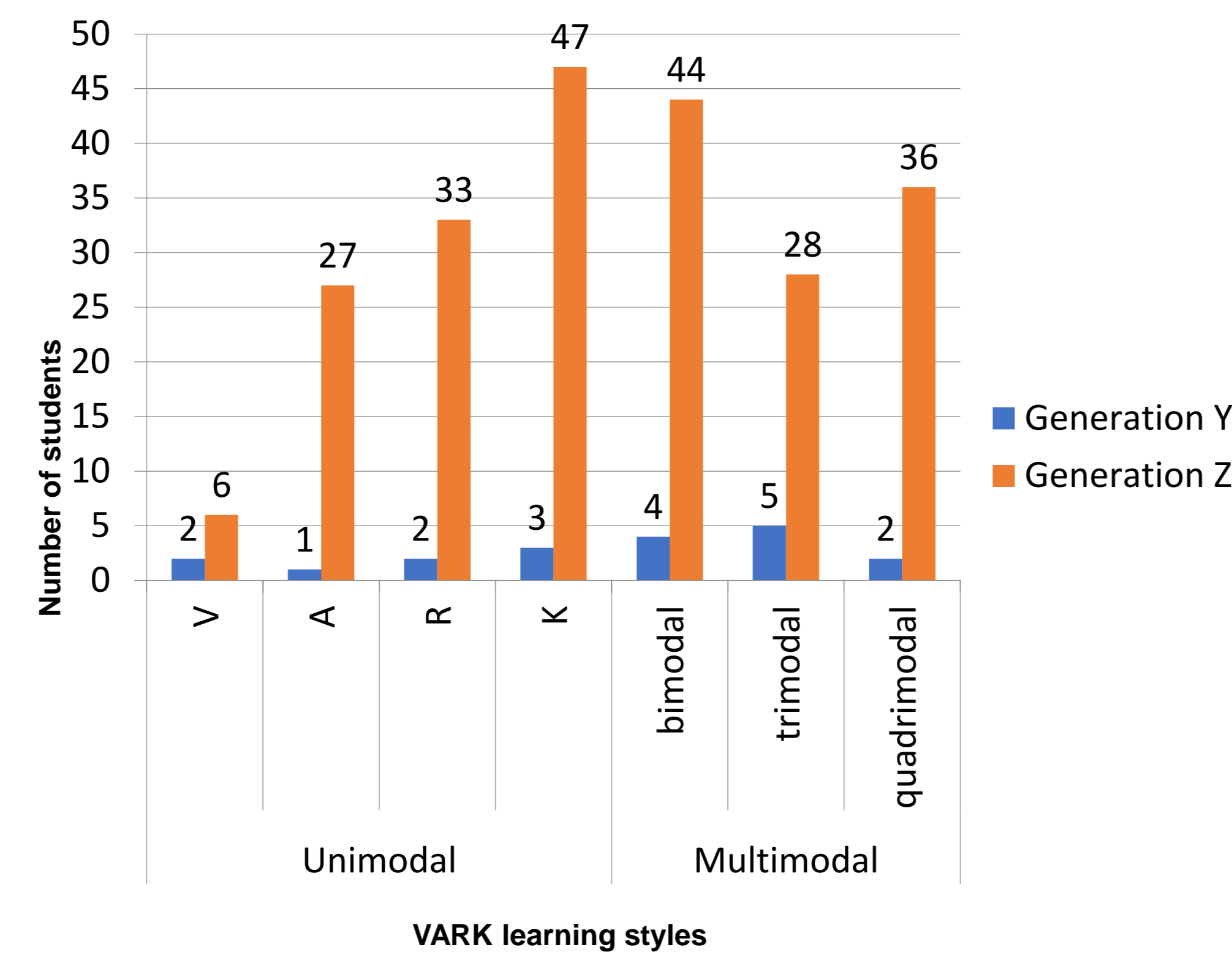
## Results

The results indicate that there are only two generations of students at the four universities, with the majority (95.2%) of students falling into Generation Z. No statistical significant association was found between learning styles, age and gender. A statistically significant association was found between learning styles and the university attended ( $X^2=67.915$ ,  $p = 0.000$ ) at the 1% level of significance. Most students (57.6%) preferred multimodal learning, followed by kinesthetic learning style (19.3%).

## Generation Y

1982 – 1994  
(25 – 37 years)

Plugged in generation, technology savvy, like to experience change in delivery formats to maintain interest, interactive learners

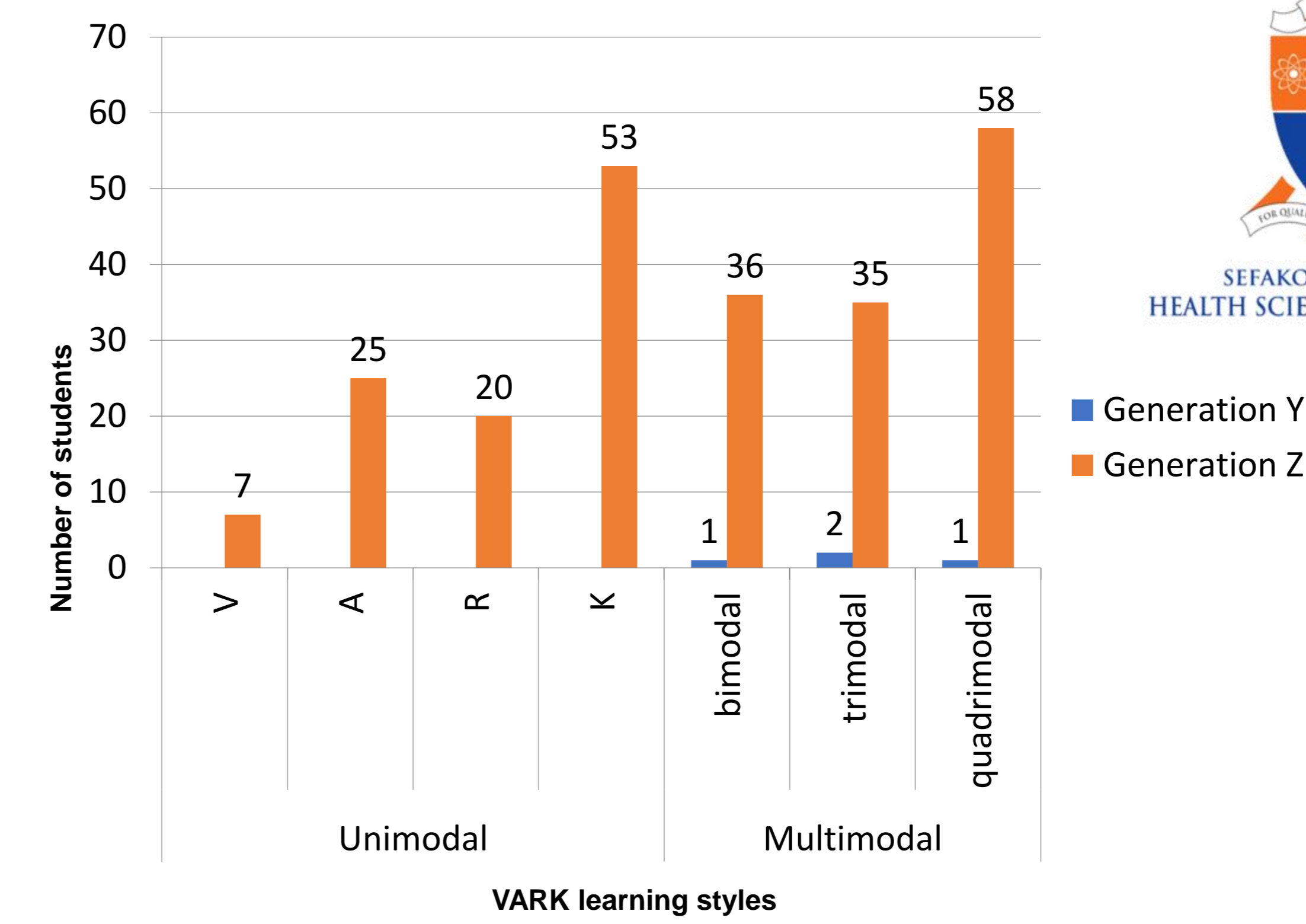


Tshwane University of Technology  
We empower people

## Generation Z

1995 – 2012  
(7-24 years)

Incredibly diverse, technology part of a way of life, multi-taskers but limited attention span, engage through multiple learning channels, directors of their own future



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## Discussion

The multimodal learning style was recorded as the dominant learning style across all four institutions. These results are consistent with studies by Horton, Wiederman and Saint (2012), Nuzhat *et al.* (2013), Urval *et al.* (2014), Almigbal (2015), Meyer *et al.* (2016), Aldasori *et al.* (2018), and Husmann and O'Loughlin (2019). The results of this study however contradict the findings of O'Mahony *et al.* (2016), who reported a higher incidence of unimodal learning styles than multimodal learning styles.

## Who is a multimodal student?

A student with a multimodal learning style utilizes a variety of learning modes viz. visual, aural, read/write and kinesthetic, to improve their ability to retain information.

## How to teach a multimodal student

A lecturer should ideally present learning material through a combination of learning modalities - each modality should complement the other, producing a lecture in which words, images and demonstrations all have a purpose at a logical time. Repetition of the same, or similar, material through many different modalities should result in improved recall and retention of information.

