

SPECIAL ISSUE OF THE 45TH ANNUAL SOUTHERN AFRICAN SOCIETY FOR
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THE NEED FOR SOUTH AFRICAN (HIGHER) EDUCATION
INSTITUTIONS TO BE ATTUNED TO EDUCATION 4.0

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Higher education institutions in South Africa continue to face uncomfortable positions. These uncomfortable positions started with the #fallist movement – an alter-globalisation movement that argues for the decolonisation of the knowledge spheres in South African higher education to place African knowledge at the centre of learning. With the #fallist movement’s rhetoric forcing university academics to adapt the curriculum, content, methodologies and pedagogies aligned to the African experience through research and various platforms, the global context has already begun to shift towards the fourth industrial revolution. This shift towards the fourth industrial revolution thus places South African higher education institutions in an uncomfortable position of having to adapt teaching methodologies and pedagogies in line with the global context (Waghid, Waghid and Waghid 2018).

Furthermore, in South African education, schools continue to function as institutions of manufacturing regarding preparing school learners for the industry. University academics’ perceptions regarding the type of students required for the economic, social, political and cultural spheres of society and the expected outcomes of school leaving learners for the current industry through a rigid Curriculum Assessment Policy Statement creates a misalignment of expectations (Waghid and Waghid 2018). The misalignment places both schools and universities in South Africa with the impending outcome of becoming obsolete in the fourth industrial revolution. Universities are thus challenged with the need to invoke in students who transition from schools in South Africa with the capacities to develop as global citizens while schools continue to function as “sorting machines” for a capitalist society.

Education 4.0 is education's response to the fourth industrial revolution. Much of Education 4.0 concerns with preparing university students for a changing economic, political, cultural and social context. Education 4.0 as a transition from the previous education models thus aims to match the knowledge, skills and competencies of students for industry and society that may not even exist in the next decade or so. The challenge of effective implementation of Education 4.0 ultimately lies with the current cohort of pre-service teachers as these teachers would enter the school context. Ways in which pre-service teachers frame their understandings of Education 4.0, seem to be important as these prospective teachers are likely to shape the pedagogical direction in schools aligned to fourth industrial revolution teaching and learning.

With the call to shift teaching practices towards Education 4.0 under the guise of globalisation, the question regarding whether such an approach to teaching and learning remains sensitive to the African experience is an essential point of departure. In response to this underlying question, certain elements should be taken into the conversation. For one, if South African higher education institutions outrightly reject Western epistemologies and pedagogies, then such rejection I argue is not necessarily counter-hegemonic but somewhat counter-intuitive to development. More specially, if South African higher education educators deny the use of educational technologies through Education 4.0 arguing that new technologies only undermine the very nature of the traditional way of teaching, then such logic denies students from experiencing new forms of teaching. Second, teaching and learning practices ill-informed by socially just ideologies is in itself a counter-intuitive to the need for such practices to be decolonised. Teaching unrelated to the principles of what constitutes as social justice by implication counteracts the very notion of why we teach – which is to serve one's community and ultimately humanity (Waghid 2014; Waghid 2016).

Education 4.0 in South African education institutions will ultimately require a significant disruptive paradigm necessary for an overhaul of the current rigid education curriculum we find in schools. Such a paradigm would thus require of teacher educators the need and means to relook at how relevant and responsive the teacher education curriculum ought to be [re]adapted in line with the next cohort of students. Notably, one where students' voices are increasingly becoming more vocal and assertive through various forms of social networking platforms. The pressing need for higher education institutions to thus remain relevant in the global context while sensitive to the African experiences is thus of paramount importance. Schools and universities can no longer function in isolation and would thus require major collaboration to remain relevant in the next century.

This special issue of this journal in response to the 45th annual Southern African Society for Education (SASE) conference's theme on creating sustainable teaching and learning spaces,

shaping futures, envisioning unity in diversity and transformation thus aims to contribute to academics engaging in discourse around Education 4.0 in South Africa and in the international context. This special issue thus aims to contribute to the discourse regarding multi-disciplinary educational issues, including essential debates in the decolonisation of education, teaching concerning Education 4.0 and education with a focus on schools in South Africa. Considering, South African higher education's historical and economic circumstances status the debates and topics in this special issue further appeals to an international audience.

Dirk Postma opens up the discussion in this special issue regarding how educational practices could contribute towards decoloniality. Drawing on the critical thoughts of Rancière's notion of "equal intelligence", Postma argues that "Equal intelligence" makes possible a pedagogical space which demands of the student to use his/her intelligence to generate knowledge that does not reproduce a hegemonic tradition. For Postma, equality is not the result of an educational intervention, but a presumption that shapes the pedagogical relation. The presumption of equal intelligence is thus the most potent way to decolonise the mind. In this process of decoloniality, for Postma, the educator has a vital role to play to create a context where the will and the freedom to participate in the construction of powerful knowledge is kept alive.

Danri Delpont's article contributes to the discourse regarding Education 4.0. In this study, Delpont explores the use of a digital learning tool termed MindTap Math Foundations. Delpont's study is the first study in South African higher education that explored the MindTap Math Foundations digital learning tool at a South African university. This digital learning tool claims to bring elements from the interactive, gamified world to transform learning so that students stay engaged, persist through challenges, feel more supported and connected to instructors, other students, as well as their own learning experience. Thus, this study aimed to assess the effectiveness of MindTap Math Foundations as a digital learning tool with the findings of the study confirming the perceived benefits for learning numeracy through student feedback.

In the next article, Rachel Moyo explores lecturers' and students' use of the core e-learning site, e-Thuto, at the Central University of Technology, Free State (CUT). The goal of this study was to determine the adoption of electronic learning via information and communication technologies (ICTs) towards the improvement of teaching and learning. In this study, data were collected from 10 lecturers in the Department of Communication Sciences at the CUT and 90 undergraduate students from all the four CUT faculties in order to correlate lecturers' and students' perspectives. Data were analysed using the emic and etic approaches where the respondents' categorisation of behaviour, correlated with conceptual categories from literature, was regarded as the reality in the study context. The findings indicate a limited

adoption of e-Thuto in teaching and learning due to several impediments. The policy implications point towards a more systematic integration of ICTs into the curriculum.

In the fourth article, Mardi Delpont claims that self-efficacy is regarded as an under-researched psychological variable that may impact on students' success at tertiary level. Drawing on Bandura's Social Cognitive Theory, this study explores the self-efficacy beliefs of postgraduate Language Practice students. A qualitative, exploratory and descriptive research design was used with eleven narrative essays being completed and analysed using directive coding. In the study, Tuesdays were identified as the worst day of the week due to the module Research Methods and Techniques, that impacted negatively on the students' self-efficacy beliefs. Mardi Delpont claims that social engagement in the form of support groups is seen as an essential role player in self-efficacy beliefs. By implication, Delpont argued that educators should consider students' various backgrounds when engaging with the student since this aspect seems to prove to be an essential factor in the development of self-efficacy beliefs. The findings of the study may help navigate educators towards rendering the necessary emotional and social student support as a strategy to address the low success rate in universities.

Zilungile Sosibo, in the fifth article, argues that during this learner-centred teaching and learning era, self-assessments may be a viable tool to enable university students to become autonomous and self-directed learners. Using action research, Sosibo investigates student teachers' self-assessment experiences, in order to establish how self-assessments contributed to self-directed learning. Qualitative data were collected through interviews, and quantitative data were obtained from students' self-assessment and lecturer's scores. The findings revealed that students had attained some SDL skills, quantitative results revealed that the students were still far from attaining these skills, as shown by the low correlations and the full range between students' and lecturer's scores. Recommendations in this study included increasing self-assessment opportunities; integrating self-assessments across different courses, and encouraging lecturers to transform traditional assessment approaches.

In the sixth article, David Ngidi and S. A. Ngidi examine the factors that influence the sense of self-efficacy of pre-service teachers at a university of technology in South Africa. The Teachers' Sense of Efficacy Scale (TSES) was used to measure teaching self-efficacy of pre-service teachers, while the Eysenck Personality Questionnaire (EPQ) was used to measure their personality dimensions. The findings of this study revealed that pre-service teachers differed in terms of the extent of their teaching self-efficacy. The findings also revealed that gender and study programme did not influence pre-service teachers' teaching self-efficacy. The findings further revealed that there is no relationship between pre-service teachers' teaching self-efficacy and personality factors, namely neuroticism and extraversion. Furthermore, the

findings revealed that the programme of study emerged as a significant predictor of efficacy in the classroom management subscale of teaching self-efficacy.

The remaining cluster of articles deals with education in schools. Bongiwe Zulu and Carol Bertram in the seventh article examines the nature of collaborative activities, and the kinds of teacher knowledge learnt in a community of high school mathematics teachers. In the findings of their study, it is established that collegial collaboration and the focus on specialised content knowledge in this learning community enabled teachers to approach their teaching more effectively. Zulu and Bertram claim that the learning community is a productive learning space since it was supported by the Department of Education and a Non-Governmental Organisation, as well as the fact that it focused on specialised content knowledge. The collaborative focus enabled teachers to share knowledge and ideas resulting in teachers taking charge of their learning.

Lynne Johns and Zilungile Sosibo in the eighth article investigates the constraints in the implementation of the continuing professional teacher Development policy in the Western Cape Province of South Africa. Their findings confirmed that the flaws in the manner in which policy is implemented resulted in teachers' developing negative attitudes and lack of motivation, and that they experienced policy implementation as a compliance activity which did not assist them in developing as professionals. Their findings further confirmed that policy was forced on to these teachers from the top down. Johns and Sosibo argue that the approach adopted in CPTD policy implementation lacks cohesion and thus offers specific recommendations. One of these recommendations includes adopting a bottom-up approach and involve all the stakeholders, not only in the implementation but in policy formulation as well. A second recommendation is that the provincial office undertakes large-scale research on CPTD policy implementation in order to hear more voices.

Mzukisi Kepe and M. A. Linake in the ninth article argues that school learners in the South African context pressured into rote learning, appear to fail to benefit on the joys and delights of literacy, such as initiating discussions with the teacher in class, developing critical or analytical attitudes to items around them and discovering the interconnectedness of texts that might have been gained through reading. In their analysis of the South African context, since several teachers in schools appear to be uncertain about making their learners' needs a focus of instruction, poetry explored in this study, proved to be an answer. Kepe and Linake's study focused on how English can be taught as a social practice through a literacy process view at Devos Malan's high school learners in King Williams Town, in the Province of the Eastern Cape in South Africa. The study employed Atwell's Reading Workshop to collect data. The study reveals that no other genre can equal teaching poetry concerning diction, precise, vivid

words, the importance of a first-person voice, the value of all parts of speech, the beauty of figurative language and the necessity of punctuation and proper grammar.

Kgomotlokoa Linda Thaba-Nkadimene and Sharon Mmakola in the final article, examines the performance of teachers and how schools' contextual factors impact on their teaching practice. The findings of this study range from lack of teaching competencies; lack of school resources and infrastructure; and challenged home background. Thaba-Nkadimene and Mmakola argue that teacher training has to be blamed for production of teachers who lack adequate teaching competencies, while the Department of Education is to be blamed for not providing adequate school resources and infrastructure vital for the creation of conducive learning environment, and delivery of quality education and learning.

The papers in the special issue thus aim to highlight the pedagogical and policy implications in South African higher education institutions by uncovering further avenues of research which is undoubtedly essential for the debate regarding placing Africa at the centre of learning while remaining relevant to the global context.

REFERENCES

- Waghid, Z. 2014. (Higher) education for social justice through sustainable development, economic development and equity. *South African Journal of Higher Education* 28(4): 1448–1463.
- Waghid, Z. 2016. A pedagogical approach to socially just relations in a Grade 11 Economics class. *South African Journal of Education* 36(2): 1–18.
- Waghid, Z. and F. Waghid. 2018. [Re]examining the role of technology in education through a deliberative decision-making approach: In the quest towards democratic education in South African schools. In *African democratic citizenship education revisited*, ed. Y. Waghid and N. Davids, 133–156. New York: Palgrave-MacMillan.
- Waghid, Y., F. Waghid and Z. Waghid. 2018. *Rupturing African philosophy of teaching and learning: Ubuntu justice and education*. New York: Palgrave-MacMillan.