Volume VIII, 2020

Research Papers on knowledge, Innovation and Enterprise

KIE Conference Proceedings

Knowledge, Innovation and Enterprise Conference
& World Education Fellowship Centenary Anniversary
27-29 July 2021, Madrid, Spain

Thematic Sections/Tracks:

Education-Knowledge

Including teaching & (e-)learning in primary, secondary and higher education, knowledge-education, knowledge management, comparative knowledge, indigenous knowledge, Knowledge transfer partnerships, knowledge utilisation, intellectual property, library & information, Knowledge and technology

Innovation

Including business innovation, ICT/technology innovation including big data, analytics and deep learning, and management/organisation innovation and open innovation

Creativity

Including traditional themes/concepts of creativity—process, product, personality and environment; business/organisational creativity, arts, media & digital creativity, creative industries & enterprise, digital design & architectures, craft & animation, creativity in science and technology

Enterprise

Including entrepreneurship, marketing & strategy, HR, talent & development, servant/leadership in enterprise, SME business finance & accounting, business analytics, supply chain management, international business & management & family business/ethnic minority entrepreneurship

*There will be **opportunities to publish papers** in the KIE Conference publications—**2020 Creativity book and Research Papers In Knowledge, Innovation and Enterprise, KIE Conference Proceedings, Volume IX 2021**—and selected papers will be published in the associated journal of the conference—see www.ijkie.org*

Research Papers on Knowledge, Innovation and Enterprise

2020 KIE Conference Publications:

Creativity Research 1950-2020: Reflections on JP Guildford's APA Presidential Address
Research Papers on Knowledge, Innovation and Enterprise, Volume VIII

ISBN 978-1-85925-232-1

Published in London by KIE Publications
Printed in Great Britain by
Corporate Document Services, Leeds, United Kingdom

Research Papers on knowledge, Innovation and Enterprise

Editor
James Ogunleye, PhD
Middlesex University, UK

Peer Review Process
All research articles in the *Research Papers on Knowledge, Innovation and Enterprise*, KIE Conference Proceedings, have undergone peer review, based on initial editor screening by at least two anonymous referees.

CONTENTS

Editorial

As always, this eighth volume of the *Research Papers on Knowledge, Innovation and Enterprise, KIE Conference Proceedings,* is dedicated to papers submitted to the *International Conference on Knowledge, Innovation and Enterprise* which was held on 21-23 July 2020. The 2020 edition of the annual conference was virtual due to the coronavirus pandemic that continues to ravage the globe.

The first paper by Mncube, Olawale & Hendricks examines technology adoption and implementation in teaching and learning especially the extent to which secondary school teachers use e-learning—or ready to use eLearning. The paper finds that 'although teachers have access to digital tools and devices, high school teachers do not integrate e-learning in their teaching methods [likewise], information sharing in high schools are still paper-based.' This is in addition to the challenges of internet connectivity. The paper recommends that education policy makers should 'introduce directive policies governing the use of digital technology in schools' as well as 'provide an adequate internet bandwidth.'

The second paper by Agomo, Portlock & Ogunleye is part of a much larger study on undergraduate pharmacy curriculum in the UK, focusing particularly on the extent to which public health-related topics are integrated into traditional pharmacy modules. The paper finds among others that Pharmacy Schools have a strong preference for traditional pharmacy curricula modules while public health remains an optional module.

The third paper by Mncube & Zondo investigates the 'dynamics of school governing bodies participation in the construction and implementation of code of conduct for learners' in the KwaZulu-Natal province in South Africa. The paper finds limited participation of parents and learners 'in the process of drawing up and implementing a learners' code of conduct'. The paper recommends the training of members of schools governing boards on 'democratic school governance' in decision making as relates to learners' code of conduct.

Dennett's paper—'A Strategy for Creating Learning transformation through the Development of an immersive Digital Experience for Advertising/PR and Marketing Teaching and Learning'—the fourth in this volume, 'explores the use of a Socratic approach to teaching and learning that allows students to co-create a course experience through a mix of active and passive learning environments.' The paper finds that using a Socratic approach to teaching and learning increased students' 'overall understanding, motivation and engagement.'

The fifth paper by David Sledge conceptualises PACH—Playing Architectural Creativity Heuristics—as a pedagogical tool in development for architectural education. The paper explores how the use of tool like PACH can help 'close scholarship gaps between architecture students' creative self-efficacy, assessments and evaluations, and design projects.' The sixth paper by Bridget C. Ujah-Ogbuagu, a research study, evaluates social media overindulgence and the implications on academic Productivity in Nigeria.

So, despite the ravaging global pandemic, the KIE is pleased to serve you with another varied set of interesting papers. Enjoy.

James Ogunleye, PhD, FRSA
Chairman, 2020 KIE Conference

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP.7-22

Exploring teachers' readiness for e-Learning: On par with the Fourth Industrial Revolution?

VUSI MNCUBE, EMMANUEL OLAWALE & WINSTON HENDRICKS
University of Fort Hare, South Africa

Abstract

This quantitative study used a questionnaire as a method of data collection. Located within a positivist paradigm, the study investigated teachers' readiness on the use of eLearning in the Eastern Cape Department of Education. Data was analysed using descriptive statistics. Respondents in the study was a total of 10 school principals selected from 10 secondary schools in the province of the Eastern Cape, South Africa. Research results revealed that although teachers have access to digital tools and devices, high school teachers do not integrate e-learning in their teaching methods, also information sharing in high schools are still paper-based. However, findings revealed that unavailability of internet connectivity is one of the major challenges that hinders teachers' e-readiness. The study, therefore, recommends that if teachers in South African schools are to be ready for the use of digital tools and resources, the Department of Basic Education (DBE) needs to introduce directive policies governing the use of digital technology in schools and also provide an adequate internet bandwidth that will ensure faster and reliable connectivity, hence facilitating readiness for the Fourth Industrial Revolution.

Keywords: eLearning, the Fourth Industrial Revolution, digital devices, digital learning, digital tools and resources

Introduction

Over the past two decades, information, communication and Technology (ICT) has transformed higher education (Hammond, 2013). In particular, the use of digital learning technologies, smart phones, broadband connectivity to internet and social media have brought substantial changes to the way schools (universities and colleges) provide learning opportunities for students. Therefore, the technical ability to interact online has quickly emerged into collaborative learning activities, such as online forum discussions, which remained an essential feature of online education (Harasim, 2000). However, as interactive technology became more affordable and user friendly, technology driven pedagogical changed and has begun a process of transforming of teaching and learning in higher education. Thus, this transformation has shifted education from teacher-centred (traditional) to student-centred (modern) pedagogy where students have more responsibility for their own learning (Koch, 2014).

In the globalised world of the 21st century where the promises of e-learning for organizations are multi-fold, organisations are confronted with a chal-

lenging economic competition. Employees need to be equipped with new competences to adapt to constantly changing work and life conditions in knowledge-based economies and societies (Schreurs, et al., 2008). Therefore, organizations need to be ready to adopt e-learning and benefit from its advantages. According to Song (2010), the concept of e-readiness emerged in early 2000 and measures the preparedness of institutions and countries to take part in the digital economy. By so doing, it provides a framework for evaluating the digital divide between various countries (Song, 2010).

Kingori (2014) defines e-readiness as a measure of the degree to which a country, nation or economy may be ready, willing or prepared to obtain benefits which arise from ICTs. This however includes the ability to adapt to technological challenges, collaborative training and synchronous as well as asynchronous self-paced training (Colvin & Mayer, 2008). Therefore, e-readiness can be assessed using four interrelated variables which are human skills, infrastructure, access and connectivity (Wu, 2012).

The Nature and Benefits of E-Learning

ICTs have been touted as potentially powerful enabling tools for educational change and reform and many of the productivity gains in the developed world economies over the past decade to a great extent can be attributed to the impact of ICT (Kiilu & Muema, 2012). However, for a country to effectively adopt ICTs, it must be "e-ready". Hence, e-readiness is achieved by providing the requisite infrastructure and ensuring the populace have access to ICTs (Arkorful & Abaidoo, 2014; Sitienei, 2015; Cloete, 2017). Increasingly, governments, educational organizations and researchers are supporting the view that incorporating ICTs in teaching and learning is an important aspect of keeping the curriculum relevant and preparing students for the future (Njagi, 2013). It is also believed that ICTs have the potential to revolutionize pedagogical methods, expand access to quality education, and improve the management of education systems (Owino, 2013). In addition, ICTs can provide an array of powerful tools that may help in transforming the present teacher-centred and text-bound classrooms into rich, student-focused, interactive, knowledge-based environments (Sitienei, 2015). Hence, the method of learning which uses electronic instructional contents delivered via the internet is referred to as e-learning (Njuguna, 2013).

Aldhafeeri & Khan (2016) refers to e-learning system as a systematic process of planning, designing, evaluating, and implementing online learning environments where learning is actively fostered and supported. Therefore, a wide range of systems falls into the e-learning purview which ranges from students using email and accessing course work online while following a course on campus to programs offered entirely online (Mercado, 2008). Hence, this type of ICT enhanced learning is increasingly prominent. Therefore, for successful e-learning, a comprehensive understanding of the issues related to various dimensions of e-learning and the needs, capabilities, interests, and willingness of all major stakeholder groups, including instructors and students, is sorely needed (Chapnick, 2005).

E-learning is a crucial component of the powerful, fast, and disruptive transformations that the world of education is going through (Sangrà, et al., 2012). Hence, the benefits of this form of learning include the ability to easily deliver distance learning, the facilitation of a blended learning/teaching approach that involves both face-to-face interactions and the fact that it enables a variety of differ-

ent educational activities to be supported by technology (Smythe, 2012). In a globalized and knowledge-based information society, every community is trying to transform itself into an information society. Therefore, the advancement of information technology has great potential for education and training. However, today's youth live in the Web 2.0 era; where the internet is used to communicate, publish, share contents and to form vital teams (Alajmi, 2010). Therefore, taking advantage of today's advanced technology to raise the educational level to a higher level and shrink the digital divide becomes paramount (Elges, et al., 2006).

Like any other major innovation, e-learning strategies require considerable up-front analysis, development time, money, technological infrastructure, and leadership support to be successful. Tubaishat & Lansari (2011) recommends that organizations assess readiness for e-learning before adopting this innovation because the adoption of e-learning without careful planning would most likely result in cost overruns, unappealing training products, and failure. Hence, one of the most critical front-end tasks of any e-learning initiative is to conduct a comprehensive assessment of its organizational and individual readiness factors (Tubaishat & Lansari, 2011). According to Farid (2014), effective e-learning readiness allows educational institutions to improve performance and productivity by responding to the demands of the learners and making learning available. Therefore, e-learning readiness depends on the availability of organizational assessment of attitudes towards the choice of the mode of e-learning (Vilkonis, et al., 2013).

Integration of Digital Device and Resources for teaching and learning

Integration of digital technologies in schooling is positioned as a mechanism for educational reform via transformation of teacher practice (Hammond, 2013) and to actualize digital learning. Digital technologies are however positioned as Vygotskian mediating tools to facilitate change in schools, improving standards and facilitating personalized learning (Fullan, 2013). They are also necessary to satisfy curriculum expectations and facilitate Science-Technology-Engineering Mathematics (STEM) education (AiGroup, 2016). Like film, radio, and television, digital technologies are positioned as important tools for reformation or transformation of schooling (Howard & Mozejko, 2015). Rationales for the integration of digital technologies include improving standards; increasing vocational relevance; contributing to knowledge-based economies; enriching learning experiences; transforming pedagogy to make it more student-centred, constructivist in nature, and with a focus on higher-order learning; and facilitating personalized learning (Fullan, 2013; Hammond, 2013).

However, e-Learning has been integrated into many educational institutions to reap the benefits of the rapid developments in technology that assist in improving the learning experience and increasing its efficacy. As a result, many governments and educational institutions implement e-Learning in order to improve learners' performance (Taha, 2014). Although e-Learning has been successfully implemented in many educational settings, the implementation of E-Learning projects has every possibility to face slow progress (Neyland, 2011; Frimpon, 2012). According to Andersson (2008), the dropout rates of E-Learning education particularly in the developed world are usually much higher than that of a traditional classroom-based teaching. Hence, the percentage of dropouts from course units provided within an E-Learning environment ranges between 20 and 40% (Kim & Park, 2011; Rostaminezhad, et al., 2013).

Accessibility and Usage of Digital tools and resources

However, there are voluminous studies that report on why teachers are not ready to use technologies and these reasons includes lack of competence, knowledge, autonomy, skills, access, time, resources, training, and technical support which represents almost all that is necessary to engage in e-Learning. (Davids, 2009; Chigona, et al., 2010). The counter to this is that even if technologies were available, and the knowledge and skills exist, research has evidenced that these were not conditions that automatically resulted in adoption and use (Thaufeega, 2016). Research has also shown that readiness for eLearning depends on access, technological skills, study habits and skills, and self-directedness in learning (Thaufeega, 2016).

Njagi (2013) stated that before embarking on e-learning implementation, it is crucial to decide on the commencement and model of e-learning to create a strong technology plan for teachers. This is because the barriers to the effective use of technology involve teachers' attitudes and resistance to change, training deficiencies and inadequate access (Njagi, 2013). Owino (2013) however added that the implementation of e-learning in the developing countries is slowed by low connectivity (low bandwidth) and accessibility, inadequate telecommunications infrastructure, lack of reliable power supply, among other challenges. Therefore, for successful implementation of e-learning, e-learning readiness must first be established (Owino, 2013).

However, Broadbent (2001) stated that eLearning does not require a vast infrastructure, a reliable Internet connection and sufficient computers for participants would be adequate for effective eLearning to take place. Similarly, Fathaigh (2002) states that a basic prerequisite of online learning is the access to a reliable and secure internet connection and a computer or other such device. Additionally, Globokar (2010) claims that access to technology, comfort of using the technology, reliability of technology, ability to logon frequently and technological skills are important technological aspects of e-learning readiness (Globokar, 2010). Therefore, adequate level of access is essential for eLearning, and provision of such access would also become part of institutional readiness for e-learning.

Rhema & Miliszewska (2014) however stated that in assessing how developing countries have progressed with eLearning, access to convenient and reliable ICT infrastructure is the most important factor that had been noted. In developing nations, the traditional print-based means of learning is still the most common and not the web-based learning methods, which is due to the fact that for developing nations traditional means of learning are more sustainable and reliable (Rhema & Miliszewska, 2014). While e-learning provides several benefits to educational settings which enhance the quality of education and develop the learning environments, conversely there remain many challenges which hinder the exploration and utilization of its opportunities (Al-kharang & Ghinea, 2013). Hence the need to investigate teachers' readiness for e-learning in South African schools in the 21st century.

Theoretical Framework

This study is underpinned by Khan's Octagonal e-Learning Theory (Khan, 2003).

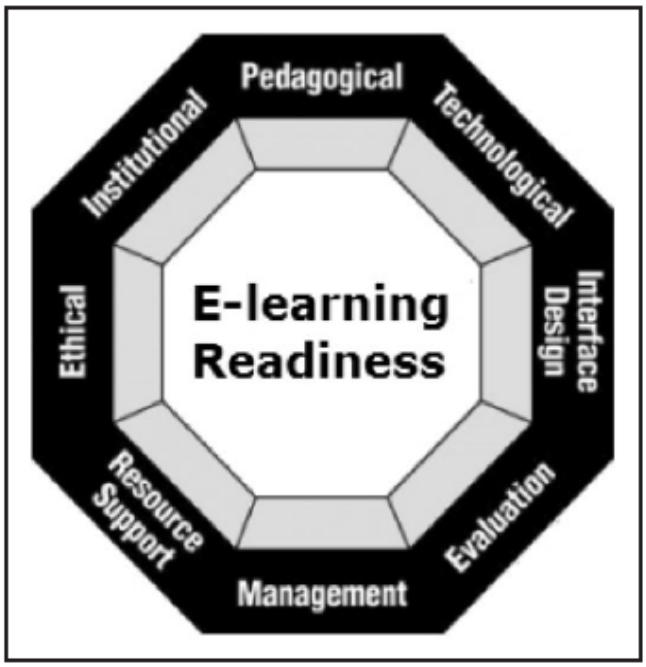


Figure 1: e-learning readiness framework (adapted from Khan, 2003)

Badrul Khan's e-learning framework which is also referred to as Khan's Octagonal Framework (because of its octagonal shape representing the eight dimensions of the e-learning environment) provides a framework that enables educators to select appropriate ingredients for flexible learning environments. Khan's framework consists of eight dimensions namely: institutional, pedagogical, technological, interface design, evaluation, management, resource support and ethical. Each of these dimensions in the framework represents a category of issues that need to be addressed in order to create a meaningful learning experience (Singh, 2003). Khan (2001, 2005a, 2007, 2012) developed a comprehensive framework for e-learning by clustering various e-learning issues and factors into eight critical dimensions of the e-learning environment: pedagogical, institutional, technological, interface design, evaluation, management, resource support, and ethical. Each dimension has several sub-dimensions, and each sub-dimension consists of issues related to a specific aspect of an e-learning environment that must be considered to assess readiness (Morrison, 2003).

Therefore, a comprehensive assessment of e-learning's organizational and individual readiness factors includes critical perspectives from major stakeholder's groups, including students and teachers. Hence, e-learning readiness assessment allows the user to design comprehensive e-learning strategies and effectively implement information and communication technology goals (Aldhafeeri & Khan, 2016).

Research Problem

The delivery of education has shifted from the traditional method of curriculum delivery to a digital format of delivery using available technology. Also, studies such as Owino (2013); Arkorful & Abaidoo (2014); Popovici & Mironov (2015); Basak, et al. (2017) have revealed the e-learning benefits in the teaching and learning process around the world including several factors that affect the use of e-learning at universities. Popovici & Mironov (2015) revealed that one of the factors affecting the use of e-learning is the technology readiness factor. However, without e-learning readiness, e-learning benefits will not be reaped and the probability of failure in adopting e-learning will be high. Therefore, this study seeks to investigate South African school teacher readiness for el-earning to achieve the delivery of quality education.

Research Questions

This study was guided by a main research question and several sub-questions. The main research question was: what is the level of South African school teachers' readiness for eLearning in the 21st century? The sub-research questions are the following: 1) Do South African School teachers have access to digital device and resources in their schools? 2) Do South African school teachers use educational technologies for teaching and learning? 3) Do South African school teachers share information using digital tools and resources? 4) What are the challenges of using digital devices and resources in South African Schools?

Methodology

This quantitative study used a questionnaire as a method of data collection. Located within a positivist paradigm, the study investigated teachers' readiness on the use of e-learning in the Eastern Cape Department of Education. Data was analysed using descriptive statistics. The population for the study consists of all ten (10) high school educators in the Eastern Cape Province in South Africa. The sample of the study consist of 10 respondents who are educators in high schools, participants were purposively selected because of their understanding and information about the phenomena under study. Principals of schools participating in the COL Teacher Futures programme were requested to complete a survey form and quantitative data generated were analysed descriptively.

Results

The results are presented under the following sub-headings which are: access to digital devices and resources in south African schools, usage of digital tools and resources for teaching and learning in schools, information sharing using digital tools and resources, and internet connectivity as a challenge to effective use of digital resources.

Access to Digital Devices and Resources in South African schools

Principals of the ten (10) participating schools gave feedback on the access to digital devices and resources as regard their readiness for its use in the teaching and learning process in South African Schools.

As shown in figure 2 below, 60% of the principals surveyed either strongly agreed or agreed to the question about access to digital devices and resources in schools. The latter is contrasted with 40% of the principals who either disagreed or strongly disagreed with the question.

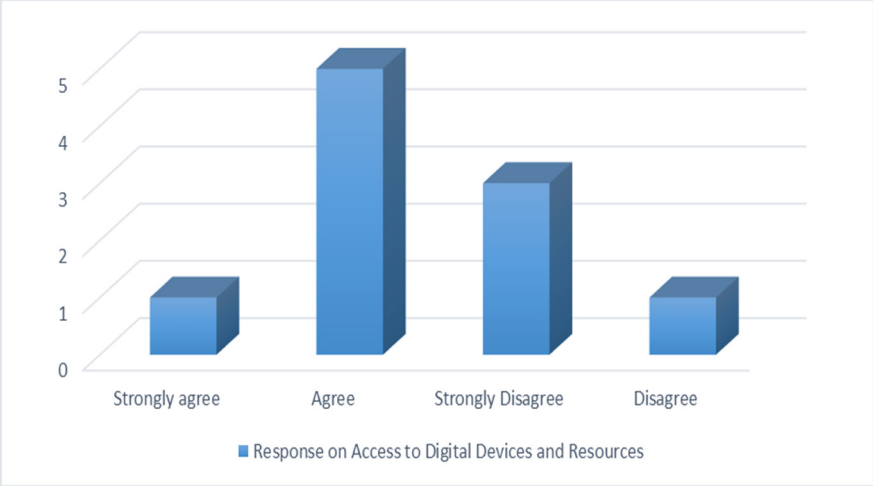


Figure 2: Participants Response on Access to Digital Devices and Resources

Usage of Digital tools and resources for teaching and learning in South African Schools

Principals of the ten (10) participating high schools gave the feedback on the usage of digital devices and resources in exploring curriculum contents in demonstrating readiness for its use in the teaching and learning process in South African Schools. Results on figure 3 indicated that 30% of the participants agreed that they use digital tools and devices in exploring curriculum contents while 70% of the participants strongly disagree on the use of digital tools and devices for exploring curriculum.

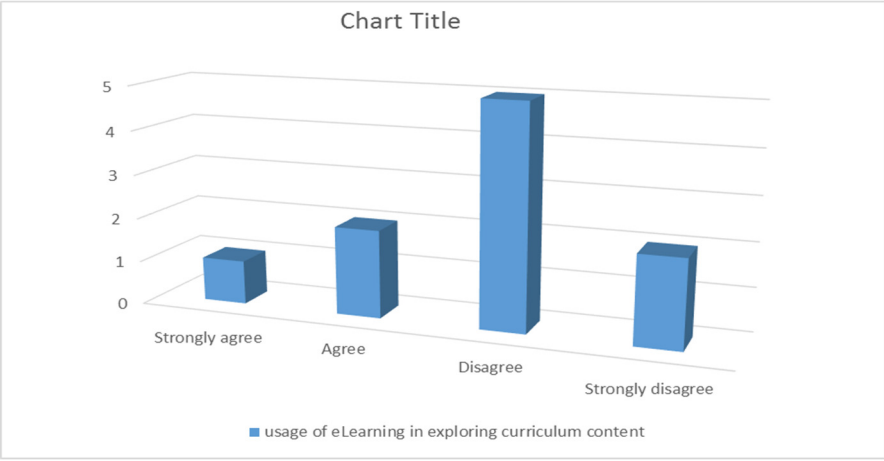


Figure 3: Usage of Digital tools and resources in teaching and learning

Information sharing using Digital tools and resources

Principals of the ten (10) participating high schools gave feedback on sharing of educational information using digital tools and resources in South African high schools. As shown in figure 4 below, 10% of the participants agreed that information shared in schools are through digital tools and devices while 90% of the participants disagreed by stating that educators in high schools do not employ digital tools in information sharing.

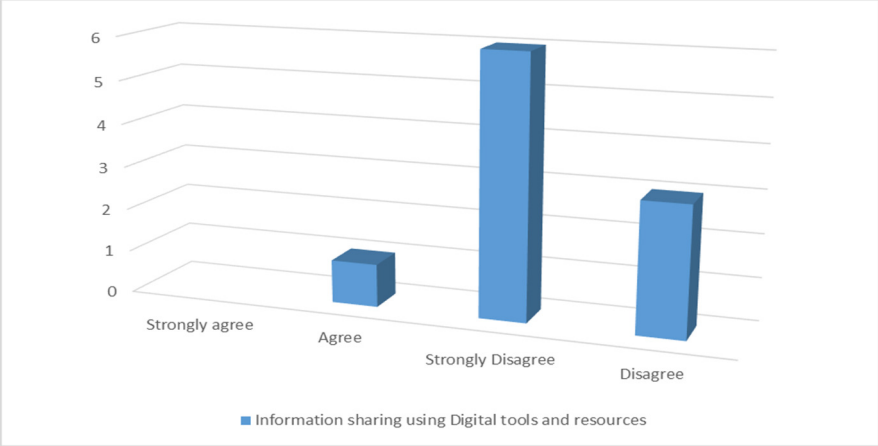


Figure 4: Information sharing using digital tools and resources

Internet connectivity as a challenge to effective use of Digital Resources

Principals of the ten (10) participating high schools gave feedback on poor internet connectivity has a hindrance to teachers' readiness on the use of digital tools and devices for the teaching and learning in South African Schools**.** Findings from figure 5 indicated that 40% of the participants agreed that their school has internet connectivity while 60% of the participant disagree on availability of internet connectivity among many other hindering factors. Hence, unavailability of internet connectivity hinders teachers' readiness and does not encourage the use of digital devices.

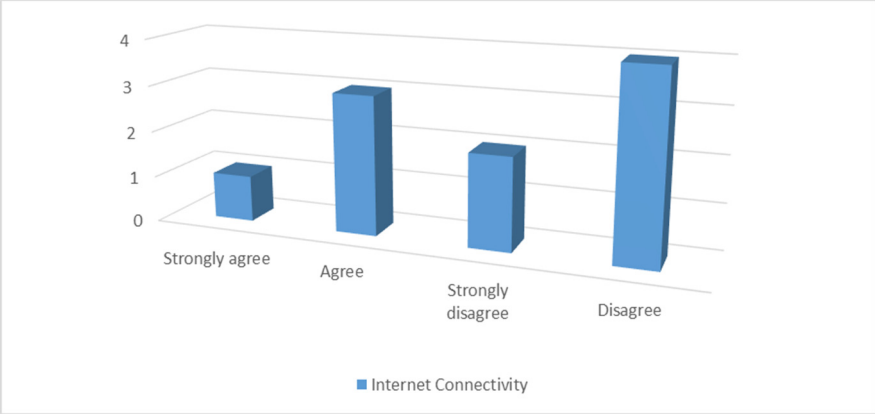


Figure 5: Internet Connectivity for Digital Device and Resources

Discussion of Findings

Discussions will be presented under the following themes: Access to Digital Devices and Resources in South African Schools; Usage of Digital tools and Resources for teaching and learning in schools; Information Sharing using Digital tools and Resources, and Internet connectivity as a challenge to effective use of Digital Resources.

Access to Digital Devices and Resources in South African schools

The findings on South African Schools access to digital devices and resources revealed that high school teachers in South Africa have access to digital devices and resources for teaching and learning. Hence, the findings of the study are in line with Gillwald, et al. (2018) who stated that South African schools outstrips other African countries in terms of access to digital devices and resources. Furthermore, Modelling undertaken on the data from the ICT access and use survey conducted by Gillwald, et al. (2018) confirms that demand for telecommunications services is significantly driven by income and education level (Gillwald, et al., 2018). Further, the overall GNI per capita masks the level of income inequality in the country. Even though South Africa performs well in this measure, there is evidence that communications services are not affordable to the majority of South Africans at the bottom of the pyramid (Gillwald, et al., 2018). The results are evidence that, even though the telecommunication industry is well developed, traditional universal access policies focusing primarily on supply-side interventions create only some of the necessary conditions for access. Unaffordability, lack of local content and the lack of skills are all barriers that limit meaningful access and contribute to digital inequality in South African Schools (Gillwald, et al., 2018).

Usage of Digital tools and resources for teaching and learning in South African Schools

Findings from the principals on the usage of digital tools and resources revealed that high school teachers do not use digital tools and devices for exploring curriculum content. The findings of this study is however in line with Dagada (2013) who stated that most teachers do not make use of digital tools because they lack the understanding of the complex relationships between content, pedagogy and the technology to be integrated into the curriculum delivery. Dagada (2013) therefore suggest that there is a need for schools to assist teachers to improve their technological pedagogical content knowledge if the institutions are to successfully domesticate e-learning platforms.

Similarly, Keengwe & Georguna (2013) opined that the integration of technology into education could meet the needs of the Millennials as the generation currently attending universities. Keengwe & Georguna (2013) further describe the characteristics of this generation as wanting to construct their own learning content and process, wanting to work in teams and have sophisticated knowledge and skills of information technologies. At the same time, they are cautious about the instrumentalist understanding and use of technology, whereby technology is understood as an end in itself. Keengwe & Gergina (2013) therefore stated technology should not drive instruction, but should rather be integrated into the curriculum and not the other way around because 'Technology is not a substitute for good instruction' (Keengwe & Gergina, 2013).

Information sharing using Digital tools and resources

Findings revealed that information sharing among teachers and students in South African high school is still paper based as majority of the participants disagreed by stating that educators in high schools do not employ digital tools in information sharing. This finding is however in line with Netteland, et al. (2007) who stated that information sharing through digital devices is a critical factor in the implementation of e-learning. Netteland, et al. (2007) further stated that a number of factors which may contribute to disturbance in information sharing include but not limited to weaknesses in the implementation of e-learning, a missing understanding in e-learning activity, a need for a shared digital access point to update information and a need to prepare for integration of learning and work (Netteland, et al., 2007). Pappas (2016) therefore stated that improved productivity and efficiency, increased learners participation, optimization of e-learning feedback system and collaborative learning are the benefits of knowledge/information sharing in e-learning.

Internet connectivity as a challenge to effective use of Digital Resources

However, a major obstacle identified in this study concerns the unavailability of internet connectivity which hinders teachers' readiness and does not encourage the use of digital devices. Hence the findings of the study is in line with Khumalo, et al. (2015) who stated that poor provision of ICT infrastructure, lack of electricity, shortage of educational resources and poor or no internet connectivity impact negatively on the use of eLearning. Therefore, the provision of internet access to schools and rural areas is a major boost to the Information Communication Technology for Development (ICT4D) activities in every developing country (Dalvit, et al., 2014). Hence, setting up the broadband connection in these areas would mean great investment in the e-learning, e-commerce and other economic activities (Khan, 2015). Fathaigh (2002) therefore concludes that access to stable internet is a basic prerequisite of online learning; also, the access to technology off-campus, comfort of technology, reliability of technology, ability to logon frequently and software skills are important technological aspects of eLearning readiness (Greaves, 2008).

In relation to exploring South African teachers' readiness for e-learning, findings generally revealed that although high school teachers have access to digital devices in their schools for teaching and learning, teachers do not integrate e-learning in their teaching methods, also information sharing in high schools are still paper-based. Findings also revealed that poor or unavailability of internet connectivity hinders teachers' e-readiness.

Conclusions

Access to high-quality and rich education is the main goal of any education system. E-learning is provides opportunity for teachers in schools to improve their skills to meet the demands of lifelong learning, but the implementation of e-learning needs to be well prepared for and managed and this is why it is important for schools to know if they are e-ready.

This paper investigated South African's high schools state of readiness to enjoy the benefit of technology enhanced learning. The paper focused on high schools' access to digital device and resources, the use of digital device and resource for teaching and learning, information sharing using digital device and resources and lastly, the challenges faced in using digital devices and resources.

The paper concluded that if teachers in South African schools are to be ready for the use of digital learning and technologies, the Department of Basic Education (DBE) needs to introduce directive policies governing the use of digital technology in schools and also provide an adequate internet bandwidth that will ensure faster and reliable connectivity, hence facilitating easier access to e-learning in the 21st century.

Recommendations

In a globalised knowledge economy, enabled by an increasingly pervasive digital, networked world, where eLearning possibilities are being explored by educational institutions, where learning and teaching is and can now be designed to enable learning anywhere and at any time, this study recommends that teachers should endeavour to implement digital tools in their teaching methods. Teachers in South African schools should shift from a teaching method that is highly dependent on physical infrastructure such as schools and colleges, physical learning materials, and in class education delivery to a teaching method that makes extensive use of interactive education technology. However, in other to achieve the former, the study recommends that the Department of Basic Education (DBE) should introduce directive policies that governs the use of digital technology in schools as well as provide adequate internet bandwidth that will ensure faster and reliable connectivity.

Limitations of the Study

This study has some limitations that were considered when interpreting its findings. Firstly, this study is limited to high school principals in the Eastern Cape province, South Africa. Secondly, this study adopted a quantitative approach that included a survey strategy with questionnaires for principals of schools to establish a baseline of school needs and their readiness for e-learning. However, the research could have more validity if this study adopted mixed methods of quantitative approach (questionnaires) and qualitative approach (interviews) to reveal the e-learning readiness state of high schools in the Eastern Cape, South Africa.

Implications for Policy and Practice

This study showed that access to digital devices for teaching and learning are not obstacles towards e-learning readiness in South African schools. However, obstacles to e-learning readiness are teachers unwilling attitude to integrate e-learning in their teaching method and the poor or unavailability of internet connectivity in schools. Therefore, schools should develop their own operational plans, guidelines, indicators and strategies for e-Learning based on the provincial operational plans. Also, ICT directors should work with relevant stakeholders to refine and implement draft policies that are available in the Eastern Cape province to ensure the availability of internet connectivity in schools. Finally, there should be a revision of the current White Paper 7 on e-Education (DoE, 2004) to include a set of richer and more concise guidelines, and indicators for e-Learning in South African schools.

Correspondence
Professor Vusi Mncube
Dean, Faculty of Education
University of Fort Hare
Private Bag X1314
Alice, 5700, South Africa
Email: vmncube@ufh.ac.za

Mr Emmanuel Olawale
Faculty of Education
University of Fort Hare
Private Bag X1314
Alice, 5700, South Africa
Email: bolawale@ufh.ac.za

References

AiGroup, (2016). *STEM programme index 2016.* [Online] Available at: https://www.chiefscientist.gov.au/wp-content/uploads/SPI2016_release.pdf

Alajmi, M., (2010). *Facultys Members' Readiness for e-learning in the colleges of Basic Education in Kuwait.* Texas: Unpublished PhD Dissertation of the University of North Texas.

Aldhafeeri, F. & Khan, B., (2016). Teachers' and Students' Views on E-Learning Readiness in Kuwait's Secondary Public Schools. *Journal of Educational Technology,* 45(2), p. 202–235.

Al-kharang, M. & Ghinea, G., (2013). E-learning in Higher Educational Institutions in Kuwait: Experiences and Challenges. *International Journal of Advanced Computer Science and Applications (IJACSA),* 4(4), pp. 1-6.

Andersson, A., (2008). Seven Major Challenges for E-Learning in Developing Countries Case Study eBIT, Sri Lanka.. *International Journal of Education and Development using Information and Communication Technology (IJEDICT),* 4 (3), pp. 45-62.

Arkorful, V. & Abaidoo, N., (2014). The role of e-learning, the advantages and disadvantages of its adoption in Higher Education. *International Journal of Education and Research,* 2(12), pp. 397 - 410.

Basak, S., Wotto, M. & Bélanger, P., (2017). Factors affecting to e-learning in continuing education in Africa: A review of literature. *International Journal OF Engineering Sciences & Management Research (IJESMR),* 4(1), pp. 86-97.

Bowles, M., (2004). *Relearning to e-learn: strategies for electronic learning and knowlzdge.* Melbourne : Melbourne University Press..

Broadbent, B., (2001). *Tips to help decide if your organisation is ready for eLearning.* [Online]. Available at: http://icde.net/en/arshive/articles/012.htm.

Chapnick, S., (2005). *Are you ready for e-learning? Learning Circuits: ASTD's Online Magazine All About e-learning,* s.l.: s.n.

Chigona, A., Chigona, W., Kausa, M. & Kayongo, P., (2010). An empirical survey on domestication of ICT in schools in disadvantaged communities in South Africa. *International Journal of Education and Development Using Information and Communication Technology (IJEDICT),* 6(2), pp. 21-32.

Cloete, A., (2017). Technology and Education: Challenges and Opportunities. *HTS Teologiese Studies/Theological Studies,* 73(4), pp. 2-7.

Colvin, R. & Mayer, R., (2008). *E-learning and the science of instruction.* California: John Wiley.

Dagada, R., (2013). Integration of E-Learning into Curriculum Delivery at University Level in South Africa. *International Journal of Online Pedagogy and Course Design,* 3(1), pp. 53-56.

Dalvit, L., Kromberg, S. & Miya, M., (2014). *The Data Divide in a South African Rural Community: A Survey of Mobile Phone Use in Keiskammahoek.* Cape Town, South Africa, s.n., pp. 17-21 .

Davids, Z., (2009). *The educators' perspective of the factors that influence the success of ICT school initiatives within the Western Cape..* University of Cape Town, South Africa: Unpublished MCom (Information Systems) dissertation, University of Cape Town, South Africa..

Elges, P., Righettini, M. & Combs, M., (2006). Professional development and recursive e-learning. *Computers in the Schools,* Volume 23, pp. 45-57.

Farid, A., (2014). Student online readiness assessment tools: A systematic review approach.. *Electronic Journal of e-Learning,* 12(4), pp. 375–382.

Fathaigh, M. ., (2002). *ELearning and Access: Some Issues and Implications.* University of Bath., University of Bath..

Frimpon, M., (2012). A Re-Structuring of the Critical Success Factors for E-Learning Deployment. *American International Journal of Contemporary Research,* 2(3), pp. 115-123.

Fullan, M., (2013). *Stratosphere—Integrating technology, pedagogy, and change knowledge..* Toronto: Pearson.

Gillwald, A., Mothobi, O. & Rademan, B., (2018). *The State of ICT in South Africa.* Cape Town: International Development Research Centre (IDRC).

Globokar, J., (2010). *Introduction to online learning: A guide to students.* s.l.:Sage.

Greaves, N., (2008). *Are your students ready to study in an online or blended learning environment,* s.l.: s.n.

Hammond, M., (2013). Introducing ICT in schools in England: Rationale and consequences. *British Journal of Educational Technology,* 45(2), pp. 191-201.

Harasim, L., (2000). Shift happens: Online education as a new paradigm in learning.. *The Internet and Higher Education,* 2(1-2), pp. 41−61.

Keengwe, J. & Gergina, D., (2013). 'Supporting digital natives to learn effectively with technology tools'. *International Journal of Information and Communication Technology Education,* 9(1), pp. 51–59.

Khan, B., (2003). *A framework for E-learning,* s.l.: s.n.

Khan, S., (2015). *South Africa's National Broadband Policy Purpose – SA Connect.,* s.l.: s.n.

Khumalo, B., Molepo, G. & Mji, A., (2015). *Perceptions of school principals on the challenges arising from unavailability of information and communication technologies (ICT) in rural South African Schools.* Manhattan Hotel Pretoria, South Africa, s.n., pp. 21-23.

Kiilu, R. & Muema, E., (2012). "An E-Learning Approach to Secondary School Education": E-Readiness Implications in Kenya. *Journal of Education and Practice,* 3(16), pp. 142-148.

Kim, S. W. & Park, S. S., (2011). *Analysis of Factors for Adult Female Learners' Dropout in e-Learning.* s.l., s.n., pp. 1934-1939.

Kingori, G., (2014). *An Intelligent Subtopics Suggested for an E Learning System.* University of Nairobi: Unpublished Masters Thesis, University of Nairobi.

Mercado, C., (2008). *Readiness Assessment Tool for an eLearning Environment Implementation.* Bangkok, Thailand, s.n., pp. 11-12.

Morrison, J., (2003). *The global e-learning framework: An interview with Badrul Khan..* s.l.:A Publication of the Michigan Virtual University.

Netteland, G., Wasson, B. & Mørch, A., (2007). E-learning in a large organization: A study of the critical role of information sharing. *Journal of Workplace Learning,* pp. 392-411.

Neyland, E., (2011). Integrating online learning in NSW secondary schools: Three schools' perspectives on ICT adoption.. *Australasian Journal of Educational Technology,* 27(1), pp. 152-173.

Nhando, D., (2015). *3 Key Challenges Of Implementing eLearning In Africa.* [Online] Available at: https://elearningindustry.com/3-key-challenges-implementing-elearning-in-africa

Njagi, M., (2013). *Assessment of the Status of E learning as Course Delivery Method in Public Universities in Kenya.* University of Nairobi.: Unpublished Masters Project. University of Nairobi..

Njuguna, G., (2013). Factors Influencing the Use of E learning in Public Universities in Kenya. *International Education Journal,* 2(3), pp. 89–95.

Owino, O., (2013). *The Impact of E learning on Academic Performance: A Case Study of Group Learning Sets..* University of Nairobi: Unpublished Masters Project. University of Nairobi.

Pappas, C., (2016). *Tips To Facilitate Knowledge Sharing In eLearning.* [Online] Available at: https://elearningindustry.com/tips-facilitate-knowledge-sharing-elearning

Popovici, A. & Mironov, C. .., (2015). Students' perception on using eLearning technologies. *Procedia - Social and Behavioral Sciences,* Volume 180, pp. 1514-1519.

Rhema, A. & Miliszewska, I., (2014). Analysis of student attitudes towards eLearning: The case of engineering students in Libya. *Journal on Issues in Informing Science and Information Technology,* Volume 11, pp. 169-190.

Rostaminezhad, M., Mozayani, N., Norozi, D. & Iziy, M., (2013). Factors Related to E-learner Dropout: Case Study of IUST Elearning Center.. *Social and Behavioral Sciences,* Volume 83, pp. 522 – 527.

Sangrà, A., Vlachopoulos, D. & Cabrera, N., (2012). Building an Inclusive Definition of E-Learning: An Approach to the Conceptual Framework. *The International Review of Research in Open and Distance Learning,* 13(2), pp. 146-159.

Schreurs, J., Ehler, U. & Moreau, R., (2008). *Measuring e-learning readiness,* s.l.: s.n.

Singh, H., (2003). Building effective learning programs. *Educational technology,* 43(6), pp. 51-54.

Sitienei, P., (2015). *e-Learning readiness and ICT usage among public primary schools in Athi River Sub-county.* University of Nairobi: An Unpublished M.Ed. Thesis, University of Nairobi.

Smythe, M., (2012). Toward a framework for evaluating blended learning . In: *Future challenges, sustainable futures.* Wellington: Proceedings Ascilite, pp. 854-858.

Song, S., (2010). *E-learning: Investigating students' acceptance of online learning in hospitality programs.* Iowa state University: Doctoral dissertation. Iowa state University.

Taha, M., (2014). *Investigating the Success of E-Learning in Secondary Schools: The Case of the Kingdom of Bahrain.* Brunel University: Unpublished PhD Dissertation.

Thaufeega, F., (2016). *Institutional and Learner Readiness for eLearning in the Maldives.* Brunel University London: Unpublished PhD Dissertation of the College of Business, Arts and Social Science, Brunel University London.

Tubaishat, A. & Lansari, A., (2011). Are students ready to adopt e-learning? A preliminary e-readiness study of a university in the Gulf region. *International Journal of Information and Communication Technology Research,* 5(1), pp. 210 –215.

Vilkonis, R., Bakanoviene, T. & Turskiene, S., (2013). Readiness of adults to learn using e-learning, m-learning and t-learning technologies. *Informatics in Education: An International Journal,* 12(2), pp. 181–190.

Wu, H., (2012). Designing a reusable and adaptive e-learning system. *Journal of Business and Management,* 2(3), pp. 14–20.

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP.25-39

A Content Analysis of the UK Undergraduate Pharmacy Curriculum, including its Public Health Content

CHIJIOKE O. AGOMO
Middlesex University, UK

JANE PORTLOCK
University of Sussex, UK

JAMES OGUNLEYE
Middlesex University, UK

Abstract

Public health remains a tiny portion of the undergraduate pharmacy curriculum and the material is integrated into other modules**.** The aim of the study was to describe the UK undergraduate pharmacy curriculum, including its public health content. A qualitative method (content analysis of websites) was used to describe the UK undergraduate pharmacy curriculum and teaching and learning policy. This involved selecting relevant concepts and then quantifying their presence and the relationships between them**.** The NVivo software was used to carry out 'group queries' and visualisation of results. The paper found that public health remains an optional module in the curricula of many UK schools of pharmacy. Several public health-related topics are often integrated into other modules, but UK undergraduate pharmacy curricula are still dominated by traditional pharmacy modules. The paper concluded that most of the curricula analysed were dominated by traditional pharmacy modules designed to enhance students' knowledge and skills. The skill set of UK pharmacy students with respect to macro-level public health activities needs to be improved to enhance pharmacists' contribution to public health.

Keywords: Patient care, pharmacists, pharmacy curriculum, pharmacy education, public health, qualitative method.

Introduction

The role of pharmacists in public health is widely documented (see for example, Royal Pharmaceutical Society of Great Britain & Pharmacy Health Link (2004), Horvat & Kos (2015), Rivers et al. (2017) and Pfleger, et al. (2008) even with the recent global coronavirus (Covid 19) pandemic. According to the UK's Faculty of Public Health (FPH, 2010, px), public health is defined as:

> "The science and art of promoting and protecting health and well-being, preventing ill health and prolonging life through the organised efforts of society."

This definition is relevant as public health is seen as population-based; is focused on a collective responsibility for health, its protection and disease prevention; recognises the important role of the state, as well as socio-economic and wider determinants of health. There is also an emphasis on partnerships amongst those whose actions contribute to the health of the population (FPH, 2010).

Interestingly, the General Pharmaceutical Council's (GPhC) standards for the initial education and training of pharmacists require UK schools of pharmacy to teach students about public health (GPhC, 2011). Nevertheless, public health remains a tiny portion of the undergraduate pharmacy curriculum and the material is integrated into other modules covering topics such as sociology (social and behavioural science and drug misuse), health psychology (health promotion and disease prevention), and epidemiology (aetiology and epidemiology of major diseases) (GPhC, 2011). This contrasts with other clinical or science-based topics which are often taught as standalone modules or courses (GPhC, 2011).

In the USA, it has been acknowledged that public health is relevant to pharmacy education. In 2013 the Centre for Advancement of Pharmacy Education (CAPE) stated that pharmacy graduates must demonstrate that they have acquired knowledge of public health theories and models and are capable of applying them Medina et al (2013). The American Association of Colleges of Pharmacy (AACP) Public Health Special Interest Group (SIG)-CAPE working group has also collectively identified the CAPE 2013 outcomes as important indices of coverage of public health within pharmacy curricula (Medina et al., 2013). In addition, the Accreditation Council for Pharmacy Education (ACPE) requires interprofessional interaction and blended environments, both of which are advanced within the public health curriculum (Accreditation Council for Pharmacy Education (2015). A US study by Truong & Patterson (2010) suggested that although the pharmacy profession has evolved from product-orientated to patient-centred care, with pharmacists contributing to micro-level public health activities (e.g., disease management, health and wellness screening, immunisations, medication therapy management), there remain unmet needs for pharmacists in macro-level public health functions (i.e., assessment, policy development, and assurance at the population-based level). Changes to the education and practice of pharmacy that will require pharmacy degrees to equip graduates with the necessary knowledge, skills, attitudes and values to contribute to public health at the micro and macro levels, regardless of the setting of their practice (Bush & Johnson, 1979) have therefore been proposed (Addo-Atuah, 2014). In addition, pharmacists will be expected to evaluate public health the costs and effectiveness of public health policies and to collaborate with government agencies to develop public health policy (Dolinsky et al., 2004).

Unfortunately, the GPhC's recent observation that the Master of Pharmacy (MPharm) degrees currently offered by British universities fail to prepare pharmacists to deliver the care and services expected of them in the future remains a barrier to this aspiration (Pharm, 2015). According to the GPhC pharmacists must be capable of delivering patient-centred care, have good people skills and be able to work in a multi-disciplinary team (Pharm, 2015).

MPharm programmes in the UK are updated every six years following GPhC accreditation (GPhC, 2013). This study examined what students are currently taught and considered whether the UK undergraduate pharmacy degree reflects the global direction of travel of the pharmacy profession, particularly with respect to public health provision. Also, as time constraints mean there might be a tension between science- and public health-oriented modules in UK undergraduate phar-

macy curricula, the study examined whether UK MPharm programmes are fit for purpose (whilst recognising that they have been accredited by the GPhC).

The objective of this study is to describe the UK undergraduate pharmacy curriculum, particularly its public health content.

Methods

A qualitative method (content analysis of websites) was used to describe the UK undergraduate pharmacy curriculum and teaching and learning policy. Content analysis has been described as a method of analysing written, verbal or visual communication messages (Cole, 1988) and as a research method; it is a systematic and objective means of describing and quantifying phenomena (Krippendorff, 1980; Sandelowski, 1995). Content analysis involves choosing concepts to examine and then quantifying them and exploring the relationships between them (Busch et al., 2012). The advantages of content analysis include the fact that it is a content-sensitive method (Krippendorff, 1980) that offers some flexibility in terms of research design (Harwood & Garry, 2003). Content analysis can be used with both qualitative and quantitative data and can be inductive or deductive (Elo & Kyngäs, 2008). There are no systematic rules for analysing data; but both methods involve three main phases: preparation, organisation and reporting. The main characteristic of content analysis is that the words of the text being analysed are grouped into much smaller content categories (Weber, 1990; Burnard, 1996). Copies of the UK pharmacy schools' curricula were obtained from the various schools' websites, where possible, or by email from pharmacy school administrators. In most cases the curriculum included lists of classes, objectives and competencies. These documents were uploaded to the qualitative data analysis software NVivo® (version 10). The analysis required the analyst to immerse himself in the data (the curricula) by reading them thoroughly several times in order to allow new insights and theories to emerge (Polit & Beck, 2004). An open coding process was used; categories were created as well as abstractions of categories (Elo & Kyngäs, 2008). In NVivo, open coding involves using NVivo memos and annotations to make notes whilst reading the data (Elo & Kyngäs, 2008). The written data were re-read and during the process the analyst wrote down as many headings to describe all aspects of the content (Burnard,1996; Burnard, 1991; Hsieh & Shannon, 2005) as needed in the form of NVivo memos and annotations. NVivo allows the analyst to generate categories freely at this stage in the analytical process (Burnard,1991). When the open coding was complete the categories were then grouped under higher-order headings (Burnard, 1991; McCain, 1988). The number of categories was reduced by collapsing similar categories into broader higher order categories (Burnard, 1991; Dey, 1993). With NVivo, it is possible to present some numerical (Seale, 1997) and visual representations in the analysis, as well as perform group queries, that is finding items that were associated with other items in the project and presenting the output in the form of lists (groups) (Bazeley, 2013). At the time the study was conducted (May 2014 - March 2015), there were twenty-nine schools of pharmacy in the UK, according to the GPhC website (General Pharmaceutical Council, 2015). The first author used input from the third and second authors to validate the content analysis process.

Results

Characteristics of UK schools of pharmacy

All the UK schools of pharmacy were included in the study, except that of the University of Lincoln – which was newly established at the time of analysis. Twelve of the 28 schools (all in England) included in the study (42.8%) were set up after 2000. The geographical distribution of the schools analysed was as follows, two were located in Northern Ireland, one in Wales, two in Scotland, and twenty-three in England.

The Subjects Included in UK MPharm curricula

The curricula of all schools of pharmacy were subjected to content analysis to determine what elements were related to public health. The NVivo software was used to carry out 'group queries' and visualisation of results. The analysis revealed that the UK undergraduate pharmacy curricula were dominated by basic science, clinical studies and modules on skills development (such as production/formulation and dispensing activities), research and law and ethics. In most cases coverage of public health topics was minimal, and in some cases confined to optional modules. The core scientific subjects taught included pharmacology, biochemistry, anatomy, physiology, pharmaceutics, pharmaceutical technology, pharmaceutical chemistry, microbiology, drug discovery and formulation, pharmacognosy and medicinal chemistry. These subjects were often grouped together, under different names and headings. Coverage of topics such as management and business studies was minimal and in some cases confined to optional modules.

Public Health

Group query' revealed variation in the public health content of the curricula of UK pharmacy schools. A representation of the data suggests that the curricula of pharmacy schools such as University A, B and C seemed to have more public health-related topics than those of other UK pharmacy schools. Coverage of public health appeared to emphasise safety, risk factors, disease prevention, adherence and addiction.

Next NVivo was used to visualise the pattern of coding for individual schools of pharmacy. In general, the most frequently used words were 'clinical', 'science', 'dispensing', 'production' and then 'research'. The exceptions to this pattern included, for example, the Schools of Pharmacy at D, E, F and G universities, where 'experiential', 'public health issues', 'professionalism' and 'skills' respectively were the most frequently used words. Both the word frequency search and the visual representation of coding suggested that 'public health' was a relatively low priority for most UK pharmacy schools.

Further investigation of some of the specific public health-related issues covered by UK pharmacy schools revealed that only some Schools of Pharmacy - namely, H, I, G, J, K, A and K Universities (all in England) - mentioned the word 'safety' in their curriculum in any form ('public health safety'; 'patient safety'; 'health and safety' etc.). This was confirmed by a text search of the UK pharmacy schools' curricula. The content analysis also provided some evidence that the curricular of older schools of pharmacy and those established in England between 1900 and 1949 contained more references to 'safety' than other schools.

The C University, School of Pharmacy curriculum illustrates how 'public health safety' was covered. The topic is addressed in Year 4 in the 'Clinical Phar-

maceutics' module, one of the aims of which is to teach students to "Appreciate safety, efficacy and quality of medicines for children".

In the K University, School of Pharmacy curriculum the 'Pharmaceutical Care' module for Year 4 students is described as:

> "An integrated unit covering evidence-based practice, health economics, prescribing, patient safety and pharmaceutical care…. develop[ing] students' core knowledge and problem-solving skills relating to patient safety, prescribing and pharmaceutical care."

'Risk factors' were mentioned in the curricula of five Schools of Pharmacy: J, C, L, E and A. The J University School of Pharmacy curriculum for the Year 4 module 'Travel Health' (optional) was described as follows:

> "The aims of this module are to give the student advanced understanding of theoretical and practical knowledge in all elements of travel health. The module will cover the role of the pharmacist in travel health promotion and prevention of illness...The course content will include risks of travel in different countries..."

The A University, School of Pharmacy Year 1 Pharmacy Practice Syllabus Outline mentions, amongst other topics, 'factors affecting the treatment process'. The same School of Pharmacy Year 2 module on 'Public Health (Promoting Public Health)' teaches students about

> "adverse drug reactions (ADRs) – their prevention, detection and management; the role of the pharmacist in minimising risk associated with drug therapy"

and also covers

> "Epidemiology of disease and determinants of public health, including lifestyle, employment status, air quality, crime, housing; health education and promotion roles for pharmacists in areas such as: child health, smoking cessation, exercise, diet and obesity, contraception and sexual health, alcohol consumption, vaccination, patients with long-term conditions, services for drug misuse and encouraging self-care."

It seems that the teaching of preventative care varies between schools. For example, in the Year 1 programme of the School of Pharmacy, M University, there were statements such as,

> "… you look at infection and immunity … [and in the final year] your studies will deal with treatment of infectious diseases, pharmaceutical public health and clinical pharmacy".

The curriculum for N University School of Pharmacy states that during the Level 2 pharmacy programme:

> "[Students] will learn how medicines are preserved and the process that cause premature breakdown of medicinal products … and how we are involved in protecting the public from the potential harm associated with the use of medicines."

When it comes to the teaching of illness prevention the other UK schools of pharmacy seemed to adopt different methods. For example, L University School of Pharmacy offered a 'Pharmacy Practice' module whilst O University School of Pharmacy stated that it teaches students about 'Promoting Healthy Lifestyle'. Final year pharmacy students at P University are taught about public health and health promotion as part of a module designed to ensure that they

> "Appreciate the causes and systems of cardiovascular diseases ... [as well as] … patient counselling and lifestyle advice."

The content analysis also provided some evidence that UK pharmacy schools provide undergraduates with some training on issues surrounding 'adherence' and 'addiction'.

Q University School of Pharmacy covered adherence in a Year 3 module entitled 'Optimisation of Pharmaceutical Care'. The 'Pharmacy Practice' module in Year 2 helps C University School of Pharmacy students to "distinguish the concepts of compliance, adherence and concordance". During Year 3 training, C University School of Pharmacy students learn more about adherence and by the end of the year they are expected to be able to "undertake a basic medication review". The A University School of Pharmacy covers adherence at an early stage, in a Year 1 module entitled 'Pharmacy Practice'. Some of the topics covered in the module were:

> "Factors affecting the treatment process. The function of medicines and the rational use of medicines. Sociological and behavioural aspects of the use of medicines. Medicines adherence. The placebo effect."

In contrast the Year 4 module at C University School of Pharmacy entitled 'Health Care, Drug Use and Pharmacy in Developing Countries' focuses on global poverty:

> "The World Health Organisation believes that pharmacists could make a greater contribution to health care in developing countries. This module will provide an overview of health care, disease patterns, the use of medicines in low-income countries..."

Interestingly, the information about this module also highlighted the fact that:

> "Examination of these issues requires an interdisciplinary approach drawing on material and research from a range of perspectives..."

Finally, there is little emphasis of 'emergency preparedness' in the curricula of UK pharmacy schools; the content analysis identified the words 'emergency' and 'emergencies' in the curricula of only three schools of pharmacy, those at the J, A and C Universities. One of the topics taught in the A University School of Pharmacy Year 3 module entitled 'Pharmaceutical Care', was "Dealing with medical emergencies and the provision of first aid." In the C University School of Pharmacy curriculum, the word 'emergency' occurred in reference to hormonal replacement, which was covered in a pharmacology module entitled 'Endocrinology and Associated Diseases'. The content analysis was also used to determine the extent to which these macro-level public health activities (e.g. surveillance, pharmacovigilance, evaluation, epidemiology, assessment, etc.) were represented in the curricula of UK pharmacy schools.

The word 'assessment' found in the curricula of some schools of pharmacy, for example, at H, O, R, N and S Universities, referred to assessment of students rather than public health or health needs assessment. The exception was the curriculum of B University School of Pharmacy where the Year 4 module entitled 'Public Health for Pharmacists' was described as covering

> "Healthcare policy relating to pharmacy; health surveillance; health-related data; health needs assessment; epidemiology; pharmacovigilance; application of evidence-based practice; health technology assessment; systematic review; pharmaceutical service development; service specification and implementation; pharmacoeconomics; business case; audit; evaluation; governance."

References to 'policy' were often not related to public health policy development, but to pharmacy practice. This was the case at T University School of

Pharmacy where the word 'policy' occurred in the description of a module on 'Integrated Patient Care':

> "The course will cover developments in pharmacy legislation taught in previous years and other legislation and policy relevant to the practising pharmacist."

Although the content analysis identified that public health and health policy were covered in the curricula of some schools of pharmacy such as those at, E, A and B Universities, in no case did the curriculum appear to deal with pharmacists contributing to development of public health policy. When the word 'assurance' appeared in the curricula of UK pharmacy schools (e.g. at R, C, Q and K Universities), it was in reference to quality assurance of pharmaceutical products rather than to public health assurance:

> "K11 - an appreciation of the principles of quality and quality assurance mechanisms in appropriate aspects of scientific and professional activities." [R University School of Pharmacy: Part 2 course details for CH143 and CH344]
>
> "Design, Formulation and Quality Assurance of Medicinal Products" [Year 3 – Q University School of Pharmacy].

Discussion

This paper looked at what pharmacy students are currently taught, to determine whether UK undergraduate pharmacy degrees reflect the global direction of travel of the pharmacy profession, particularly as it relates to public health provision. Poor adherence could be associated with poor monitoring and reporting of serious adverse drug events (ADEs) by pharmacists (Gavaza *et al*., 2011) but the magnitude of the problem also varies with the condition being treated (Sukkar, 2015). The word 'adherence' did not feature widely in the curricula of UK schools of pharmacy, appearing only in the curricula of undergraduate pharmacy degrees at A and C Universities (Year 2). A closely associated word, 'optimisation', appeared only in the curricula of Q and C Universities (Year 3). Although these topics are not necessarily macro-level public health activities; it seems that many of the issues relating to treatment adherence or optimisation of medication are dealt with during postgraduate pharmacy education, such as continuous professional development (CPD) programmes or taught in diploma and masters' programmes.

This content analysis of the curricula of UK pharmacy schools also revealed that they were dominated by science-oriented subjects rather than focusing on public health. Overseas programmes based on UK programmes seem to share the same broad approach with, for example over 90% of the BPharm courses emphasizing pharmaceutical chemistry, basic biomedical sciences (physiology, pharmacology, pathology, biochemistry, and microbiology), and pharmaceutical technology (Islam *et al*., 2014). Yet in many UK pharmacy schools, public health is often taught as an optional module or integrated with other topics. There are professional advantages to pharmacists as well as benefits to patients of making public health a core module in the curricula of UK schools of pharmacy as this would broaden and extend pharmacists knowledge and skills in this area.

A number of studies have confirmed that community pharmacists play an important role in smoking cessation programmes (Agomo *et al.*, 2006; Anderson & Blenkinsopp, 2003; Agomo, 2012), so it was surprising that an NVivo text search revealed that the word, 'smoking' appeared in the curricula of only three UK

schools of pharmacy: E, A and C Universities (Year 4). Related words – 'smoke' and 'smoker' – were not found in the curricula although 'tobacco' was mentioned in the C University School of Pharmacy curriculum (Year 4). This does not necessarily indicate that other UK schools of pharmacy are not teaching undergraduates about smoking cessation, but it may indicate the priority they accord this very important public health topic.

A number of studies have also identified a need for healthcare practitioners to improve their communication techniques (Sookaneknun, 2009; Emmerton *et al*., 2010; Roughead *et al*., 2011; Rowlands, 2012).There was no evidence to suggest that UK schools of pharmacy were teaching advanced communication methods to students but there was some evidence that many of them were developing students' skills in communication through written assignments and oral presentations on public health, etc. It has also been noted that interdisciplinary public health initiatives can enhance pharmacists' skills for dealing with public health issues (Agomo, 2018) including the recent global coronavirus (Covid-19) pandemic. However, the content analysis provided little evidence that UK undergraduate pharmacy training includes promotion of interdisciplinary initiatives. The exception was the School of Pharmacy, E University, where the curriculum indicated that nutritionists taught the nutrition element of the public health module. It is to be hoped that the programme at the School of Pharmacy, University of Birmingham will inspire other UK pharmacy schools to develop interdisciplinary initiatives, particularly as this programme reflects the Birmingham School's commitment to integrated medical training and education (News Team, 2011).

The risks associated with polypharmacy and the potential for inappropriate therapy need to be considered and balanced against the possible benefits of multiple drug therapies (Munger, 2010). The Scottish government has identified a need for pharmacists to contribute more to management and monitoring of polypharmacy to minimise the risks to patients (NHS Scotland & The Scottish Government, 2012).

According to the Department of Health, Britain has a relatively large population of problem drug users and increasing levels of harm from alcohol consumption (DoH, 1999). A number of studies have noted that pharmacists are involved in treatment of drug addiction and substance abuse (Lee, 2009; Chaar, 2011; Ambrose, 2011) however the content analysis provided little evidence that pharmacy students were being taught about pharmacists' role in anti-doping activities (Ambrose, 2011). In Europe alcohol is not only the third biggest risk factor for non-communicable diseases (NCDs), ill health and premature death, according to the World Health Organization (WHO, 2014); it is also known to directly or indirectly induce over 60 different types of illness (WHO, 2012), as well as being associated with several other risk factors (European Commission, 2014; Kaczmarek, 2015). The content analysis provided some indications that alcohol misuse was one of the public health topics often discussed with students, but UK schools of pharmacy also need to extend their coverage of motivational tools such as the transtheoretical model of change (TTM) (Prochaska, 1994; Prochaska, 1986), Ajzen's theory of planned behaviour (Ajzen, 1991) and goal-setting theory (Locke, 1990) and their relevance to various lifestyles and addictive behaviours. To address some contemporary public health challenges the pharmacy profession might also need to promote the establishment of healthy living pharmacies (HLPs) (Kennedy, 2015). Three UK schools of pharmacy (E, A and C Universities) indicated that they were teaching about HLPs, but the others did not appear to provide any information

about HLPs in undergraduate courses.

This study revealed that in the UK pharmacy degrees the emphasis is on basic sciences, many of which are hardly used in routine community pharmacy practice, rather than on public health topics – which in some schools were covered in optional modules or integrated with other pharmacy topics. Often coverage of public health topics focused on micro-level public health activities instead of macro-level public health topics requiring the involvement of public health specialists. This does not seem consistent with the global direction of travel of the pharmacy profession (Bush & Johnson, 1979; Dolinsky *et al*., 2007), and it raises questions about whether UK MPharm programmes are still fit for purpose with regard to equipping pharmacists to play a role in public health (Pharm, 2015). UK schools of pharmacy and the pharmacy profession need to work more closely with other healthcare professions and with public health organisations, such as Public Health England, the Faculty of Public Health, etc. to enhance the role that UK community pharmacists play in public health.

The reliability of the content analysis in this study has been enhanced by linking the results closely to the data, using illustrative excerpts and describing the context of findings, selection and characteristics of the participants clearly, as well as the data collection and analysis techniques. The analysis involved comparing codes within and between curricula, noting patterns and discrepancies and drawing conceptual maps to examine relationships between themes (Polit & Beck (2004); Graneheim & Lundman, 2004).

The limitations of the study include the heavy reliance on information available from the websites of schools of pharmacy. The published curricula may not necessarily represent the teaching of pharmacy in UK accurately and may have been incomplete or out-of-date at the time this analysis was undertaken. We cannot, therefore, rule out the possibility of bias. The sheer quantity of data was daunting (Elo & Kyngäs (2008). The limitations of NVivo content analysis include that NVivo is a complex package that can take time to learn; relying on software can distance researcher from the data; the researcher can get caught in a 'coding trap'; the software can identify references to phrases but cannot discern contextual differences and use of software cannot compensate for poor data or weak interpretive skills (Dixon, 2014). The fact that a few UK pharmacy schools (only five) published a summary of their curriculum on their website slightly reduced the robustness of the content analysis process. However, some of the schools did provide a more detailed curriculum when approached for assistance although two schools were unwilling to do so. These facts notwithstanding, as school of pharmacy websites are often the first point of enquiry for prospective students, parents etc. it seems reasonable to expect them to provide detailed and accurate information about the content of undergraduate programmes.

Conclusion

This content analysis of the curricula of UK schools of pharmacy identified that the number of UK schools of pharmacy has almost doubled since the year 2000. There was however, no indication that this sharp increase in the number of pharmacy schools has had much impact on the teaching of public health to students, particularly as public health remains an optional module in many UK schools of pharmacy. In many UK pharmacy schools teaching on public health is integrated into other modules. Most of the curricula analysed were dominated by traditional pharma-

cy modules designed to enhance students' knowledge and skills in the sciences, dispensing, production, research, law and ethics, and clinical pharmacy. It seems there is a need to develop UK pharmacy students' skills for dealing with macro-level public health activities. Enhancing coverage of macro-level public health activities would make UK MPharm programmes fit for purpose, particularly with respect to provision of community pharmacy services and public health services. This is becoming more important as UK pharmacy schools are seeking to boost the profile of the pharmacist with the public and commissioners, drawing special attention to the contribution the profession can make to achieve cost effectiveness in healthcare.

Correspondence
Chijioke O. Agomo, B.Pharm., MSc., MRes, DProf, FHEA
The Institute for Work Based Learning
Middlesex University
The Burroughs
London NW4 4BT
United Kingdom
Email: cagomo@hotmail.com

References

Accreditation Council for Pharmacy Education (2015). Accreditation standards and key elements for the professional program in pharmacy leading to the Doctor of Pharmacy degree. [Online]. Available at: https://www.acpe-accredit.org/pdf/Standards2016FINAL.pdf (accessed 14 November 2017).

Ajzen, I. (1991). The theory of planned behaviour, *Organ Behav Hum Decis Pro cess*; 50(2), pp. 179-211.

Addo-Atuah, J. (2014). Making a case for a public health orientation in global pharmacy education and practice in the context of the Millennium Development Goals (MDGs). Curr Pharm Teach Learn 2014; 6(5): pp.723-729. doi.org/10.1016/j.cptl.2014.05.019.

Agomo, C. *et al.* (2016). An investigation of nicotine replacement therapy provision by community pharmacists in Wandsworth Primary Care Trust, London. *Pharm J*; 277 (7427): pp. 609-611.

Agomo, C. (2012) The role of community pharmacists in public health: a scoping review of the literature. *J Pharm Health Serv Res* 2012; 3, pp.25-33.

Agomo, C. *et al.* (2018). Community pharmacists' contribution to public health: Assessing the global evidence base. *Clinical Pharmacist*; 10 (4): online. DOI: 10.1211/CP.2018.20204556.

Ambrose, P. J. (2011). Educational opportunities and anti-doping roles and respon sibilities for pharmacists. *Yakugaku Zasshi*; 131(12): pp.1761-64.

Anderson, C. & Blenkinsopp, A. (2003). Community pharmacy's contribution to improving public health: Learning from local initiatives. *Pharm J*; 271 (7273): pp. 623-625.

Bazeley, P. & Jackson, K. (2013). *Qualitative Data Analysis with NVivo.* 2nd ed. London, Sage.

Burnard, P. (1991). A method of analysing interview transcripts in qualitative re search. *Nurse Educ Today*; 11(6), pp. 461-466. https://doi.org/10.1016/0260-6917(91)90009-Y

Burnard, P. (1996). Teaching the analysis of textual data: An experiential approach. *Nurse Educ Today*; 16(4), pp. 278–281. DOI: http://dx.doi.org/10.1016/S0260-6917(96)80115-8.

Busch C, et al. (2012). Content Analysis. Writing@CSU. Colorado State University, [Online]. Available at: https://writing.colostate.edu/guides/pdfs/guide61.pdf (accessed 29 May 2017).

Bush, P. J., & Johnson, K. W. (1979). Where is the public health pharmacists? *American Journal of*

Pharmaceutical Education, 43(3), pp. 249-253.

Chaar, B.B. *et al*. (2011). Provision of opioid substitution therapy services in Australian pharmacies. *Australas Med J*; 4(4), pp. 210–216. doi: 10.4066/ AMJ.2011.706

Cole F.L. (1988). Content analysis: Process and application. *Clin Nur Spec*; 2(1): pp. 53–57. https://doi.org/10.1097/00002800-198800210-00025

Dey, I. (1993). *Qualitative Data Analysis - A User-Friendly Guide for Social Scientists.* London: Routledge.

Department of Health (1999). *Saving Lives: Our Healthier Nation*, London, Stationery Office.

Dixon, H (2014). Qualitative data analysis using NVivo, [Online]. Available at: https://www.slideshare.net/HelenDixon1/qualitative-data-analysis-using-n-vivo (accessed 17 October 2017).

Dolinsky D, *et al*. (2007). Social and Administrative Sciences Supplemental Educational Outcomes Based on CAPE 2004. Available at: http://www.aacp.org/ resources/education/documents/socialandadmindec06.pdf; (accessed 29 May 2017).

Elo, S. & Kyngäs, H. (2008). The qualitative content analysis process. J Adv Nursing; 62(1): 107–115. doi: 10.1111/j.1365-2648.2007.04569.x

Emmerton LM, *et al*. (2010). Exploring health literacy competencies in community pharmacy. *Health Expect*; 15(1), pp.12–22. doi: 10.1111/j.1369-7625. 2010. 00649.x

European Commission (2014). Study on the prevention of drink-driving by the use of alcohol interlocks devices, [Online]. Available at: https://ec.europa.eu/transport/ road_safety/sites/roadsafety/files/pdf/behavior/study_alcohol_interlock.pdf (accessed 30 May 2017).

Faculty of Public Health (2010). What is public health. [Online]. Available at: http://www.fph.org.uk/what_is_public_health (accessed 14 November 2017).
Gavaza, P. *et al*. (2011). Influence of attitudes on pharmacists' intention to report serious adverse drug events to the Food and Drug Administration. *Br J Clin Pharmacol*; 72(1): 143–152. doi: 10.1111/j.1365-2125.2011.03944.x

General Pharmaceutical Council (2015). Accredited MPharm degrees 2015 [Online]. Available at: https://www.pharmacyregulation.org/education/pharmacist/ accredited-mpharm-degrees (accessed 29 May 2017).

GPhC (2011). Future pharmacists Standards for the initial education and training of pharmacists. [Online]. Available at: https://www.pharmacyregulation.org/sites/ default/files/document/gphc_future_pharmacists_may_2011.pdf (accessed 14 November 2017).

GPhC (2013). The accreditation of pharmacy courses leading to registration and annotation in Great Britain, [Online]. Available at: https://www. pharmacyregulation.org/sites/default/files/gphc_accreditation_methodology_2013.pdf (accessed 14 November 2017).

Graneheim, U.H. & Lundman, B. (2004). Qualitative content analysis in nursing research: Concepts, procedures and measures to achieve trustworthiness. *Nurse Educ Today*; 24(2): pp. 105–112. doi: 10.1016/j.nedt.2003.10.001.

Harwood TG & Garry T (2003). An overview of content analysis. *Mark Rev;* 3(4), pp. 479–498.

Horvat, N. & Kos, M. (2015). Contribution of Slovenian community pharmacist counseling to patients' knowledge about their prescription medicines: A cross-sectional study. Croatia Medical Journal, 56(1), pp. 41–49. doi:10.3325/ cmj.2015.56.41.

Hsieh, H.F. & Shannon, S (2005). Three approaches to qualitative content analysis. *Qual Health Res*; 15(9), pp. 1277-1288. DOI: 10.1177/1049732305276687

Islam, MA. *et al*. (2014) Current challenges in pharmacy education in Bangladesh: A roadmap for the future. *Curr Pharm Teach and Learn*; 6(5): 730–735. doi.org/10.1016/j.cptl.2014.05.020.

Kaczmarek, A (2015). Why the EU has failed to tackle its alcohol problem. *Pharm J*; 295(7878): 179-180. doi:
10.1211/PJ.2015.20069177

Kennedy, B. (2015). PHE commits to doubling HLPs in five years, [Online]. Available at: http://www.chemistanddruggist.co.uk/news/phe-renews-commitment-pharmacy (accessed 01 June 2017).

Krippendorff, K (1980). *Content Analysis: An Introduction to its Methodology.* Newbury Park: Sage Publications.

Lee, SS. *et al*. (2009). Pharmacists' and pharmacy students' ability to identify drug -related problems using TIMER (Tool to Improve Medications in the Elderly via Review). *Am J Pharm Educ*; 73(3): Article 52.

Locke, E.A & Latham, G.P (1990). *A Theory of Goal Setting and Task Performance*. Englewood Cliffs, NJ: Prentice-Hall.

Medina, M. S., Plaza, C. M., Stowe, C. D., Robinson, E. T., DeLander, G., Beck, D. E., Melchert, R. B., Supernaw, R. B., Roche, V. F., Gleason, B. L., Strong, M. N., Bain, A., Meyer, G. E., Dong, B. J., Rochon, J., & Johnston, P. (2013). Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes 2013. American Journal of Pharmaceutical Education, 77(8), 162. doi: 10.5688/ ajpe778162.

Munger, MA (2010). Polypharmacy and combination therapy in the management of hypertension in elderly patients with co-morbid diabetes mellitus. *Drugs Aging*; 27(11): 871-883. doi: 10.2165/11538650-000000000-00000

McCain GC (1988). Content analysis: A method for studying clinical nursing problems. *Appl Nurs Res*; 1(3), pp. 146–147.

News Team (2011). New five-year integrated MPharm degree on course. Pharm J; 286(7652): p.524.

NHS Scotland and The Scottish Government (2012, October). Polypharmacy Guidance, [Online]. Available at: http://www.central.knowledge.scot.nhs.uk/upload/Polypharmacy%20full%20guidance%20v2.pdf (accessed 30 May 2017).

Pharm (2015). Anon. MPharm degree fails to equip pharmacists for future roles. *Pharm J* 2015; 294(7868/9): p.677. doi: 10.1211/PJ.2015.20068763.

Pfleger, D. E., McHattie, L. W., Lesley Diack, H., McCaig, D. J., & Stewart, D. C. (2008). Developing consensus around the pharmaceutical public health competencies for community pharmacists in Scotland. Pharmacy World & Science, 30(1), 111-119. doi:10.1007/s11096-007-9153-8

Polit, D.F. & Beck CT (2004). *Nursing Research - Principles and Methods.* Philadelphia, PA: Lippincott Williams & Wilkins.

Prochaska, J. O. (1994). Strong and weak principles for progressing from precontemplation to action on the basis of twelve problem behaviours. *Health Psychol*; 13(1): pp.47-51.

Prochaska, J. O. & DiClemente, C.C (1986). Towards a Comprehensive Model of Change. In: Miller WR, Heather N, eds. Treating Addictive Disorders: Processes of Change. 2nd ed. New York: Plenum Press.

Rivers, P. H., Waterfield, J., Grootveld, M., & Raynor, D. K. (2017). Exploring the prevalence of and factors associated with advice on prescription medicines: A survey of community pharmacies in an English city. Health & Social Care Community, 25, pp.1774–1786. https://doi.org/10.1111/hsc.12451

Rowlands, G. (2012). Health literacy and public health: A framework for developing skills and empowering citizens. *Perspect Public Health*; 132(1): pp. 23-24. doi: 10.1177/1757913911430916.

Roughead, EE. *et al*. (2011). Continuity of care: When do patients visit community healthcare providers after leaving hospital? *Intern Med J*; 41(9), pp. 662–667. doi: 10.1111/j.1445-5994.2009.02105.x.

Royal Pharmaceutical Society of Great Britain & Pharmacy Health Link (2004). Pharmaceutical Services Negotiating Committee, National Pharmaceutical Association, Public Health: A Practical Guide for Community Pharmacists. [Online]. Available at: http://docplayer.net/15771152-Public-health-a-practical-guide-for-

community-pharmacists.html (accessed 14 November 2017).

Sandelowski, M (1995). Qualitative analysis: What it is and how to begin. *Res Nurs Health*, 18(4), pp. 371–375. DOI: 10.1002/nur.4770180411.

Seale, C. & Silverman, D (1997). Ensuring rigour in qualitative research. *Eur J Pub Health*; 7(4), pp. 379-84.

Sookaneknun P, *et al*. (2009). Public opinion on establishing a university pharmacy as the health information center in its community. *J Sci Technol Mahasarakham Uni*; 28(2), pp.185–195.

Sukkar, E. (2015). Determining the value of price tags on medicines. *Pharm J*; 295 (7878), pp.174-176.

Truong, H. & Patterson, B. Y. (2010). Professional and educational initiatives, supports, and opportunities for advanced training in public health. American Journal of Pharmaceutical Education, 74(7), Article 122.

Weber, R.P. (1990). *Basic Content Analysis.* Newbury Park, CA: Sage Publications.

WHO (2014). Global Status Report on Alcohol and Health 2014, the World Health Organization, [Online]. Available at: http://www.who.int/substance_abuse/publications/global_alcohol_report/en/ (accessed 30 May 2017).

WHO (2012). Alcohol in the European Union: Consumption, Harm and Policy Approaches, the World Health Organization, [Online]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0003/160680/e96457.pdf (accessed 30 May 2017).

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP. 41-58

Dynamics of the Functioning of School Governing Bodies Regarding the Code of Conduct for Learners

VUSI MNCUBE & SINDISWA ZONDO
University of Fort Hare, South Africa

Abstract

This study sought to investigate the dynamics of school governing bodies (SGBs) participation in the construction and implementation of code of conduct for learners in Durban, KwaZulu-Natal province, South Africa. Underpinned by an interpretivist paradigm, the study employed a qualitative research approach and a case study research design. Interviews, observations and document review were used for data collection. The target population for this study consist of SGB members, hence, the democratic theory of education was employed to investigate whether the formulation of code of conduct for learners in South African schools ensue democratic principles. The results indicated that parents and learners despite being important stakeholders only participated to a limited extent in the process of drawing up and implementing a learners' code of conduct. Findings also revealed that schools face a number of challenges, which includes inadequate training of SGB members, parental lack of concern/limited time to attend school or SGB meetings. Further, there exists power struggles within the SGBs. This study recommends that SGB members should be trained on democratic school governance as well as developmental initiatives aimed at equipping and enabling them to make sound decisions on learners' code of conduct.

Keywords: Code of conduct, democracy, discipline, school governing body, stakeholders

Introduction

The advent of democracy in South Africa signalled a new dawn for the country as a whole, and also for the education system which had for long been characterised by racial segregation (Davids, 2018; Biesta, 2011). The need for an education system that would instil values of social justice, equality and democratic South Africa is depicted in the emphasis on transformational education by the South African constitution of 1996 (Republic of South Africa [RSA], 1996a). This meant transitioning into shared school governance through among other things school governing bodies (SGBs) as predicated by the *South Africa Schools Act* (SASA) *84 of 1996*, which devolved school management to SGBs (RSA, 1996b). The introduction of SGBs represents a shift from top-down management style, thus making schools more autonomous and more democratic (Mohapi & Netshitangani, 2018; Sibanda, 2017; Mutekwe & Sedibe, 2015). An SGB has to be a democratically elected institution comprising of parents, educators, learners, and non-teaching staff (RSA, 1996b), and assumes responsibility for drafting school policies, most

notably a code of conduct for learners (Magano et al., 2017; Mohapi & Netshitangani, 2018; RSA, 1996b). SGB involvement has been closely linked with positive academic performance as aided by democratisation, social justice and inclusion among other things (Mohapi & Netshitangani, 2018).

It is argued that instilling values of democracy in learners produces awareness of values of good citizenry; as such it becomes imperative for learners to be involved in school management where equality, social justice and other such norms are appreciated (Davids, 2018; Biesta, 2011; Waghid, 2004). SASA (1996b) insists that the involvement of learners in school governance is critical, yet evidence from research appears to show that learners are relegated oftentimes to voiceless participants with ineffectual roles in school governance (Davids, 2018; Davids & Waghid, 2015; Waghid, 2010; Ngcobo & Tiklay, 2008; Moloi, 2007). Researchers are of the view that daily practices in schools should reflect democracy in daily practices because democratic behaviours and values are more readily learnt and assimilated by experience than by hearing and reading about these values and behaviours which are democratic (Harber & Serf, 2006; Kubow, 2009; Biesta, 2011; Davids, 2018). A code of conduct, when democratically drafted and applied in school, presents an opportunity to involve learners in the drive towards democratic education and improving discipline in schools (RSA, 1996b; Chauke, 2017; Sibanda, 2017; Magano et al., 2017; Jean-Pierre & Parris, 2018; Serero, 2016). A code of conduct helps to create an orderly environment in the school by regulating the behaviour of learners and stipulating and standardizing disciplinary measures which are to be employed in correcting disruptive behaviour (Venter, 2016; Squelch, 2000).

The existent body of literature further shows that a learners' code of conduct may serve to promote the rights and safety of all learners, educators and parents. It achieves this by ensuring that learners are held responsible for their own actions and behaviours, by prohibiting all manifestations of unfair discrimination and/or intolerance, and by countering or correcting disruptive behaviour within the school context (Jean-Pierre & Parris, 2018; Mlalazi et al., 2016; Sebisha, 2015; Semali & Vumilia, 2016; Welsh & Little, 2018). Achieving these objectives requires the active engagement of all parties concerned, as well as their concerted commitment and a spirit of cooperation. Interaction between the various stakeholders will help to improve and establish a disciplined, safe and purpose-driven school environment that is dedicated to improving, expanding and maintaining sound teaching and learning practices (Venter, 2016; Van Jaarsveld, 2011; Lawrence, 2007; Stephens, 2004). Regardless of these efforts towards learner discipline by prescribing steps towards correcting disruptive behaviour through code of conduct, it is worrisome that some schools have degenerated into "combat zones" which produce dire consequences on the educational goal that schools set out to pursue (Ngidi, 2018; Venter, 2016; Mncube & Harber, 2013; Smit, 2013; Maree, 2000). This study thus sought to understand the dynamics of school governing bodies (SGBs) participation in the construction and implementation of code of conduct for learners in Durban, KwaZulu-Natal province, South Africa.

Theoretical framework

This article is founded on Dewey's 1916 Democratic Theory of Education. Dewey's philosophies place emphasis on the importance of diversity in pluralist communities where sharing of common goals requires finding solutions to similar

problems which communities face (Dewey, 1916; Cambi, 2009; Smit & Oosthuizen, 2011; Ryan, 2014; Peters & Jandric, 2017). In the South African context, SGBs represent the school community thus their members are expected to function as a unit, take decisions which will affect the enforcement of discipline, and the basis of this discipline. To this end, democratic education strives for tolerance and inclusion as opposed to the imposition of dominant ideologies of some stakeholders in the education system (Dewey, 1916; Smit & Oosthuizen, 2011; Smit, 2013; Peters & Jandric, 2017; Davids, 2018). This means, as argued by Harber & Trafford (1999), that democratic education would be centred on commonly negotiated rules and mutual consent as opposed to imposition of rules by a few. Stakeholders in democratic schools have rights which permit them to freely express their opinions, including discipline strategies and systems as contemplated by codes of conduct in particular.

Dewey sees the school as a place where the perspectives of others are heard, and conflicts are resolved through free, critical and reflective thought (Dewey, 1916; Dewey & Childs, 1933; Carr & Hartnett; 1996; Hickmann et al., 2009; Peters & Jandric, 2017; Ryan, 2014). As part of their stakeholder role, learners who serve on SGBs must be afforded an opportunity to represent the other learners in their schools, when it comes to the formulation of a learners' code of conduct. To this end, Greene (1985, p.4) argues "surely it is an obligation of education in a democracy to empower the young to become members of the public, to participate, and play articulate roles in the public space." It is therefore reasonable to expect educational role players to introduce learners to the workings of democracy, by allowing them to take decisions and/or make their views heard. After all, the way in which the guidelines in such a code is enforced, will have a direct impact on them (Beane & Apple, 1999; Harber & Trafford, 1999; Squelch, 2000; Kubow, 2009; Ngidi, 2018). This implies that committees, councils and other policy makers cannot exclusively accommodate only professional educators but ought to involve learners, their parents, and other members of the school community, so that their voices can be heard. To be truly effective, their voices must be reflected in any of the guidelines, which are compiled, or any decisions which are made, to prevent their engagement from being subjected to tokenism.

Problem Statement

A code of conduct is a consensus document, which is drafted through a process that involves parents, learners, educators and non-educators at the school. The code of conduct spells out rules regarding learner behaviour and describes the disciplinary process to be implemented concerning transgressions by learners (Department of Education, 2008. p.1). An important condition for the effectiveness of learner code of conduct lies in its implementation (Mestry & Khumalo, 2012). Furthermore, the SGB delegates the day-to-day enforcement of the code of conduct to the school management team and educators through a clearly spelt out school policy on disciplinary measures. To this end, the school disciplinary committee, a subcommittee of the SGB must therefore ensure that the code of conduct is consistently and fairly implemented (Mestry & Khumalo, 2012).

Although parents and learners are represented as members of school governing bodies, most of them are not fully on board in terms of participation in such bodies (Mncube, 2009). This means that any involvement by these two groups of stakeholders in matters concerning school governance tends to be mere window dressing, because they do not participate fully in decision-making processes. Some

parents and learners are not given sufficient opportunity to help make vital decisions affecting the existence and functioning of their school. Some of the functions of SGBs deal with issues of learner discipline, yet learner discipline has deteriorated to such a degree that the country's schools are now regarded as the most violent in the world (Oosthuizen, et al. 2003). Mabeba & Prinsloo (2000, p.34) and Ngidi (2018) revealed that in secondary schools in South Africa, the lack of discipline has been a worrying phenomenon for educators. As such, learners misconduct now impact on the rights of others to basic education.

With the requirement that every public school should have a disciplinary policy or a learner code of conduct to ensure a disciplined teaching and learning environment, there is still a perception amongst stakeholders that learner discipline is a serious problem rendering many schools as futile institutions of teaching and learning (Mestry & Khumalo, 2012). As a result, most SGBs tend to overlook the drafting and implementation of a code of conduct for learners because they are reportedly not adequately empowered to perform these functions (Xaba, 2011, p. 201). Similarly, the lack of participation and collaboration between the principal and other SGB members, the lack of confidence amongst SGB members especially the parent-governors, and illiteracy among them, contribute to the SGBs inefficiency and prevents them from accessing relevant information (Mestry & Khumalo, 2012).

Research aim/objective

The aim of the study was to investigate the dynamics of school governing bodies (SGBs) participation in the construction and implementation of code of conduct for learners in Durban, KwaZulu-Natal province, South Africa

Research questions

To guide the study, three research questions were formulated: i) How do the identified stakeholders participate in SGB meetings and activities? ii) What type of training is given to members of an SGB, prior to them formulating and implementing a learners' code of conduct? Iii) What are the stakeholders' views of the power relations within their respective SGBs?

Research methodology

Research approach and design

The study was located within the interpretivist paradigm because it enabled the researchers to gather information from the identified role players (Creswell, 2014; Nieuwenhuis, 2007). A qualitative approach enabled the researchers to gain a comprehensive understanding of the dynamics of SGB code of conduct drafting and implementation as it relates to learner discipline in schools (Schutt, 2012). In order to sufficiently scrutinize code of conduct drafting and implementation, a case study design was deemed most applicable as this would allow for an in-depth investigation into the phenomenon at two schools in Durban, KwaZulu-Natal. In-depth and rich information were obtained from the participants, by means of three data-collection techniques, namely interviews, observation and document reviews.

Research instruments and participants

As mentioned, data were collected by means of semi-structured interviews, unstructured observation and document review. Interviews were held to obtain targeted information from the participants on the phenomenon under study: the less structured nature of this type of engagement allowed the researchers to probe for further details and granted each interviewee an opportunity to elaborate on a specific train of thought, where necessary. The interviewees included the school principal, the SGB chairperson, and serving SGB representatives from the teacher, parent and learner cohorts. For a detailed and more holistic overview, the researchers scrutinised archived documentation: the learners' code of conduct (where such guidelines were available in print), along with disciplinary records, incident books, the agendas of meetings, letters and notices to parents, as well as the minutes of SGB meetings. This is to determine the extent at which SGB members are involved in the formation and implementation of code of conducts for their school.

The target population for this study was composed of SGB members, as such, two SGBs at public secondary schools in KwaZulu-Natal, in the Klaarwater region of Durban, were purposively sampled for the study. These schools were selected purposively through the recommendation of critical friends who identified these schools as schools where the core values of democracy characterise the approach to education. In addition, these schools were selected for their convenient access and willingness to participate. In this article, as in the larger study, the schools are referred to by the pseudonyms Momentum Secondary (MS) and Arch Secondary (AS) respectively. At each school, the following were interviewed: the principal, the SGB chairperson, two parents from the SGB, two learners from the SGB and two teachers from the SGB. This meant that a total of 16 participants were involved in this study, and participants' cited comments appear in line with their designations.

Data collection

At both participating schools, the interviews were mainly conducted in English, but participants were made to express themselves in any language comfortable for them. Such freedom of expression meant the interviewees could say whatever they wanted to say openly without worrying about their command of English. It also avoided the likelihood of a comment being misinterpreted. In addition, conversations were tape-recorded, and the researchers took down field notes.

Data analysis

Thematic data analysis was utilized in the data analysis phase. The analysis followed Creswell's flowchart on thematic data analyses (Creswell, 2014). The first step involved the transcribing of raw data, this involved translating and transcribing the recordings from the interviews. At this stage, two colleagues served as critical readers of the transcribed data, thus significantly improving trustworthiness of the data. Care was taken to check the accuracy of the translated and transcribed data. The next step involved organising and preparing data for analysis. This led to the third step of reading through all the data, at this stage the researcher also made use of critical readers to improve the quality of the research. This led to the coding stage after which themes and categories arising from the data were identified. The final step involved interpreting themes and categories which arose from the study.

Validity

To ensure data trustworthiness, the researcher used triangulation, which, according to McMillan and Schumacher (2006, p. 347) is the cross validation of data sources, data collection strategy, time periods and theoretical schemes. McMillan and Schumacher (2006, p.347) indicate that to find regularities in the data, the researcher compares different sources, situations and methods. As a result, the researcher employed and triangulate different source of data collection method such as the interviews, observations and documents. Similarly, different data sources, namely, principals, SGB members and learner representatives were used.

Delimitation

The study focused on the function of SGBs regarding the formulation and implementation of code of conduct for learners. As a result, principals, SGB chairpersons, parents from the SGB, learners from the SGB and teachers from the SGB participated in the study. Similarly, the study was restricted to only two schools in one region of Durban in South Africa. However, since this was a qualitative study where the depth matters more than the width; the sample was deemed sufficient for the study.

Limitation

In general, studies have their strengths as well as weaknesses or constraints. The limitation of this study was funding and time constraint. A Master of Education student, who was, at the time of doing research, full-time employed as a teacher as such; might not have had enough time as she might have wanted to.

Ethical considerations

Ethical research practice was ensured during the study, with ethical issues being discussed with the participants. Ethical considerations included: approvals, informed consent, anonymity, confidentiality, and protection from harm. In addition, for the purpose of privacy, '*nom de plumes*' were used to guarantee the confidentiality of the participants used in the study.

Research findings and discussion

As Mncube & Harber (2010) suggest, authentically reflecting participants' opinions, is a powerful research tool. For this reason, selections from the interview transcripts are given here to ensure that the participants' voices are heard as they reflect on the formulation and implementation of a code stipulating behavioural guidelines for learners in their respective schools. This section presents and discusses the themes which emerged from the study—in turn: Stakeholder participation in SGBs; Lack of adequate training for SGB members; SGBs' neglect of the code of conduct for learners; Unequal power relations within the SGBs; Parents' lack of concern/limited time to attend meetings

Stakeholder participation in SGBs

The study reveals that there is a relatively low participation of stakeholders in SGBs thus raising questions on the efficiency of SGBs. This evidence appears to contradict the principles of shared governance as espoused in SASA and the Con-

stitution of South Africa (RSA, 1996a; RSA, 1996b). Two decades after the advent of democracy in South Africa, it comes as no surprise that some remnants of the old apartheid system of education remain. Nowhere is this more evident in South Africa's primary and secondary schools, than in the fashion in which these entities are being governed. This is emblematic of democracy on the African continent – its origins are to be found in an African culture and history that are largely paternalistic (Mariam, as cited in Naidoo, 2012; Mutekwe & Sedibe, 2015). It is thus not uncommon for societies within Africa to systematically silence those perceived as being subjects or vassals. When questioned about their participation in SGBs, the participants expressed varying opinions. As one interviewee stated:

> *As parents, we don't know what is expected of us as part of the stakeholders in the school governing bodies. As much as we want to play our roles effectively, we do not know what is expected from us, thus we [are] inactive in most positions assigned to us. Most parents are unable to attend meetings regularly because of lack of time and busy schedules, while some of us who are willing to attend have transport problems to get to the venue of the meetings, because we do not have our personal cars.* (Parent, AS)

Many parents, despite having an undeniable say in their children's education, only participate in SGBs to a limited degree, as they may have to contend with logistical obstacles (e.g., lack of transport) or may genuinely be uninformed about the nature of the input they will be called on to provide. Authentic participation in a democratic milieu is not just ceremonial – it must allow all role players to work together to make informed decisions which reflect their collective interests (Jean-Pierre & Parris, 2018; Mutekwe & Sedibe, 2015). Optimal participation requires a high level of communication amongst all parties, whereas a lack of communication will be detrimental for all concerned. In fact, it is argued by the Democratic Theory of Education that communication is essential in creating conditions for democracy to flourish, thus without effective communication, democracy is unachievable (Dewey, 1916; Ryan, 2014; Peters & Jandric, 2017).

One participating principal attested to the fact that parents' participation in school meetings is worryingly low, with the majority not offering any suggestions on the framing of a code which regulates learners' conduct, despite being invited to do so. This is contrary to what would be expected, as one imagines parents would want to have a say in how – and for what reasons and by whom – their children will be disciplined. In fact, it is argued that rules are more readily complied with when they are commonly agreed on as opposed to being imposed on other members of society (Harber & Trafford, 2018; Smit & Oosthuizen, 2011; Ngidi, 2018). A principal thus posited:

> *I can say affirmatively that when it comes to parent representatives' participation as part of stakeholders to assist the school in [the] formulation of [a] code of conduct for learners, their attendance is still very low. Most parents do not come for the meetings, what they do is to approve any suggestions or ideas given by other stakeholders who have participated. This is not really helping us, as we expect them also to participate so as to improve discipline among learners, and they might also have more suggestions to contribute… Parents and teachers need to work together and come up with various strategies [for] improving discipline in our schools, in order to make our learners worthy and useful ambassadors in our society.* (Principal, MS)

As became evident from these statements, their lack of knowledge and exposure, and most likely their fear of appearing foolish or disrespectful before others, caused the majority of parents to withdraw or refrain from expressing their views. As a result, the principal and teachers assume more dominant roles, thereby largely leaving the parents isolated or merely paying lip-service to the idea of participative decision making. If parents adopt a passive role, it is most likely because they do not know exactly what their role entails, or how to be productive in the positions to which they have been appointed. Also, many face time constraints and therefore cannot regularly attend meetings. A lack of participation (i.e., imbalances in stakeholder participation) tends to manifest as problems in governance.

By all accounts, the learner representatives were overshadowed by adults during SGB meetings. It is up to the adult members of such boards, and the teachers within a particular school, to take learner representation seriously. They must lead by example, by showing learners respect, treating their views with dignity and valuing their inputs. In this regard, a learner representative stated:

> *Although learners are part of the governing bodies, … the truth of the matter is that it is sometimes difficult to contribute when there is any meeting of such. I find it hard to talk on most occasions if I attend the meetings, and I have sent [my] apology in some instances. It is not because I was actually busy, but I just felt what is the essence of attending if I will not be free to [speak] my mind? You see your parents and teachers in attendance: who are you to challenge their opinions? You must be bold to do so. You see them as older people, then you have no choice to counter their views. It is only on rare occasions that learners are bold [enough] to give suggestions, but most times, you see us attending but not contributing or giving any suggestions*. (Learner, AS)

Research findings from the interview corroborates the findings from the observations during the SGB meetings which revealed that, despite learners being granted participative roles in school governance as well as in the current educational policy, young people often do not join in the conversation or put forward their opinions, nor are they likely to go against an adult's decision – this effectively relegates their roles to tokenism and purely ceremonial positions (Mncube & Harber, 2010; Mohapi & Netshitangani, 2018; Sebisha, 2015). Despite having been granted significant powers, parents/caregivers also largely fail to grasp this opportunity to give their inputs. Teachers, by contrast, seem to contribute a great deal, because they grapple with learner-related issues daily. Even if a code is drafted for a school, often it is the teachers who guide the direction they want that code to take, as this safeguards their interests and addresses challenges which they tend to experience in the classroom. Yet this imposition of authority by dictating the direction of the code as opposed to mutual consent of society's various stakeholders is seen as an onslaught on democracy (Dewey, 1916; Ryan, 2014; Peters & Jandric, 2017).

Learner participation in SGBs, in addition to their input in decision making, can help to improve the overall running of a school (Jean-Pierre & Parris, 2018). In fact, a characteristic of a successful school is that all role players collaborate for the common good of the school, within a democratically oriented culture (Chauke, 2017; Mncube & Harber, 2013; Semali & Vumilia, 2016). It therefore follows that, for learners to contribute to school governance they need a platform from which to do so, they must be granted the necessary time to become accustomed to speaking out, and they need to be encouraged to weigh up all sides of an argument before making a considered decision (Jean-Pierre & Parris, 2018) – even

if it means questioning a long-held supposition. Not everyone is comfortable with speaking in public, more especially within a cultural context like South Africa where children are expected to 'know their place'. However, as the findings reported on here show, the ideal of inclusive participation remains a challenge: on paper it can appear feasible and implementable but putting it into practice is problematic.

Lack of adequate training for SGB members

The Democratic Theory of Education is concerned with the ability of groups to find solutions to common problems by means of communication (Dewey, 1916), yet the findings of this study suggest that there is a widespread inadequate training of SGB members. This incapacity, limited exposure and lack of training of SGB members hinder their attempts to be effective and productive in executing their duties. During the interviews the issue of member training emerged, as is evident from this comment:

> *We have become frustrated, not knowing what to do if they call [us] for a meeting, because we do not know what our roles are. It is obvious that stakeholders lack training, so they sit back and withhold their participation. This results in frustration and a level of dysfunctionality prevailing at schools.* (Learner, MS)

Similarly, Observations revealed that, even learners who attend SGB meetings are not being heard – they act as seat-fillers, and that poses a problem. While some role players had attended workshops specifically devoted to drafting a code of conduct, they were still unable to carry out certain roles successfully, according to one participant:

> *Stakeholders had attended workshops on the formulation of the code of conduct, but this was clearly not enough for them to carry out their roles in a meaningful way. Moreover, since the work-shopping of SGB members does not take place on a regular basis, and members only serve for a particular period of time, if they are not reinstated, chances are high that current members will not have received training at all. Nevertheless, insufficient time is allocated to training, and not all SGBs are able to avail themselves to attend. Thus, training remains an issue.* (Teacher, AS)

Another participant noted:

> *There was no training for the current stakeholders, although existing SGBs [returning members] had undergone training, which enabled them to have ideas about [the] formulation of [a] code of conduct regarding improving discipline in schools. This is still fair compared to the current stakeholders, who are yet to have the privilege of attending trainings which will equip them [with the] knowledge and expertise they need in terms of various approaches to improve discipline in schools, using numerous tools.* (Chairperson, MS)

Research findings from the interviews corroborate data which had been gleaned from the minutes of the SGB meetings at both participating schools, which acknowledge serious lapses in terms of training. Much is expected of the governing board, yet they are not fully equipped to execute their duties as members of such a body. Their frustration is understandable, since it is both annoying and humiliating to be expected to deliver, without being cognizant of the parameters of the expected performance. Those who serve on SGBs should receive training or attend

refresher courses when the need arises, to familiarise themselves with their responsibilities. Newcomers should definitely receive a chance to be trained. Training new members will, without doubt, yield positive results in respect of their performance and will boost their confidence during meetings. That will also prevent those who received training from dominating discussions, or from being viewed as the only experts on a specific topic or on procedural matters.

Democratic schools require the members of governing bodies to up-skill themselves and sign up for training – something which is self-evident yet lacking at many institutions. For this reason, parent stakeholders often question whether they are sufficiently competent to contribute anything worthwhile (Chauke, 2017; Serero, 2016; Sebisha, 2015). Competency- and capacity-building exercises can thus empower SGB members by allowing them to develop vital skills, in addition to enabling them to optimally execute their respective roles (Mohapi & Netshitangani, 2018).

SGBs' neglect of the learners' code of conduct

From the interview data it became evident that, although both schools had grown from junior secondary to high schools, the old codes of conduct, formulated prior to their conversion, were still in use. This is regardless of the proposition of Dewey's theory which opines that the schooling society is fluid and previously imposed traditions become dated, schools need to define their pathways has to be defined by respect for diversity and individual freedoms (Dewey, 1916). How do schools deal with transgressions or anti-social behaviour, if there is no document to guide and shape learner behaviour? Arch Secondary, for instance, used a dated code of conduct, despite having elected new members to the governing board. The representatives of both schools were adamant that they still intended to review and revise their codes, to align with the constitution of this country. In this regard, one school principal said:

> *I can confirm the existence and application of the old code of conduct for learners in this school, but I must point out that we have a draft document which amends the existing code, as we realised that the old version no longer responds to current demands. We are hoping to make use of the draft document soon, so as to implement the new code of conduct to maintain discipline in our school.* (Principal, AS)

Another participant echoed this:

> *I must confess that during my term in office the code had never been revisited. From what was observed, though, significant challenges remain in this respect, but that was actually the situation that we cannot really help at the moment.* (Teacher, MS)

In similar vein, a third participant noted:

> *Actually, the school has a piece of paper referred to as a code of conduct for learners, yet I doubt if it functions in the way it is supposed to, when held up to the stipulations outlined in SASA. Negligence has serious repercussions and can have a devastating effect: although the end of the year is upon us, the newly elected SGBs have not yet sat down to revise the code of conduct for the new intake of learners.* (Teacher, MS)

During the researchers' visits, observation revealed that both schools had problems with governance and learner discipline. This is because, as learners approach the Further Education and Training (FET) phase, biologically they are becoming more

mature and they no longer identify as closely with learners in the senior phase (General Education and Training [GET]). Reasoning becomes more important, they think and argue on a more sophisticated level, and they start to explore and experiment with social boundaries. Some show a tendency toward violence, others become aggressive or indulge in bad behaviour (i.e. illicit romances, smoking, skipping class, etc.) and, due to peer pressure, many foster objectionable habits. The demands which are placed on a code of conduct must align with the developmental levels of the learners who attend the school – there is no 'one-size-fits-all' means of disciplining learners from different age groups. It is thus argued:

> "An undesirable society, in other words, is one which internally and externally sets up barriers to free intercourse and communication of experience. A society which makes provision for participation in its good of all its members on equal terms and which secures flexible readjustment of its institutions through the interaction of the different forms of associated life is in so far democratic." (Dewey, 1916, p. 99)

This means taking into consideration the fluidity of the school as a community, accounting for the changes at the school and also society as a whole as contemplated by Dewey's theory. Most schools and their SGBs acknowledge the importance of regulating learners' conduct and know that it is a legal requirement to create such a code, yet few attempts to formulate or revisit their codes, and most schools fail to even make such guidelines available to learners. It appears that the content of such codes largely remains shrouded in mystery, which begs the question: how can learners adhere to disciplinary guidelines if they do now know that those guidelines are? The literature reviewed in this study revealed that the code is usually meant to replace (or act as an alternative to) corporal punishment. Notably, neither school under study here had made provision for abolishing the existing, outdated code which permitted this form of discipline, despite the constitution outlawing physical punishment.

Unequal power relations within SGBs

The findings suggest that power hierarchies still prevail amongst those serving on SGBs, and within schools as a whole. Yet the philosophies of Dewey are centred on the understanding of equality as opposed to the imposition of dictatorial ideologies and decisions (Dewey, 1916). In accordance with SASA policy regulations (RSA, 1996b), SGBs were to be introduced in South African schools expressly to promote participative and representative democracy. As one participant asserted:

> *In terms of power relation[s] within SGBs in schools, there are orders and each member has boundaries. Though it is expected of each member to contribute and participate effectively in the development of the school, sometimes the principals and teachers give some orders that other SGBs cannot easily challenge or change. They tend to prove [that they] know what is expected to be done in terms of improving discipline among learners in schools, thus they behave as the authorities in charge. This sometimes makes other SGB members – most especially, parents and learners – ... speechless, with no choice but to abide with their suggestions.* (Parent, AS)

SGBs are expected to help develop their school's mission statement, to adapt and adopt a learners' code of conduct, and to determine policies (e.g., the school's admissions and language policy), to recommend appointees to teach-

ing and non-teaching positions, help manage the school's finances, set the school fees and conduct fund-raising (RSA, 1996b; Naidoo, 2012; Ngcobo & Tiklay, 2008). As the researchers found, even though the SGB members are informed of their duties, the teacher stakeholders (principals mostly) exert their authority and power over everyone else (learners and parents), thereby effectively silencing them.

The intention was that devolving power to schools would help to eradicate autocracy in institutions of learning. Traditionally, in South Africa, decision-making powers rested solely with the head of the school, the principal, with very limited participation from teaching staff, parents/caregivers and the learners themselves (Chauke, 2017; Serero, 2016; Biesta, 2011). Indeed, efforts have been made to reject authoritarianism in schools, in favour of more democratic governance (Mutekwe & Sedibe, 2015). However, the findings of the current study suggest that the status quo prevails: principals in particular enforce their will by determining how 'their' schools will be managed. The old, prevailing mind-set saw them trapped in a paradigm of power which vested all the authority in the headmaster, who had little regard for the tenets of democracy. Many principals abused their privileged position and knowledge of policy to manipulate or misrepresent the facts (Mohapi & Netshitangani, 2018; Xaba & Nhlapo, 2014). Authoritarian leaders (in this instance, principals) mostly make unilateral decisions and drown out moderating or dissenting voices. Few organisations can exist in a power vacuum, and in schools most governance-related practices and processes depend on someone assuming ultimate responsibility (Chauke, 2017; Venter, 2016; Serero, 2016). For this reason, the cultural context of a school is vital, and must be taken into account. Where there are people, there are invariably power relations. The situation must be handled with care, however, so that a fine balance is achieved.

Parents' lack of concern/limited time to attend meetings

The findings of this study showed that time constraints hinder parental participation and engagement. Indeed, this was a notable challenge at both case study schools, which reported parent stakeholders being absent from important meetings of the governing body. Most parents do not regularly attend meetings, school activities or events, or are late to arrive. Few raise any issues and opt not to contribute when called on to share their perspectives with their counterparts. This compounds the existing problems associated with school governance. Logically, if parent representatives withhold their participation and thus narrow down the possible options or alternatives available when making a decision, all learners at the school will invariably be the poorer for it. As one participant noted:

> *Many parents do not attend meetings because the school enrols learners with working-class parents – being employees themselves, their employers are loath to give them time off work. Although some are not employed full time, they do not enjoy the same rights as ordinary workers. Not even one third of parents make it to meetings, which makes it difficult to say that the majority of the parent component participates in decision making. It is, by contrast, easy for teachers and learners to attend SGBs meetings, as they are already on the premises.* (Teacher, AS)

As indicated, parents' failure to attend SGB meetings could mainly be attributed to time constraints, but distance was also a factor: schools are usually

located far away from the learners' homes. As the study participants reported, many parents are working single mothers who rely on a daily wage and cannot leave work to attend meetings, as 'no work no pay' applies. Their non-attendance or non-participation compromises the democratic principles which this country espouses. As Serero (2016) notes, mothers, fathers and designated caregivers should be consulted for their views on school governance and decisions regarding their children's education. If the collective goal is to better the school, along with the teaching and learning on offer there, an excellent place to start would be by formulating and implementing a code of conduct for learners, so that nobody is ignorant of the rules (Xaba & Nhlapo, 2014; Welsh & Little, 2018; Smit, 2013). A lack of time cannot be allowed to thwart what must be an inclusive process.

Surprisingly, the participants' statements revealed a seeming lack of concern on the part of parents about the democratic process. Indeed, some parents may not be adequately prepared, and others may lack transport, or be unable to express themselves comfortably. However, withholding participation or allowing oneself to be silenced go against the principles of what makes a democracy. As one participant asserted:

> *The attendance of parents who are part of the SGBs are very low. Only [a] few parents […] participate frequently, because of their understanding that their contributions will go a long way to enhance disciple among learners in schools, through their involvement in certain rules and regulations to be formulated. Some parents give [the] excuse [that] they do not have the experience required to … contribute meaningfully, despite the fact that they were given opportunities to be part of the SGBs.* (Chairperson of the SGB, MS)

Yes, there may be significant gaps between SGB members as regards literacy levels, and while these cannot be overlooked, nobody should equate silence with disinterest, especially where members are uninformed about educational challenges (Mohapi & Netshitangani, 2018; Sibanda, 2017; Kubow, 2009; Harber & Serf, 2006). A lack of inclusivity may cause alienation amongst more introverted members (Sibanda, 2017; Xaba & Nhlapo, 2014), and it is important to remind parents that their recommendations can be meaningful, whatever their own scholastic background (Biesta, 2011; Mohapi & Netshitangani, 2018). SASA (RSA, 1996b) confirms that each parent should be recognised for his/her unique and invaluable contribution in serving on an SGB.

As indicated in the discussion of each emerging theme, it is clear that democratic governance depends on the participation of *all* stakeholders, across the board. Cooperation is a building-block of democracy, yet this research highlights the fact that although some efforts are being made to put democracy into practice, this does fully not yet occur.

Conclusion

This study examined the dynamics of school governing bodies (SGBs) participation in the construction and implementation of code of conduct for learners. Findings from the study revealed that although schools tried to adhere to democratic principles, but in truth not all SGB members participate equally. Similarly, findings from the study revealed that learners do not voice their opinions in decision making because of cultural norms, which relegates students' role to tokenism and ceremonial positions. In addition, other challenges faced in drafting and implementing

code of conducts for learners includes SGBs neglect of code of conduct, unequal power relations, parents' lack of concern/limited time to attend meetings and lack of adequate training for SGB members. Based on the findings from the study, it was therefore recommended that SGB members should be exposed to developmental initiatives aimed at equipping and enabling them to make more sound decisions about what should be included in, or excluded from, a learners' code of conduct. In addition, the study recommends that SGBs should be trained on democratic school governance. In conclusion, recommendation for further studies should include how the role of parent as stakeholders in SGBs affects the democratization of schools within the South African context.

Implications of the study

This paper argues that there is no equal participation of SGB members in the construction and implementation of code of conduct for learners caused by factors such as SGBs neglects of code of conduct, unequal power relation and parents' lack of concerns and lack of adequate training for SGB members. Thus, to improve equal participation of SGB members towards the construction and effective implementation of code of conduct for learner, teacher liaison officers in schools should be empowered and encouraged to organize structured programs for learners on a regular basis to empower learners' representatives. Similarly, representative council of learners should be provided with platforms that allow them to voice their concerns as this will not only promote active participation but also assist in the development of democratic school culture. The Department of Basic Education should strive to fulfil its commitments by organising training for SGB members on regular basis with special consideration on time, date and availability of members. Similarly, schools should create awareness programmes that encourages parental involvement, and include in their annual plan, programmes to empower parents.

In the same vein, school management must ensure that code of conducts is at teachers' disposal, as well as organizing workshops and mentorship programs, which can assist teachers to have a sound understanding of the content and scope of the code of conduct. As a result, consistency in the application of the code of conduct for learners must always be emphasized. In conclusion, school principals and management team must consider strategic approach to dealing with equal participation of members. In addition, principals and management team should develop innovative ways to motivate learners, parents, as well as the teachers to develop a sense of ownership that will promote active participation of all members.

Correspondence
Prof Vusi Mncube
University of Fort Hare
Faculty of Education
University of Fort Hare
Private Bag X1314
King Williams's Town Road
Alice, 5700, South Africa
Email: vmncube@ufh.ac.za

References

Beane, J., & Apple, M. (1991). *Democratic schools: Lessons from the chalk face.* Buckingham: Open University Press.

Biesta, G. (2011). *Learning Democracy in School and Society: Education, Lifelong Learning, and the Politics of Citizenship.* Rotterdam: Sense.

Cambi, F. (2009). Political-Pedagogical Itineraries in Dewey's Thought. In L. Hickmann, & G. Spadafora, *John Dewey's Educational Philosophy in International Perspective. A New Democracy for the Twenty-First century.* USA: Southern Illinois University.

Carr, W., & Hartnett, A. (1996). *Education and the Struggle for Democracy: The Politics of Educational Ideas.* Buckingham, Philadelphia : Open University Press.

Chauke, T. (2017). *Effectiveness of rural-based secondary school governing bodies in Limpopo Province of South Africa: Implications for rural development.* University of Venda.: PhD thesis: University of Venda.

Cohen, L. (1971). *Research methods in education (4th ed.).* London: Routledge.
Creswell, J. (2014). *A concise introduction to mixed methods research.* London: Sage.

Davids, N. (2018). Democratic citizenship education: An opportunity for the renegotiation of teacher identity in South African schools. *Education as Change, 22*(1), pp.1-17.

Davids, N., & Waghid, Y. (2015). The Invisible Silence of Race: On Exploring Some Experiences of Minority Group Teachers at South African Schools. *Power and Education, 7*(2), pp.155–168.

DeVries, L. (1993). *Education for democracy: Rights and obligations in a democratic society.* South Africa: Wachwa.

Dewey, J. (1916). *Democracy and education: An introduction to the philosophy of education.* New York: MacMillan.

Dewey, J., & Childs, J. (1933). The social-economic situation and education. In W. Kilpatrick, *The Educational Frontier* (pp. 32-73). New York: Appleton-Century.
Greene, M. 1. (1985). The role of education in democracy. *Educational Horizons (Special Issue), 63*, pp.3-9.

Harber, C., & Serf, J. (2006). Teacher Education for a Democratic Society in England and South Africa. *Teaching and Teacher Education, 22*(8), pp.986–997.

Harber, C., & Trafford, B. (1999). Democratic Management and School Effectiveness in Two Countries: A Case of Pupil participation. *Educational Management and Administration, 27*, pp.45-54.

Hickmann, L., Neubert, S., & Reich, K. (2009). *Between Pragmatism and Constructivism.* New York: Fordham University Press.

Jean-Pierre, J., & Parris, S. (2018). Alternative school discipline principles and interventions: An overview of the literature. *McGill Journal of Education/Revue des sciences de l'éducation de McGill, 53*(3).

Kubow, P. (2009). Democracy, Identity, and Citizenship Education in South Africa: Defining a Nation in a Postcolonial and Global Era. In H. D.–5. edited by J. Zajda, *In Nation-Building, Identity and Citizenship Education.* Dordrecht: Springer.

Mabeba, M., & Princloo, E. (2000). Perceptions of discipline and ensuring discipline problems in secondary education. *South African Journal of Education, 1*, p.34.

Magano, M., Mohapi, S., & Robison, D. (2017). *Realigning teacher training in the 21st century.* New York: Cengage.

Maina, S., & Sindabi, A. (2016). The impact of the ban of corporal punishment on students' discipline in secondary schools: A case study of Bahati division of Nakuru district. *International Journal of Innovation and Applied Studies, 14*(3), pp.850–862.

Maree, K. (2000). What cannot be endured should be cured: Untying the Gordian knot of violence in South African schools. *Acta Criminologica, 13*(3), pp.1-13.

McMillan, H., & Schumacher, J. S. (2006). *Research in education evidence-based inquiry.* Boston: Allyn and Bacon Inc.

Mestry, R., & Khumalo, J. (. (2012). Governing bodies and learner discipline: managing rural schools in South Africa through a code of conduct. *South African Journal of Education*, pp.97-110.

Mlalazi, L., Rembe, S., & Shumba, J. (2016). Implementation of code of conduct as a positive discipline management strategy in Bulawayo Metropolitan Province secondary schools. *International Journal of Education, 15*(3), pp.444–460.

Mncube, V. S (2009). The perceptions of parents of their role in the democratic governance of schools in South Africa: Are they on board? South African Journal of Education, Vol 29, pp.83-103.

Mncube, V., & Harber, C. (2010). Chronicling educator practices and experiences in the context of democratic schooling and quality education in South Africa. *International Journal of Educational Development, 30*(6), pp.614–624.

Mncube, V., & Harber, C. (2013). *The Dynamics of Violence in Schools in South Africa: Report 2012* . Pretoria: Unisa.

Mohapi, S., & Netshitangani, T. (2018). Views of parent governors' roles and responsibilities of rural schools in South Africa. *Cogent Social Sciences, 4*(1), pp.1-14.

Moloi, K. (2007). An Overview of Education Management in South Africa. *South African Journal of Education*(27), pp.463–476.

Mutekwe, E., & Sedibe, M. (2015). South Africa's quest for democratic education through a Language in Education Policy perspective. *Creative Education*, pp.1076 –1085.

Naidoo, R. (2012). *Experiences and practices of school principals in creating, leading and governing democratic schools.* KwaZulu-Natal: Unpublished Thesis of the University of KwaZulu-Natal, Edgewood Campus.

Ngcobo, T., & Tikly, L. (2008). Key Dimensions of Effective Leadership for Change: A Focus on Township and Rural Schools in South Africa. *Paper presented at the CCEAM Conference, Think Globally Act Locally: A Challenge to Education Leaders.* ICC Durban.

Ngidi, L. (2018). *Reducing school violence: A peace education project amongst stakeholders in Umlazi.* Durban: Unpublished PhD Thesis of the Durban University of Technology.

Nieuwenhuis, J. (2007). Introducing qualitative research. . In K. Maree, *First steps in research* (pp. 47-52). Pretoria: Van Schaik.

Oosthuizen, I., Wolhuter, C., & Vanderwalt, J. (2003). Learner discipline in Schools. *South African Journal of Education, 20*(4), p.308.

Pateman, C. (1970). *Participation and Democratic theory.* Cambridge: Cambridge University Press.

Peters, M., & Jandric, P. (2017). Dewey's Democracy and Education in the age of digital reason: The global, ecological and digital turns. *Open Review of Educational Research, 1*, pp.205-218.

Republic_of_South_Africa. (1996a). *Constitution of the Republic of South Africa, Act 108 of 1996.* Pretoria: Government Printers.

Republic_of_South_Africa. (1996b). *The South African Schools Act, 84 of 1996.* Pretoria: Government Printers.

Ryan, A. (2014). *The road to democracy in Irish primary school education.* Sheffield: Unpublished PhD Thesis of the School of Education, University of Sheffield.
Schutt, J. (2012). The same education for all? The South African school system 17 years after the end of apartheid. *KAS International Reports*, pp.40–56.

Sebisha, M. (2015). *The implementation of a code of conduct in rural primary schools in Limpopo.* Pretoria: Unpublished MEd dissertation of the University of Pretoria.

Semali, L., & Vumilia, P. (2016). Challenges facing teachers' attempts to enhance learners' discipline in Tanzania's secondary schools. *World Journal of Education, 6*(1), 50–67.

Serero, P. (2016). *The effectiveness of school governing bodies regarding their overall school governance mandate in the Free State Province.* North-West University: PhD thesis of the North-West University, Van der Bijl Park.

Sibanda, B. (2017). *The relationship between literacy levels and parental involvement in secondary schools in Libode district, Eastern Cape.* Pretoria, University of South Africa: Master's dissertation.

Smit, M. (2013). Compatibility of democracy and learner discipline in South African schools. *De Jure, 46*(1), pp.245-265.

Smit, M., & Oosthuizen, I. 2. (2011). Improving School Governance through Participative Democracy and the Law. *South African Journal of Education, 31*(1), pp.55-73.

Squelch, J. (2000). *Discipline.* Pretoria: Centre for Education Law and Education Policy.

VanJaarsveld, L. (2011). *An investigation of safety and security measures at secondary schools in Tshwane, South Africa.* University of South Africa: Unpublished M.Ed dissertation, University of South Africa.

Venter, B. (2016). *Perceptions of stakeholders regarding the disciplinary system in a South African school.* Pretoria, South Africa: M.Ed Thesis, University of Pretoria.

Waghid, Y. (2004). . Compassion, Citizenship and Education in South Africa: An Opportunity for Transformation? *International Review of Education, 50*(5-6), pp.525–542.

Waghid, Y. (2009). Education for Responsible Citizenship. *Perspectives in Education, 27*(1), pp.85–90.

Welsh, R., & Little, S. (2018). The school discipline dilemma: A comprehensive review of disparities and alternative approaches. *Review of Educational Research, 88*(5), pp.752–794.

Xaba, M. (2011). The possible cause of school governance challenges in South Africa. *South African Journal of Education*, pp.201-211.

Xaba, M., & Nhlapo, V. (2014). Principals' views on challenges of their governance roles. *Africa Education Review, 11*(3), pp.424–444.

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP. 60-65

A Strategy for Creating Learning transformation through the Development of an immersive Digital Experience for Advertising/ PR and Marketing Teaching and Learning

PHILIP DENNETT
University of Notre Dame, Australia

Abstract

Marketing and communications jobs are rapidly transforming into technology-enriched knowledge work and graduates require new digital-led learning opportunities to build on their technology capabilities in more structured ways. This coincides with the need to create flexible learning environments that meet the needs of the majority of students to balance work, family and university life. This paper explores the use of a Socratic approach to teaching and learning that allows students to co-create a course experience through a mix of active and passive learning environments. It was tested in a marketing communications class of 49 students with the majority of students agreeing that it increased their overall understanding, motivation and engagement.

Keywords: creativity, pedagogy, co-creation, active learning, 4E's Socratic Model

Introduction

In my PhD thesis, I developed and tested a model designed on a Socratic approach that improved creative outcomes in corporate teams. I believed this model could be adapted to increase learning potential in a classroom environment and began an exploration into how this could be used to create active learning. According to Beatty and Albert (2016) active learning is best matched to a classroom environment whereas passive learning is more suitable outside the classroom.

Taking this concept as a starting point I redesigned the content of a workshop-based Advertising unit. My first step was to look at it from the student's viewpoint. At the conclusion of the previous semester we conducted a survey of students which exposed an issue relating to core knowledge. This unit was a capstone unit that had a mix of enrolments from both the Arts disciplines and the Business school which meant only half the group had an in-depth marketing knowledge. So as not to limit students' ability to participate in the group workshops I created a series of online tutorials and self-directed activities that enabled any student to either gain or refresh their marketing knowledge. As part of these activities I used inbuilt feedback mechanisms such as quizzes which helped students to understand and further develop their knowledge.

Students who had previously struggled became more engaged and were better able to contribute to their team – this was evidenced by an increase in attendance at the workshops and more active participation. A survey conducted at the end

of the semester showed that students felt empowered by this approach. They particularly liked the level playing field created by the structure (less confrontational) and the fact that each session resulted in real progress for their assessment. While this approach worked well, I wondered if it could be adapted to suit a more traditional lecture/tutorial model.

Exploration

I was keen to see if I could develop this further using a marketing communications class of 49 students. In researching the literature on flipped classrooms, I found agreement on three issues that impacted on the design of them. These were: classroom activity not being adapted; quality and access issues; and student engagement (Enfield, 2013). I used these cautions in designing a new approach to teaching and learning. It centered around "chunking" the available time into four segments that matched the four parts of the Socratic model (Dennett, 2016) and mapped them to Bloom's framework:

- Pre-reading – an exploration of what is known.
    - Bloom: *knowledge & comprehension*.
- Lecture – an examination of evidence supporting the theory.
    - Bloom: *application and analysis*.
- Self-directed online activity – evaluating a specific case or point of view.
    - Bloom: *synthesis and evaluation*.
- Group activity – creative output resulting in new understanding.

This approach meant that a copy of *PowerPoint* slides was not going to be sufficient as a resource to support learning; therefore, I developed a workplan (see example below) for each week which summarized key aspects of each segment and provided a roadmap for students to follow.

Week 3: How do ads work?

Figure 1: Weekly workplan

Stage	Content	Activity
Explore: *what do we currently know about how advertising works?*	**Questions**: 1. What is the nature of communication? 2. How does advertising fit into the communication process? 3. How do consumers respond to advertising messages? 4. What are retrieval cues and how do they help shortcut the communication process?	YouTube channel Click on the link above to visit our YouTube page to view our introduction to this week's content.
Examine: *what evidence supports our understanding?*	Here we consider the brand as the basic building block for advertising success and examine the concepts of brand image, brand attitudes and brand trust.	Reading Activity Examine the following papers and prepare an annotated bibliography for each using the template provided. Dobni and Zinkhan, 1990 Mitchell and Olson, 1981 Delgado-Ballester and Munuera-Aleman, 2000
Weekly Quiz Quiz instruction: Starting in week 2 you are required to complete an electronic quiz during each lecture or collaborate session. Note that this means you will have to complete the required readings prior to your lecture time. The quizzes will consist of 10 questions each and are designed to test your knowledge of creative methodologies and theories as well as your ability to apply them to a specific context. The readings and activities relate to the quiz with a particular focus on how the relationship between the quiz and both of these things help you to meet the outcomes they are aligned with. Each quiz will relate to the content of the week in which it is conducted. Link to quiz		
Evaluate: *what are the pros and cons, what is missing?*	Lecture or online Collaborate session.	
Elect: *how can we apply this to our project?*	In your agency team meeting for this week, develop a brand promise for the client product and write a rationale to support it.	Complete and submit the brand worksheet.

This design addressed each of the three issues, described earlier, in the following ways:

Firstly, adaptation—the lectures were based around asking specific questions and examining each in turn; this was designed as an aid to reflection, support-

ed by the self-directed activity which demonstrated the theory in action. Quality and access issues were managed by integrating the material into the learning management system and providing a mix of reading, listening and reflection. Student engagement was optimized, through the use of assessable quizzes based on pre-reading and online activities (Davis, 2016); available time was "chunked" rather than added to (Comber & Brady-Van Den Bos, 2018); plus, guided reading questions (Brown et al., 2016) were used to self-assess the level of knowledge they had gained.

To test the suitability of this approach from the student's perspective, I developed the following hypothesis:

> *A flipped teaching model with a combination of assessable passive learning outside the classroom, combined with in-class active learning will produce a higher level of engagement than a traditional lecture model.*

Methodology

In order to measure both the level of acceptance of the teaching model and students' perceptions of what could be improved, I used a mixed methods approach which is appropriate when canvasing different perspectives around the issues being studied (Wisdom & Cresswell, 2013). Because the population was of a manageable size and well-defined (i.e. students of a specific class), a total population sample was used. This also eliminated any bias in sample choice.

I tested this hypothesis with a simple online anonymous questionnaire using a five-point Likert scale. The questions were:

1. The combination of book pre-reading, lecture, online activities, and tutorial increased my understanding of the topics.
2. The combination increased my motivation.
3. I would recommend the use of the same combination next year.
4. I prefer the combination compared to a more traditional lecture/studio model.
5. What type of content would you like to see more or less of in future (qualitative).

Results and discussion

Overall the response rate was 31% with the following results:

- Increased overall understanding
  - 86.7% either agreed (26.7) or strongly agreed (60)
- Increased motivation and engagement
  - 93% either agreed (46.6) or strongly agreed (46.6)
- 93% preferred this model over traditional
- 87% recommended the same model be adopted for other units.

Consistent with the positive results for the quantitative questions; the final qualitative question produced only positive comments. The following comments are typical:

> *"I love the extra readings (online activity) the lecturer posed every week. Some of the content mentioned in the readings are quite helpful and enabled*

me to get some insights on the assignments we are doing throughout the whole semester."

"I thought the combination of aspects used in the paper was really good and worked well. Would be great to have even more flexibility in the future."

Based on these results and my own reflection after each session, I developed a number of insights. Firstly, the quiz component meant that students were better prepared. This addresses DeLozier & Rhodes (2017) worry that in a flipped classroom environment, students might not read the assigned material. Secondly, by making quizzes assessable and also forcing completion during the session, meant that overall participation increased dramatically and many students became quite competitive—wanting to score higher than their colleagues. This is consistent with Comber & Brady-Van Den Bos (2018) who suggest that such activity needs to be incorporated into existing workloads.

Lastly, a number of students had questions relating to other assessments which, with stronger expressed links back to assignments in each workplan, could have been avoided. Making this change would also help students to identify relevant content and help them apply their knowledge.

Conclusion

This exploratory investigation found that a flipped teaching approach based on a Socratic questioning model, together with a combination of assessable passive learning outside the classroom, combined with in-class active learning, produced a higher level of engagement than a traditional lecture/tutorial model.

Correspondence
Dr Philip Dennett
School of Arts & Sciences
University of Notre Dame Australia
Cnr Broadway and Abercrombie St (PO Box 944)
Broadway NSW 200
Australia
Email: philip.dennett@nd.edu.au

References

Beatty, J. & Albert, M. (2016). Student perceptions of a flipped classroom management course, *Journal of Applied Research in Higher Education*, 8 (3), pp.316-328.

Brown, CA., Danvers, K. & Doran, DT. (2016). Student perceptions on using guided reading questions to motivate student reading in the flipped classroom. *Accounting Education*, 25: (3), pp. 256–271.

Comber, D. P. M., & Brady-Van den Bos, M. (2018). Too much, too soon? A critical investigation into factors that make Flipped Classrooms effective. *Higher Education Research and Development*, *37*(4), pp. 683-697. https://doi.org/10.1080/0729 4360.2018.1455642.

DeLozier, S.J. & Rhodes, MG. (2017). Flipped Classrooms: a review of key ideas and recommendations for practice. *Educational Psychology Review*. 29, pp. 141-151.

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP. 67-80

Heuristics for Architectural Education: PACH

DAVID SLEDGE
Drexel University, USA

Abstract

Heuristics in higher education can be effective tools to help college students generate creative ideas and achieve clarity in the design process of their projects. Professors need to coach students through peer-to-peer learning and self-discovery with heuristics, categorically tailored for accountability and discovery through play. Indeed, creative students now enter college with considerable experience in gaming play as learning tools, acquired since elementary school. Instructors must keep pace with the needs and skills of incoming college students, seeking to apply their creativity as future professionals in the emerging innovation economy. Therefore, professors should encourage creative self-efficacy through playing to learn-learning to play, dialogue as inquiry, collaboration, self-assessment, and a creative mindset among all students. A pedagogical tool in development for architectural education is PACH (Playing Architectural Creativity Heuristics) to help college students improve divergent thinking skills, resist premature closure, enhance flexibility, and assess the creativity of their design projects. PACH consists of three modular components organized around five major subjects in design education. This paper explores how heuristics, like PACH, can close scholarship gaps between architecture students' creative self-efficacy, assessments and evaluations, and design projects. Research questions raised in this paper are: What statistically significant impacts do heuristics make in the creativity of architecture students' design projects? How do they affect creative self-efficacy? And what are the perceptions of professors and students on the effectiveness of architectural creativity assessments and heuristics? Answering these questions could help develop online heuristic games to improve creativity, self-efficacy, and peer-to-peer discovery.

Keywords: architecture, creativity, education, heuristics, SCAMPER, self-efficacy

Introduction

Architectural education teaches students to shape the physical environment, facilitate human life, signify placemaking through buildings, and apply their creativity in the emerging innovation economy. Yet, like most disciplines, architectural education needs to re-examine how it prepares students to successfully work within the new global emphasis on creativity. The new innovative work environments call for a redesign of architectural education that moves from a focus on solitary projects to collaborative design dialogue and creative production. Although architectural educators strive to create ecosystems of students, professors, administrators, and parents, changes occurring across society are pressuring educators to enhance accountability, transparency, diversity, intrinsic motivation, and even make learning fun for students. Therefore, pedagogies used in architectural design studios also need to adjust to the emerging demands placed on architectural education through

techniques such as, assigned videos, internet programs, social media discussions, virtual classrooms, asynchronous instruction, and play. The pedagogies needed in architectural education now should encourage experimentation, creative self-efficacy, dialogue, and collaborative play among architecture students. Indeed, *playing to learn in architecture school can foster learning to play*, flexibility, elaboration, risk taking, tolerance of ambiguity, divergent thinking, and resistance to premature closure correlated to the creativity (Tanner & Reisman, 2014) needed in the profession of architecture.

Heuristic games can serve as a playful way to learn and help students build their creative self-efficacy through self-discovery. Architecture students, professors, and guest instructors can utilize heuristics to develop creativity and the design studio into a *container for collectively shared meaning* (Bohm, 1996; Issacs, 1993) with on-going dialogue throughout an entire class. Heuristics can also be powerful tools to help architecture students learn through progressively challenging design problems while progressively enhancing their creativity. Perhaps most importantly, heuristics can help address the misunderstanding of creativity in architectural design projects, often exacerbated by cultural differences and competing vantage points. Further, there are no standard heuristics for directing architecture design projects, enhancing creativity and improving evaluations that are often unclear, inconsistent, and resulting in misunderstanding and confusion among students and professors about how creative work should be assessed (Tzonis, 2014). Thankfully, pedagogical tools such as heuristics can help close this gap in design instruction and scholarship on creativity in architectural education. Heuristic games such as PACH- specifically designed to enhance architecture students' creativity through discovery and peer-to-peer collaborative assessment play, can help students accustomed to playing learning games since elementary school, continue to learn on their own in college.

This paper explores how architectural design education can benefit from the *Heuristic Method of Teaching* (Polya,1945) by applying SCAMPER *Thinkertoys* (Eberle, 1996; Michalko, 2006) to architecture design instruction to help students learn creativity-enhancing techniques and *collective intelligence* (Bohm, 1996). By utilizing criterion-referenced assessments throughout the creative design process: diagnostic, formative, benchmark, and summative, heuristics can improve architectural design instruction in higher education. Rather than kill individual creative expression (Beghetto, 2005), heuristics and creativity assessments improve creative self-efficacy. Heuristics are needed in architectural education for transparency, consistency, equity, and directed learning among students engaging in collaborative dialogue. Therefore, empirical data is needed to evaluate and develop heuristics with data achieved from a sample at an architecture design program in a controlled study. This paper is the first step of research on heuristics in architectural design instruction.

Creativity instruction in architectural education

Creativity is integral to the livelihood of architects, but it is not completely clear why architecture has been slow to embrace the research-based methodologies embraced by other disciplines linked to creativity and innovation. Architectural education also has not fully embraced scholarship on creativity, preferring instead to cling to a myth (Tzonis, 2014), "in the West, the idea of 'creators', defined as those who can 'make things out of nothing', is very old…. still felt today in many disci-

plines related to the production of the human-made environment including architecture and architectural education" (Tzonis, 2014). Of course, traditions are resistant to change, after all that is one of the most important attributes of a tradition, yet the global economy is rapidly changing into a design economy that will demand more, not less, accountability in creative production. Fisher (2012) ruminated on the current state and future of the emerging global economy, "…several names suggested for it- the design economy, the creator economy- but most commentators agree that the greatest value in the future will arise from innovation and creativity, the core skills of an architecture education" (p. 68).

The development and modernization of instruction in creativity still lags other important aspects such as technological integration, sustainability, community involvement, etc. Tzonis (2014) points an accusing finger at intentional mythmaking and tribalism, and Fisher suggests those who fail to keep up, will simply be left behind (Fisher, 2012). Because creativity is one centerpiece of architectural education, design instruction must enhance the synthetic, analytical, and practical intellectual skills, the risk-taking, tolerance of ambiguity, divergent thinking, flexibility, open-mindedness, experimentation, originality, intrinsic motivation, and resistance to premature closure (Sternberg, 2016) needed for innovation. Acknowledging the pressure to expand the repertoire of concerns in design studio, such as, sustainability, active-learning-classrooms, web-based-collaborative-learning, hybrid-blended-learning instructional methods, reality-based problems, and more hands-on instruction, instruction on creativity in architectural education has been left to the reflective, dialogical traditions promoted before the turn of the century (Schön, 1987). Noted architectural scholars have long agreed (Charalambous & Christou, 2016; Crysler, 1995; Danaci, 2015; Fisher, 2012, Hawlina et al., 2017; Hindle & Rwelamila, 1998; Tzonis, 214) that existing models used to conceive the pedagogies within design schools need to be updated to enhance creativity for diverse students. Pedagogical tools need to be updated for today's students reared in an era of gaming, yet there are few explicitly designed for creative divergent thinking in architectural design studio instruction.

Additionally, although architectural practice requires coordinated collaboration to design the complex buildings needed today, architectural education remains slow to make the transition from past pedagogies to the type of multidisciplinary skill-development needed to collaborate and create architectural designs for the emerging design economy (Tzonis, 2014). Too often, creativity scholarship for architectural education instruction has not been fully understood or undertaken, despite pressure from the emerging "Creator economy" previously mentioned. Indeed, even a cursory review of the scholarship on creativity instruction for architectural design studio reveals gaps in the knowledgebase of students and faculty alike regarding pedagogies for creative instruction in architectural design. Therefore, the heuristic PACH (Playing with Architectural Creativity Heuristics) is offered as a beginning to help fill this gap in architectural education for pedagogies focused on enhancing creativity.

Heuristic play

The pioneer in the field of heuristics was the mathematician George Polya (1945) who wrote *How to solve it,* introducing *The Heuristic Method of Teaching* in which the teacher sets the problem and asks students to discover the answer through experimentation and dialogue in an inquisitive, exploratory manner that aligns with

architectural education. According to Polya's conception of heuristics, the methodology *closely aligns* with architectural design instruction on creativity utilizing an iterative process of inquiry. Thus, a brief explanation is warranted.

The Greek origin of the word Heuristic is "I find; I discover." Heuristics simplify difficult decisions and help us avoid "analysis paralysis" under conditions of uncertainty by aiding decision-making. Heuristics do contain biases but makes those biases explicit. Heuristics are not algorithms (set of mathematical rules that guarantees a correct answer), but one that gives good-enough solutions consistently. This pedagogical tool is quick, easy, fun, and helps students overcome the fear of "starting from nothing" and pressure to invent the big idea …whole cloth.

Heuristics can have many uses in education as a part of the ideation, schematic design phase of design as well as evaluations taken at the end of the design process. To start a project, designers begin with questions that help clarify the problem to be solved, and heuristics can play a large role in transforming early concepts with specific feedback (Leahy et al., 2019). Heuristics are tools that serve a purpose, such as helping the user formulate a general strategy, or method for solving a problem (Kowaltowski et al., 2010) to stimulate creativity and enable architecture students to learn something for themselves in a process of experimentation and intrinsic motivation that builds self-confidence.

Heuristics encourage the user to make quick decisions that include trial and error, rules of thumb, educated guesses, and intuitive judgment; they help simplify difficult decisions and help users strategically move towards a resolution (Passmore, 2007). Because there is no set form for a heuristic- if something helps the user solve a problem, then it has heuristic value. An architecture professor using *The Heuristic Method of Teaching,* for example, works within a pragmatic paradigm of setting the problem and asking students to discover answers through experimentation and dialogue in an inquisitive, exploratory manner to arrive at what works. Heuristic methodology closely aligns with the inductive, intuitive nature of architectural design as inquiry, and can help architecture design students learn how to make defensible decisions.

Heuristics are not evaluation tools or rubrics or even assessment tools per se, but rather tools for further development of initial concepts created by student designers (Leahy et al., 2019, p. 759) for decision-making in a process of problem solving. To state simply, evaluations in education measure how well a student performed on prescribed content or ability that should be known, and rubrics set the criteria for judging performance usually with a scoring scale. The scale of a rubric helps maintain consistency across evaluations. Although worthwhile methods and tools, evaluations and rubrics may not achieve the same sense of self-discovery and efficacy that heuristics foster in an ongoing design process. One such heuristic, SCAMPER (Eberle, 1996), is an integral part of this study fused with the PACH game techniques that can prompt architecture students to generate more creative architectural design ideas through divergent thinking, fluency, and elaboration.

Playing SCAMPER

SCAMPER is a set of heuristics aimed at helping propel users forward in the design process through divergent thinking to enhance creative problem solving. The heuristic known as SCAMPER was developed by Eberle in 1996 to provide techniques and strategies to assist with idea generation and development. The word SCAMPER is a mnemonic device which stands for short phrases that can conven-

iently prompt numerous strategies to assist with the type of divergent thinking and resistance to premature closure needed for creative achievement (Tanner and Reisman, 2014). SCAMPER stands for, (s) substitute something, (c) combine it with something, (a) adapt something to it, (m) modify or magnify it, (p) put it to some other use, (e) eliminate something, and (r) reverse or rearrange it (Michalko, 2006, p. 74). SCAMPER is therefore a set of seven heuristics that prompt divergent and convergent thinking, idea development, creative problem solving, and brainstorming. SCAMPER may work best for idea development rather than idea generation (Eberle, 1996), but PACH addresses this gap by applying it to criteria related to architecture design. Finally, SCAMPER may benefit from an architectural professor acting as the "Idea Agent" (Michanek & Breiler, 2014) to guide the process and offer constructive prompts to move the brainstorming session along and prevent "squelching" of ideas by architecture students.

The author of *THINKERTOYS* provides useful advice for using a heuristic like PACH:

> In order to get original ideas, you need to be able to look at the same information everyone else does and organize it into a new and different pattern…. *Thinkertoys* reflect linear and intuitive thinking, both of which are necessary for optimum creativity. The basic difference between the two is that linear *Thinkertoys* structure existing information while the intuitive toys generate new information using insight, imagination, and intuition. (Michalko, 2006, pp. 35-39)

Playing PACH

Playing Architectural Creativity Heuristic (PACH), is an acronym and an actual word that has many cheeky meanings, including "Multitalented, creative, esp. with leadership" (URBANDICTIONARY.COM) to represent a card game invented by the author, and playfully named perhaps tongue-in-cheek, PACH. The author envisions the cards used in numerous ways in an architecture school, from "advertising" the assessment expectations prior to the jury reviews, chronicling the design process through successive assessments, journals for communication between students and professors on design projects, rubrics, and reflections at the conclusion of projects design juries. Most important of all, heuristic tools are needed to help students build confidence in their creative abilities as they mature in their journey towards the architectural profession. The list of scholars of creativity and design advocating more targeted efforts to improve creative ability and self-efficacy is long (Danaci, 2014; Kaufman, 2019; Meinel et al., 2018; Royston & Reiter-Palmon, 2017; Sternberg, 2016; Tanner & Reisman, 2014) to name a few. Clearly, there is interest in creativity research in education, and the scholarship is indeed fulsome, and yet, there is a gap in the *application* of creativity scholarship, especially in architectural design. PACH is a heuristic explicitly designed to help close this gap on creativity in architecture education.

PACH is a heuristic game played like most card games with players taking turns using cards organized in suits and scored for points based on responses to questions prompted by the cards. The heuristic works by helping students discover insights for their own design projects based upon card five suit-categories using SCAMPER techniques. Commonly defined as "Related to general strategy or methods for solving problems that enables a person to learn something for themselves. Heuristics foster trial and error, rules of thumb, educated guesses, intuitive

judgment, guesstimates, and even common-sense solutions," this standard dictionary definition of heuristics is aligned with the inductive, iterative, creative process of architectural design (Eilouti, 2020). Specifically created to match the needs of architectural design education, PACH comes with two sets of 8-inch square playing cards of same size and similar design. The backs of all cards can be used for post-it-notes during brainstorming.

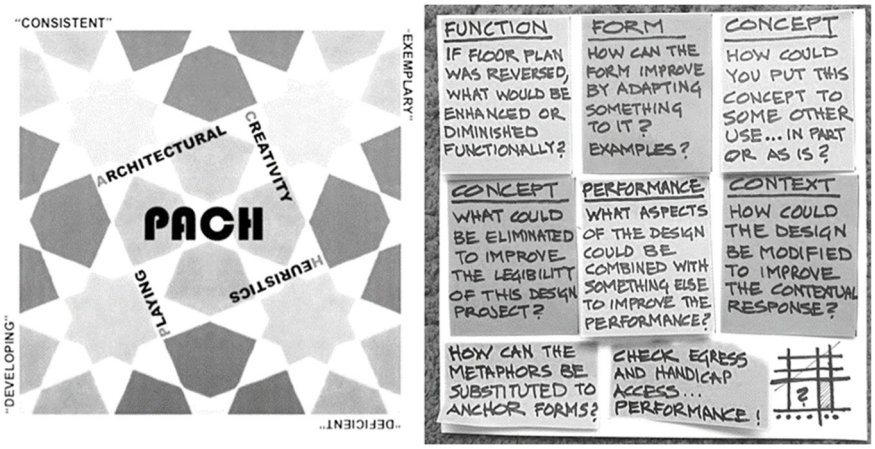


Figure 1. Back of PACH cards facilitate brainstorming with removable post-it-notes.

Eight card fronts are blank for sketching, note-taking, clipart, and personal inspirations. The 72 cards each prompts a SCAMPER technique encouraging divergent and convergent thinking in five suits related to five major subjects in architectural design to enhance creativity. PACH addresses originality and effectiveness (Beghetto, 2005) with flexibility and structure.

Scoring PACH

Players take turns answering each other's questions during intentionally brisk, intuitive play similar to typical card games. The range of techniques in SCAMPER is known but players' questions are unpredictable—student decide what to ask each other to use the cards as prompts (Figures 4, 5, 6, & 7). The purpose of PACH is to serve as a heuristic, and therefore its value is determined by how well it aids the user in self-discovery, learning, and novel problem-solving. Because students will likely want to determine the "winner" in a game, scores can be given for how well a design addresses the ten categories so scores can be tallied (Figures 8, & 9). Questions should be written on post-it-notes and affixed to the back of cards for brainstorming and aid reflection. Scoring is also possible for assessment when playing alone in "solitaire" for self-assessment. Up to five students can play per game- half of a typical design studio of ten students. PACH encourages criterion-referenced assessments throughout the creative design process: diagnostic, formative, benchmark, summative, and encourages learning through play, improvisation, peer-to-peer learning to foster fluency, flexibility, elaboration, divergent and convergent thinking skills, and tolerance of ambiguity. PACH helps architecture stu-

dents understand criteria used for reviews, study major concepts, dialogue with classmates, and enhance creativity through discovery in both solitaire and self-reflection. The cards can be photographed with cellphones at the end of a game-front prompt and back post-it-notes, and then the cards are ready for reuse- photographs can be uploaded into a graphic program for presentations. Regardless of the declared winner of the game, all students win when pedagogies are targeted, tailored, timely, effective, appropriate, and learning is fun!

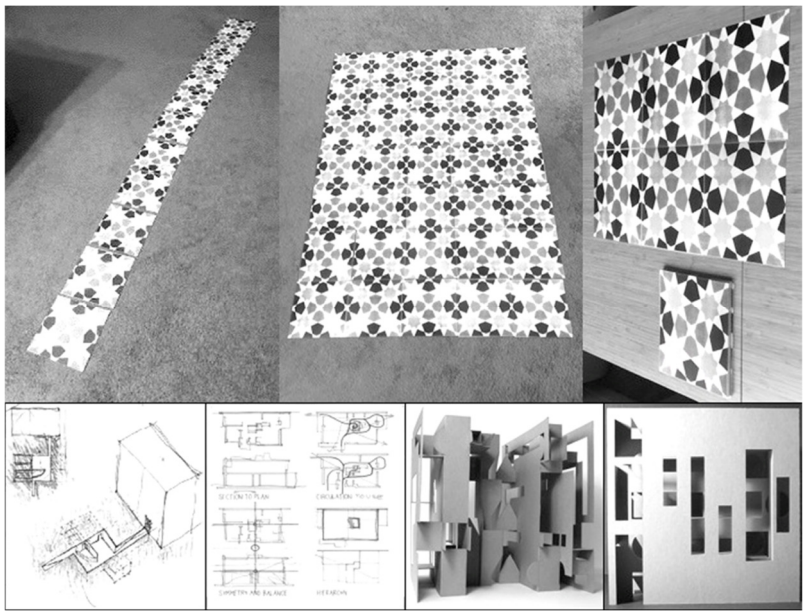


Figure 2. PACH cards help teach geometry, proportion, ratio, and pattern. All cards are modular to facilitate recombination of post-it-notes, sketches, questions, ideas, and study models. Display linearly to study narratives or in a grid to study spatial relationships in five major subject-suits.

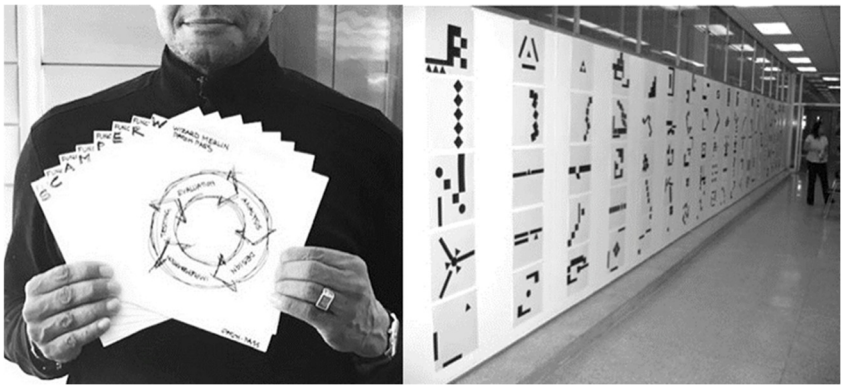


Figure 3. PACH coordinates game play, journals, models, sketches, & diagrams in five subjects.

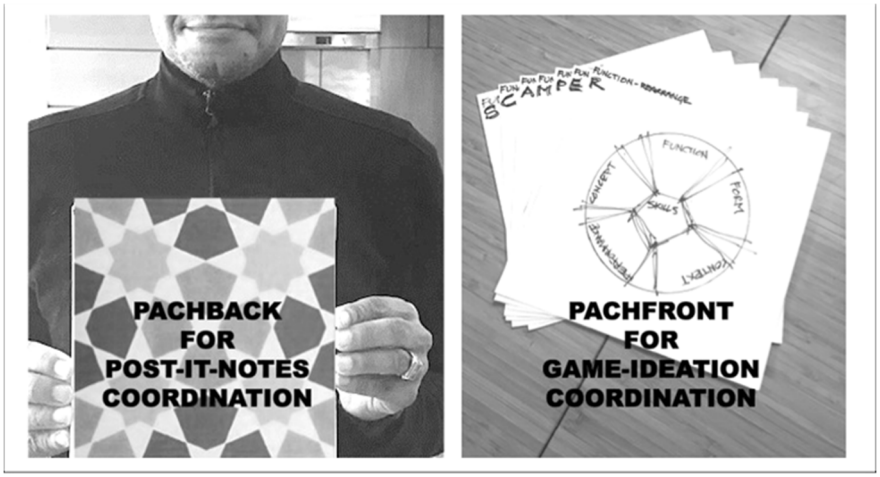


Figure 4. PACH cards are large enough to work well for post-it-notes and prototyping, and small enough to comfortably hold playing a card game. Cardstock is durable, flexible, easy to copy.

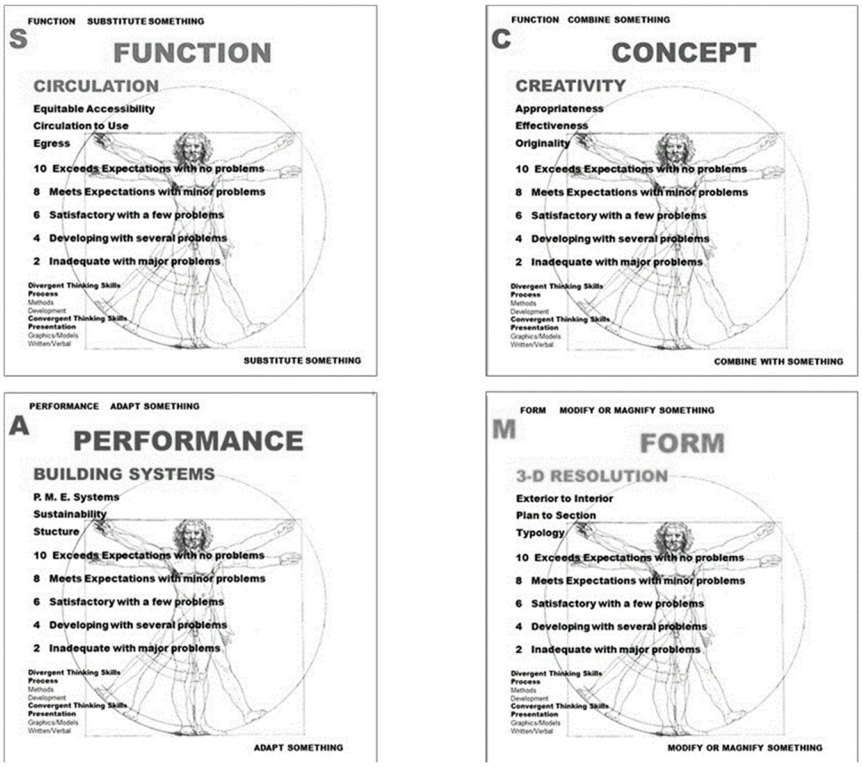


Figure 5. PACH card fronts indicate suit, subject, categories, scoring, and SCAMPER technique.

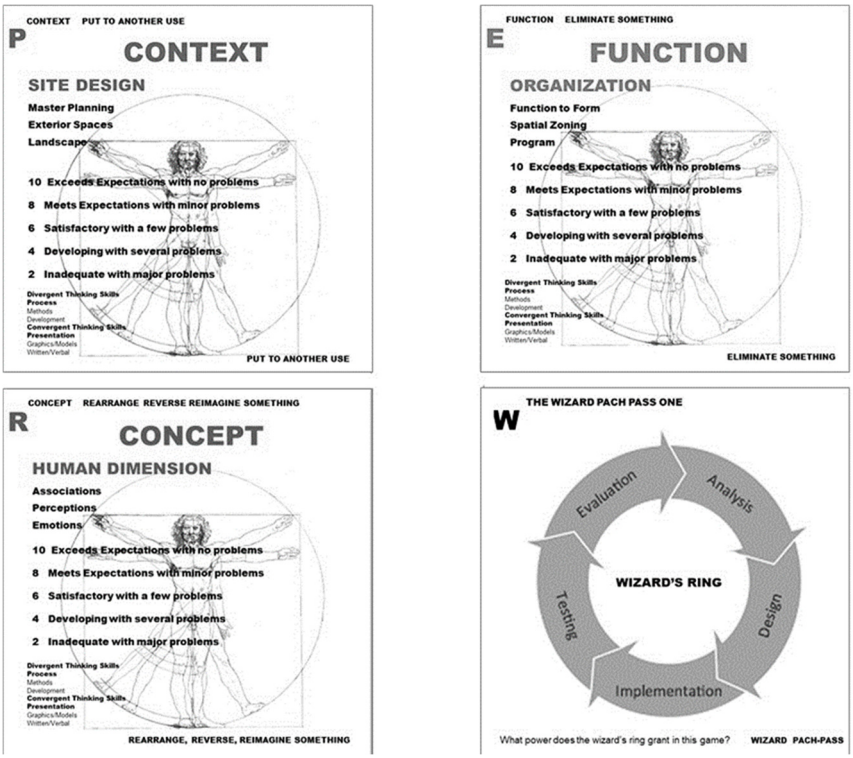


Figure 6. SCAMPER questions apply to design subjects. PACH sets include two wizard passes.

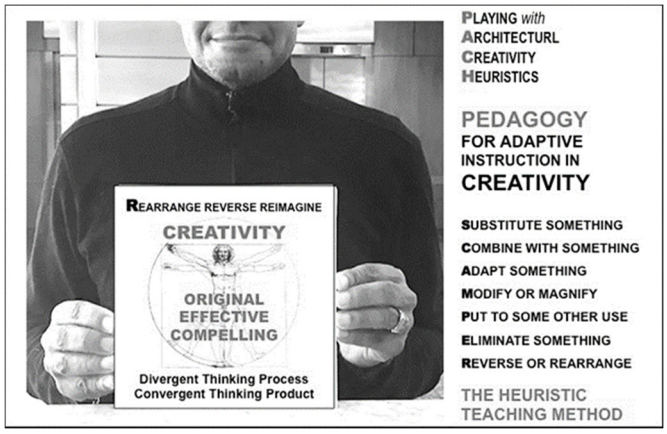


Figure 7. PACH consists of playing cards, brainstorming cards, and a dedicated journal with at least one dimension of 8 inches to allow photocopies of PACH cards to be affixed within. The PACH set serves as a communication tool between students, and with the architecture professor.

PACH SUIT	PACH CATEGORY	PACH SCORE
CONCEPT	Creativity	10
	Human Dimension	10
FORM	3-D Resolution	10
	Composition	10
CONTEXT	Site Design	10
	Zeitgeist	10
FUNCTION	Circulation	10
	Organization	10
PERFORMANCE	Building Systems	10
	Social Systems	10
SKILLS	Divergent Process and Convergent Product Presentation*	
TOTAL MAXIMUM SCORE		100

*Divergent thinking skills utilized during the design process and Convergent thinking skills illustrated during design presentation are included on all cards and factored into each score.

Figure 8: Example of tallying scores with PACH as a self-assessment learning tool.

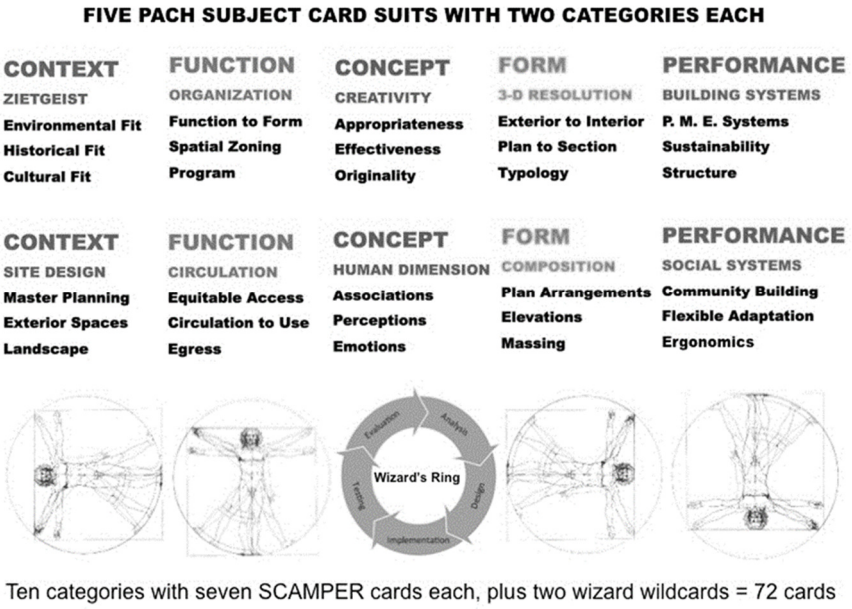


Figure 9. Although PACH is targeted specifically for architecture students, it can be tailored for other subjects. Developing PACH online will bring game-play-learning full circle. Remember: don't be judgmental; don't be closed-minded; don't rush to premature closure; don't discount any ideas. Do play briskly, intuitively, and have fun learning how to answer, *and ask* questions.

Discussion

- Heuristics like PACH can facilitate the overall achievement of cognitive, psychomotor, and affective objectives for teaching architecture students how to discover and assess design solutions within the studio conceived as *dialogue container* (Isaacs, 1993).
- Heuristics can help students develop an attitude of strategic experimentation and improvisation. PACH utilizes randomness, collaboration, and novelty to assist creativity
- Heuristics can encourage architecture students to explore design problems by themselves, discover effective solutions to design problems, explore, and retain knowledge through divergent and convergent thinking. PACH can be played students alone or in groups.
- Heuristic teaching strategies foster self-learning, self-discovery, self-reliance, and self-efficacy. PACH provides structure to assist in the risk-taking that enhances creativity.
- High degrees of divergent and critical thinking skills are required by the respective learners. Students who fail to quickly grasp concepts and excel from the start may find PACH too frustrating. Communication & observation by the professor is critical.
- PACH may be too advanced for beginning architecture design students at first.
- Commitment to provide due diligence for this exploratory teaching method, work with the heuristic, collaborate, learn, and have patience is required with heuristic tools.
- The heuristics may lose effectiveness with repetition within a course and will need to be varied to encourage intrinsic motivation and resistance to premature closure in students.
- A specific heuristic like PACH may not be transferable to all architectural instruction because it depends upon clearly stated subjects and well-defined pedagogical objectives.
- Architecture professors should become adept *Idea Agents* (Michanek & Breiler, 2014) in the studio. Students need coaching with supplemental texts, videos, exercises, and hints.
- The expectation is NOT that the student gives "The Correct or Final Answer" but rather uses PACH in one of five categories that apply to architecture with SCAMPER.
- Rule variation is allowed over multiple games to avoid repetition and boredom—*creativity-killers* (Amabile, 1998).
- The architectural professor should play the role of coach by asking students to share all cards, then coordinate the cards, sketches, notes, and photographs of study models with the journals and reflective papers to scaffold the exercises and foster self-discovery.

Conclusion

This paper has situated the *Heuristic Teaching Method* within the context of the type of pragmatic problem-solving techniques used in architectural design instruction and examined how time-tested heuristics such as SCAMPER, can be com-

bined with novel architectural design pedagogies such as PACH. A brief overview of heuristics as problem-solving tools and their relevance to architectural education has been provided. A snapshot of the state of architectural design instruction gave context for potential benefits of adding specifically tailored heuristics. Two heuristics were combined, SCAMPER and PACH, to become a tool for facilitating brainstorming, improvisation, discovery, assessment, and reflection. Finally, although it is possible to use PACH as an evaluative tool, and professors should consider aligning their rubrics with the five major subjects and ten categories of PACH, the focus of this research has been on *heuristics as open-ended assessment tools* for architecture students learning design concepts.

Heuristics can help align the intangible spirit of original architectural design, with evaluations focused on the tangible aspects of appropriate buildings. Heuristic tools such as PACH can help demystify creative processes, products, and evaluations for students and professors alike. The next step in this research is to conduct a controlled study with a targeted sample to evaluate the effectiveness of PACH. Moving forward, the development of PACH as a digital game would increase its application in diverse settings and appeal to a wider range of students who could play online anywhere for distance learning. In conclusion, more heuristics created for architectural design instruction are needed; PACH may help close this gap, and research in a mixed-methods longitudinal study that includes assessment testing quantitative data & interview qualitative data could yield insight on the efficacy of PACH and help determine how other heuristics can be developed for architectural education. Further research is warranted to address three missed opportunities in architectural instruction: developing heuristics to combat self-doubts and myths of creativity, incorporating game-play-pedagogies, and scaffolding exercises to strategically address education holistically in the curriculum. Finally, PACH helps students hone divergent thinking skills playing the game, and convergent thinking skills planning their presentations.

References

Amabile, T. (1998). How to kill creativity. *Harvard Business Review, 9*(1), pp.1-12. Retrieved from *www.hbrreprints.org.*

Beghetto, R. (2005). Does assessment kill student creativity?. *The Educational Forum, 69*(3), pp. 254-263.

Beghetto, R. A., & Kaufman, J. C. (Eds.) (2016). *Nurturing creativity in the classroom* (2nd Ed.). New York, NY: Cambridge University Press.

Bohm, D. (1996). *On dialogue.* New York, NY: Routledge.

Charalambous, N., & Christou, N. (2016). Re-adjusting the objectives of architectural education. *Procedia-Social and Behavioral Sciences*, *228,* pp. 375-382.

Crysler, C. G. (1995). Critical pedagogy and architectural education. *Journal of Architectural Education, 48*(4), pp. 208-217.

Danaci, H. M. (2015). Creativity and knowledge in architectural education. *Social and Behavioral Sciences, 174,* pp. 1309-1312.

Dutton, T., Willenbrock, L., & Schön, D. (1989). The design studio: An exploration of its traditions and potentials. *Journal of Architectural Education, 43*(1), pp. 53-55.

Eberle, B. (1996). *Scamper: Games for imagination development.* Waco, TX: Prufrock.

Eilouti, B. (2020). Reinventing the wheel: A tool for design quality evaluation in architecture. *Frontiers of Architectural Research 9*(1), pp. 148-168.

Fisher, T. (2012). The forces that will change architectural education. Enquiry: The ARCC *Journal of Architectural Research, 6*(1), pp.67-68. doi: 10.17831/enq:arcc.v6i1.8

Hawlina, H., Gillespie, A., & Zittoun. (2017). Difficult difference: A socio-cultural analysis of how diversity can enable and inhibit creativity. *Journal of Creative Behavior 53*(2), pp. 133-144. doi: 10.1002/jocb.182

Hindle, R., & Rwelamila, P. (1998). Resistance to change: Architectural education in a turbulent environment. *Engineering, Construction and Architectural Management, 5*(2), pp.150-158.

Isaacs, W. (1993). Taking flight: Dialogue, collective thinking, and organizational learning. *Organizational Dynamics, 22*(2), pp. 24-39.

Kaufman, J. C. (2019). Self-assessments of creativity: Not ideal, but better than you think. *Psychology of Aesthetics, Creativity, and the Arts, 13*(2), pp.187-192.

Kowaltowski, D. C., Bianchi, G., & de Paiva, V.T. (2010). Methods that may stimulate creativity and their use in architectural design education. *International Journal of Design Education, 20*(1), pp. 453-476.

Leahy, K., Daly, S., Murray, J., McKilligan, S., & Seifert, C. (2019). Transforming early concepts with design heuristics. *International Journal of Technology and Design Education, 29*(1), pp. 759-779.

Meinel, M., Wagner, T. F., Baccarella, C. V., & Voigt, K. (2018). Exploring the effects of creativity training on creative performance and creative self-efficacy: Evidence from a longitudinal study. *The Journal of Creative Behavior,* Vol. 53 (4), pp.546-558.

Michalko, M. (2006). *Thinkertoys: A handbook of Creative-Thinking Techniques* (2nd ed.). NY: Ten Speed Press.

Michanek, J., & Breiler, A. (2014). *The idea agent: The handbook on creative processes.* (2nd ed.). NY: Routledge.

Passmore, T. (2007). Polya's legacy: Fully forgotten or getting a new perspective in theory and practice. *Australian Senior Mathematics Journal 21*(1), pp. 1-11.

Polya, G. (1945). *How to solve it: A new aspect of mathematical method*. (Princeton Science Library, 2004 ed.). Princeton University Press. doi:10.1177/1350508412455085

Royston, R., & Reiter-Palmon, R. (2017). Creative self-efficacy as mediator between creative mindsets and creative problem-solving. *Journal of Creative Behavior 53*(4), pp. 472-481.

Schön, D. (1987). *Educating the Reflective Practitioner.* San Francisco, CA: Jossey-Bass.

Sternberg, R. J. (2016). Teaching for creativity. In Beghetto, R., & Kaufman, J. (Eds.), *Nurturing creativity in the classroom* (pp. 162-189). New York, Cambridge University Press.

Tanner, D., & Reisman, F. (2014). *Creativity as a bridge between education and industry: Fostering new innovations*. Charleston, SC: CreateSpace. ISBN: 1497482992

Tzonis, A. (2014). Creativity real and imagined in architecture education. *Frontiers of Architectural Research 3*(1), pp. 331-333.

RESEARCH PAPERS ON KNOWLEDGE, INNOVATION AND ENTERPRISE
KIE CONFERENCE PROCEEDINGS, VOLUME VIII, 2020, PP. 82-100

Evaluating Social Media Overindulgence: A Survey of the Implications of Academic Productivity in Nigeria

BRIDGET C. UJAH-OGBUAGU
National Defence College Nigeria

Abstract

While there is a view that social media promises great benefits in enhancing academic productivity, there is however an ongoing debate among researchers that social media does more harm than good to academic productivity. This view, however, has never been proven even though many researchers have conducted studies on the subject area. There is a need for an all-encompassing research study on the phenomenon of social media usage vis-à-vis academic productivity in Nigeria. This study aims to evaluate the impact of social media overindulgence on academic productivity in Nigeria using a quantitative research methodology approach. An online survey was conducted on the subject, in which views of diverse students' groups in Nigeria, as well as students across other countries, were captured using Google online form. The result of the analysis amongst others shows that social media overindulgence has a very negative effect on academic productivity even though it portrays many benefits as well in terms of enhancing academic productivity. This can only be possible if social media is used objectively by students. The study recommends amongst others that school authorities should enforce regulations to counter avoidable distractions students face because of social overindulgence.

Keywords: Social Media, Academic Performance, Academic Productivity, Students

1.0 Introduction

1.1 Background to the Study

Social media, also known as social networking site is a web-based application and service that allow individuals to construct a public or semi-public profile within a bounded system, articulate a list of other users with whom they share a connection, view and traverse their list of connections and those made by others within the system (Adreas, 2015). It also serves as a means of connecting with other people for business or commercial purposes, to make new friends, or to bring back old friends and long lost relatives and also help students in their education and society at large (Amadi et al., 2018). It is one of the internet technology usually used by students all over the world and has rapidly evolved during the last few years. The emergence of social media simplified the process of internet access because it does not require advanced internet knowledge or experience and is made up of a wide array of different formats and topics, which implies that anyone can connect through social media (Adamu, 2011).

Presently, social media has found a way to be part of most individuals' everyday lives. We use it for every part of our lives; in our relationships, for entertainment, at work and in our studies (Baym, 2015). Based on research, youths between the age of 17 to 40 are the leaders of the growing trend to use social media in high quantity daily (Eke et al., 2014). It is not only being used by the working people but also there is a heavy increase in the use of social media by the students and society at large (Eke et al., 2014). With such broad acceptance, there is no surprise that social media has affected the way people live and socialize.

The affordability of smartphones in Nigeria has resulted in a generation of youth and adults that are smartphone-addicted. Consequentially, among the contents and applications on mobile phones that glue the attention of youth to a mobile phone is the social media (Daluba & Maxwell, 2013). Although social media when used objectively could enhance academic productivity. It is quite worrisome that social media has become an embodiment of distraction to Nigerian students and youths. This is exacerbated because it has become a medium through which Nigerian youths rant all forms of violence and hate speeches to reflect their frustration amidst the political and economic sabotage, promulgate and share fake news and disinformation (Daluba & Maxwell, 2013).

1.2 Conceptual Clarification

Academic productivity: is the extent to which a student, teacher or institution has attained their long or short-term educational goals, that is, the completion of educational benchmarks (Yeboah et al., 2014). There is a direct relationship that exists between academic productivity and time invested in studies. Hence, evaluating the impact of social media usage on academic performance of the students in Nigeria is very apt.

1.3 Statement of the Problem

It is no doubt that there are great potentials of social media in enhancing academic productivity (Fatokun, 2019), there are, however, contrary views on its negative influence on the pursuit of academic excellence (Mensah et al., 2016). There is an ongoing debate among researchers that students who use social media heavily end up with lower grades compared to moderate users (Owusu & Larson, 2015). That is to say that some people think social media does more harm than good to academic productivity. This opinion, however, has never been proven even though many researchers have conducted studies on the subject area (Subair et al., 2019). No study has ever attempted to spread across a wider coverage in terms of geographic area, depth and content, which are paramount to capturing a holistic representation of the present reality. All previous studies have been either conducted in a confined and or limited area which makes their findings shallow and unreliable. There is a need for an all-encompassing research study on the phenomenon of social media usage vis-à-vis academic productivity in Nigeria. Additionally, more gap is presented since no study has been able to clearly show the relationship between social media usage and academic performance (Subair et al., 2019). It is against this backdrop that this study intends to evaluate the impact of social media overindulgence on academic productivity in Nigerian through a quantitative research methodology approach.

1.4 Objectives of the Study

The broad objective of this study is to conduct an inclusive ad encompassing study on social media usage and academic performance in Nigeria. Specifically, the study objectives are to:

1) Examine the extent and impact of social media usage overindulgence on academic performance of Nigerian students
2) Determine the trend in social media usage among students in Nigeria
3) To proffer solution to social media overindulgence among student in Nigeria
4) Recommend strategies for mitigating social media usage overindulgence and academic performance

1.6 Scope of the Study

This study focuses on educational institutions in Nigeria. The period of study is 10 years (2010-2020). The major focus is Nigeria; however, international perspective is also considered. The study focuses on academics' categories ranging from senior secondary/SSCE to tertiary institutions.

2.0 Literature Review

2.1 Benefits of Social Media to Academics

Instructors have reported that using online technologies can encourage online discussion among students outside the classes, beyond the traditional class setting (Subair et al., 2019). For instance, inside blog sites, when students update their user -profiles and personalize their unique pages, they could provide comprehensive particulars about themselves (e.g., full title, date of birth, address, educational background, and hobbies). Academics can use the information to discover more about the students. Social media sites such as Wikipedia and to some extent blogs encourage investigative-based and collaborative activities among students in higher education. This open access for active participation and can therefore create opportunities for effective learning. In addition to collaborative development among learners, students and teachers can share information such as course materials such as course syllabus, course notes, as well as and publish information as a result of the learning activity and invite feedback from peers. Students, by publishing and presenting their work to a wide audience through blogs, wikis, or podcasts, they benefit from other people's ideas and transform their understanding through reflection (Mehmood & Taswir, 2013). Students, especially at a higher level of learning can function collaboratively through exploring the opportunities given by online social atmosphere to resolve certain academic issues or issues with their peers (Andreas et al., 2010).

2.2 Negative effects of social media on academic productivity

Social media sites such as Facebook, WhatsApp, Instagram, YouTube and so on have become a hobby for several people, as it has become a social norm and existence-style for individuals from around the globe (Zhang et al., 2019). A study suggests that Facebook users often experience poor performance academically (Fatokun, 2019). Fatokun posits that addicted users prefer being on social media for pleasure as against their personal and professional responsibilities which ultimately leads to poor academic productivity.

2.3 Related work

The very first use of the term 'social media' is believed to have occurred in 1997, as revealed by Baym (2015). However, according to Andreas (2015), the era of social media started probably in the early 1990s, when the founders of 'Open Diary', Bruce and Susan Abelson, created an online social site which invited diary writers into one community. According to Andreas (2016), youths between the age of 17-40 are the leaders of the growing trend to use social media in high quantity daily, like research, personal socialization; searching for a job; academic discussion and getting study partners online; watching movies; connecting and interacting with business partners connecting with distance friends/relative, getting updates about happenings in the world etc. Presently, social media has found a way to be part of most individuals' everyday lives (Baym, 2015).

Researchers have conducted many studies that have provoked arguments on social media usage and impact on academic productivity. Some of the studies are as presented in the following comprehensive review:

In their study, Owusu-Acheaw & Larson (2015) assessed the use of social media and its effect on academic performance on tertiary institutions in Ghana with a focus on Koforidua Polytechnic students. A qualitative research methodology approach of questionnaire data collection was employed in the study in which a question was asked to know the number of respondents that have a mobile phone. Out of the total respondents of 1508, 1408 (93.4%) responded positively whilst 100 (6.6%) responded in the negative. In the same vein, 85.0% of the respondents indicated that they had internet facility on their mobile phones. The study confirmed that most of the respondents' access social media sites using their mobile phones and spend between thirty minutes to three hours per day. Also, the study revealed that there was a direct relationship between the use of social media and academic performance. However, the researcher centred only on Koforidua polytechnic student in Ghana only, which does not capture all the students' impression towards the use of social media and academic performance in Ghana particularly, hence the result cannot be relied upon.

Akubugwo (2013) examined the attitude of postgraduate students to social media usage during academic lectures and library session. The authors randomly sampled and administered questionnaires to 120 students, in addition to interviewing six (6) students. After analyzing data quantitatively and qualitatively, it was not only found that many students use social media especially Facebook, Myspace, and Twitter during academic classes, but also during library session. The study result has it that social media affects students' performance and hinders a productive library session. The study, therefore, suggests social media policy must be made mandatory for every institution and remain implemented since their findings show that academic work is negatively affected by its usage. In the study, however, the researcher used only random sampling, which is a subset of individuals chosen from a larger set which cannot be used to determine every student's perspective of social media usage.

Onuoha & Shaeed (2011) studied undergraduates in Babcock University in Ogun State, Nigeria to investigate the perceived influence of online social networks on undergraduates' academic performance. Purposive sampling technique was performed for selecting three departments from 3 faculties. A descriptive survey of 402 respondents from the selected departments was analyzed using frequency and percentage counts. Results revealed that majority of the respondents make use of social networks even and the motivation for use is more for social interac-

tion than academic purposes. Though a good number of the respondents indicated that the use of social networks has a somewhat positive influence on their academic performance, but another result shows that the motivation for undergraduates' use of online social networks is mostly social rather than academic. The study, however, is limited in the sense that it involved only 200 & 300 level students of the university. It did not include other levels in the university, which makes the study findings non-inclusive.

In another study by Zhang et al. (2019), they aimed to determine how social media impacts employees' productivity in China. A qualitative research methodology approach was adopted in the study in which employees of 5 organizations with above 100 staff were randomly selected and interviewed on the subject of social impacts on their job productivity. The study was conducted on a total of 80 employees. Their findings indicated that social media promotes positive commitment and engagement in an organization as it increases job satisfaction and decreases turnover intention of employees when used appropriately for work or business. The limitation of the study is as a result of its limited coverage and method of sampling adopted.

Additionally, Song et al. (2019) carried a qualitative study which proves that work-related and non-work-related social media promotes team engagement and improve performance. Regardless of the advantages and commitment of social media platforms on organizations and employee as specified above in the working environment, it also presents numerous threats because of the ways individuals connect in their organizations. The researchers used questionnaires in data gathering involving private and public organizations in 2 locations. The study indicated that the usage of social media platforms gradually destroys their cultural values and norms. 56.7% (143) of the respondents suggested that the use of social media exposes users to different forms of online security challenges. The shortcoming of the work, however, stems from the fact only 2 locations were considered in a region in China. More locations could be considered to give a more reliable result. Moreover, the study only focused on social media impact on employees and not work productivity.

In their study, Eke et al. (2014) investigated the use of social networking sites among the undergraduate students of the University of Nigeria, Nsukka (UNN). The study adopted the descriptive survey research design to derive responses from a random sample of 150 undergraduate students of the university. Data were collected from the subjects using a questionnaire. The population for the study comprised all undergraduate students of Nigerian University Nsukka. Five faculties were randomly selected, from which 150 students were selected using random and convenience sampling techniques. The result of the study revealed that UNN students use social networking sites for connecting, communicating and interacting with friends; online learning; leisure; job search; academic discussion and so on. The study, however, concentrated only on the positive side of social media and didn't consider the negative side effects of social media, especially in the aspect of students' addiction to social media like applications such as WhatsApp, Facebook, Instagram and so on in which overindulgence could be detrimental.

In another study by Hasnain et al (2015), the researchers carried out a study on the relationship between the use of social media and students' academic performance in Pakistan. The convenient sampling method was employed for this study because the population of the respondents were few, therefore, did not permit

the use of probability sampling method. One hundred and sixty-six (166) respondents were randomly selected which included students across different level of studies and departments. Questionnaires were personally administered by the researchers to the various students in their lecture halls. The results suggest that social media, when used positively can help students or youths in gaining knowledge that can be used to enhance their academic performance and improve their social relationship with others. The study is limited because the researcher used a convenient sampling method which does not have a good representation of the population of the students in Pakistan.

Chukwuere & Chukwuere (2017) studied the impact of social media on female social lifestyle: This study deployed both primary and secondary data sources. The primary data source was collected through questionnaire. The study involved a random sampling method in the North-West University, Mahikeng, South Africa. The sample size of 67 female students was used in the study through a questionnaire. A descriptive research method was used in the study. Their findings include the following: social media refines how female students think, interact, communicate, also, it explained that 57 (82.6%) of the females' participants suggested that social media have impacted on their social lifestyle, the result shows that social media (SM) impact on a female student both on social behaviour and otherwise. The study has shortcomings in the sense that only female gender was examined and the fact that only the social impact of social media was put in perspective.

2.4 Theoretical Framework

Uses and Gratification Theory

The uses and gratifications theory was propounded by Elihu et al. in 1974. Eke et al. (2019) explained that the uses and gratifications theory is concerned with how people use the media to gratify their desire or satisfy their needs. According, the authors, presently, scholars are using this theory to investigate issues about mobile phone usage, internet usage and social media usage among others. The viability of the uses and gratifications theory rests on the assumption that social media's audience is active and goal-oriented. People are active in choosing and using a particular social media to satisfy specific needs. The question here therefore is; what need does social media solve for the students? Gratification theory specifies that the use of social media only helps students to keep tab with distant friends, families and relatives, while it also allows them to meet new friends. This theory did not capture other aspects of life in which social media can be of importance, also, it never considers its negative implications, for this reason, this theory is not accepted.

Technological Determinism

Technological determinism theory was propounded by Marshall McLuhan in 1962 according to Hasnain et al. (2015) and Hameed et al. (2013). The theory states that technology will shape how we as individuals in a society think, feel, act and how the society operates as we move from one technological age to another. The theory seeks to show technical developments, media, or technology as a whole, as the key mover in history and social change. It is a theory subscribed to by the "hyper globalist" who claims that as a consequence of the wide availability of technology, accelerated globalization is inevitable. Therefore, technological development and

innovation become the principal motor of social, economic or political change. However, the senses gained through social media have now been affecting the academic efficacy and the productivity of the youth. The persuasive nature of social media, its interactivity, instant feedback, file sharing and the varieties of contents available has caused many youths and students to always stay connected with the social media and thereby affecting their academic efficacy. This theory captures all aspect of this study, not only did it talk about the importance of social media usage but also, gives it wide view by researchers to understand both the negative and positive effect of social media on academic productivity.

3.0 METHODOLOGY

3.1 Questionnaire Design and Distribution

Both secondary and primary data sources were employed in the study. The secondary sources include journals, books, news media and so on. However, the major means of conducting the study relied on a primary data source. The primary source of data gathering technique adopted for this study is an online questionnaire/survey administration. Though the initial plan for data gathering was to use Abuja as the case study, to visit and administer questionnaires to many tertiary institutions in Abuja Nigeria. However, the plan could not scale through as COVID 19 pandemic mandated all the tertiary institutions to shut down across the country and globally. Consequently, another means of data gathering (online survey) was employed in the study. Google form was used to accept and analyze responses. The questionnaire was designed to capture the major categories of students who use social media in Nigeria. The category included senior secondary school students/SSCE, tertiary institution students, graduates and postgraduates. The reason for including senior secondary school students/SSCE holders in the study was to increase the population sample and enhance the responses. This decision is evident given the major age population that spends so much time on social media in Nigeria. More so, since the initially targeted population (students in tertiary institutions) could not be easily accessed because schools were closed following COVID 19 control measure, it was very difficult reaching the targeted tertiary institution students to participate in the online survey, hence, the decision to increase the sample population was considered to facilitate more responses online. The survey also made room for capturing data from non-Nigerian students. This was considered since online surveys tend to penetrate many countries other than the originating country. The questions were carefully structured with a view of understanding the impact of social media usage on academic performance and productivity of the respondents. The survey is made up of a total number of 32 relevant questions to the study. Social media sources such as WhatsApp, Facebook, Twitter and LinkedIn were employed in disseminating the survey to the targeted audience. A total of 174 responses were received after two weeks of publishing the questionnaire online.

3.2 Analysis

Google analytics property on Google form gave descriptive statistics of the responses of all the questions in the survey. The descriptive statistics shows a pictorial representation of the
Responses (See appendix 1: Result Descriptive).

3.3 Results

The highest age range in the survey was 18-25 years, followed by 26-34 years and the majority were males. The highest percentage educational level was postgraduates, undergraduates and graduates respectively. 94.3% of the respondents were attending Nigerian-based institutions. 51.7% mostly use their smartphones to perform social media-based operations, while 55.7 browse the internet mostly. 99.4% of the respondents use social media and 79.9% use social media daily. 43.1% use social while media in class and during lectures. 48.8% cannot go a day without visiting social media. 53.4% use social media mainly for keeping in touch with people, followed by entertainment. In the study, the most highly visited social media application is WhatsApp, followed by Facebook and Instagram. 44.6% find it difficult to log off from social media most times they want to and 64.4% indicated that social media constitutes the highest distraction to their academic productivity and 45.1% was not satisfied with their academic performance. Social media had the highest negative impact on academic productivity with 44.8%. 45.7% think they could be more productive academically if they reduce their social media overindulgence. Notwithstanding, 36.2% believe that social media benefit their studies somehow. 37.8% indicated that there were no measures put in place for curtailing social media usage in their institutions during school hours. While 19.3% were not taking any measures to deal with social media negative implications on their studies, 33.3% indicated that the measures they were taking were somehow effective and 49% revealed otherwise indicating that the measures were not very effective in dealing with social media distractions in their studies.

3.4 Discussion

The highest social media users' age range according to this study is 18-34 years with 66.1% (see appendix 1: result descriptive, for the relevant result). This age range is composed of mainly of very young people, which supports the opinion of the authors: Eke et al. (2014) and Daluba & Maxwell (2013). In the result, 99.4% respondents indicated that they use social media and about 80% use social media daily. This is clear evidence that social media is the new norm that has found its way to every aspect of people's lives, according to Eke et al. (2014). 53.4% of the respondents use social media mainly for social interactions, that is, keeping in touch with people followed by entertainment and news updates. This finding aligns with the claim of the authors: Baym (2015); Zhang et al. (2019) and Onuoha & Shaeed (2011). It is has become a worrisome issue the level of overindulgence of academics on social media as shown in this study result. 43.1% use social media during classes/studies and 44.6% are addicted to social media to the extent that they find it very difficult to log off from social media whenever they want to. This result is in line with the opinion of Fatokun (2019), who explained that addicted social media users can spend an entire day on social media not minding the negative implication it could have on their overall life. Social media had the highest negative impact of 64.4% on academic productivity as shown in this study result, 45.1% of the respondents were not satisfied with their academic productivity, and 64.4% of the respondents attributed their low academic productivity to social media overindulgence.

This result strengthens the claim made by Onwusu-Acheaw & Larser (2015) that students' social media usage has a direct relationship with academic

productivity. It is noteworthy to say that a problem discovered is half solved. This is evidenced by the 45.7% respondents who believe they would be more productive academically if they reduce their social media overindulgence. It is, however, important to note that a lasting solution is only possible if there were appropriate measures taken to deal with the problem. 19.3% are not taking any measure to curtail their social media overindulgence, while 49% were of the view that the measures they are taking to overcome the challenge are not very effective in dealing with the problem. This simply indicates that effective measures need to be put in place by educational stakeholders to curb social media distractions to academic productivity. Notwithstanding the negative impacts of social media on academic productivity, 36.2% of the respondents believe that social media somehow benefits them academically in line with Fatokun (2019); Subair et al. (2019); Mehmood & Taswir (2013). The specific answers received from the respondents when asked how social media benefits them mainly resonate around academic collaborations with colleague and information sharing. This portrays a strong indication that social media when used objectively can enhance academic productivity as also opined by Hasnain et al. (2015).

3.5 Conclusion

This study has clearly shown that social media overindulgence hampers academic productivity largely. The study also shows that social media portrays many benefits in enhancing academic productivity. This is, however, only possible if it is used objectively with good intention. Since about 46% of the study respondents are guilty and feel helpless about overindulgence on social media especially for social and entertainment purposes, at the detriment of their studies, it is therefore very important for school authorities to enforce measures that will curtail or prohibit social media usage in schools especially during classes. This will indeed help students overcome some avoidable distractions from social media, thereby enhancing their academic productivity.

3.6 Limitations

Although the study covers the widest area so far in terms of its spread across Nigeria and internationally, the limitation, however, stems from not having a direct link to students groups, which could have resulted to larger responses in a short period. Another limitation is that many people felt reluctant to participate in the survey because it requires internet data to take part in it. It is planned to meet and plead with school authorities, academics, teachers, lecturers and so to assist in disseminating the survey directly to their students' groups. This way, more responses could be received faster. In the future, incentives could be given to motivate people to participate in the survey.

3.7 Implications of the Study

This study will contribute to the body of knowledge in the research area of the negative impacts of technology on academic productivity in Nigeria and beyond. This is strongly so because there is very scanty research done in the area. This research will provide a quality and evidence-based knowledge source that will pave way for educational stakeholders in Nigeria such as scholars, lecturers, academia, govern-

ment and so on, to understand the impact of social media overindulgence on academic productivity, as well as ways to mitigate the challenge. It will also raise awareness among stakeholders about the issue and also encourage students to use social media beneficially as an effective communication and educational tool to improve their knowledge, performance and skills.

3.8 Recommendations

- The educational authorities should implement strict social media laws in educational institutions, especially during school hours.
- Educational institutions should intensify online academic engagements to make no room for non-objective online engagements by students during lessons.
- Educational authorities need to put in measures to limit the usage of social media by students, especially during lectures. For example, boxes can also be created for students to drop off their phones before entering the lecture rooms/study arenas.
- Students need to have the self-control to focus on their studies when they should rather than wasting their time unnecessarily on social media. Students should be encouraged to make time tables for themselves.
- School authorities should implement rules that define when and where phones are used in the school environment.
- A well thought out measure needs to be established by every state government to regulate the use of social media by students during school hours.
- Development and installation of computer software programs in academic institutions. The software could be installed in the network servers of academic institutions to prohibit students' access to most distractive social media sites, such as Facebook, Instagram, Twitter, and so on.
- Students need to prioritize their academic activities first before any other thing.
- The use of smartphones in secondary schools should be highly regulated or prohibited.
- Academics and students should be adequately enlightened on how to leverage social media to enhance teaching and learning, as well as to promote positive collaborations amongst students.
- Educational institutions should find a way to streamline academic work into social media since it is now the new norm.
- Authorities in tertiary institutions should make room for awareness creation program focusing on educating students about the negative implications of social media overindulgence.

Correspondence
Bridget C. Ujah-Ogbuagu, Research Fellow
Centre for Strategic Research and Studies (CSRS)
National Defence College Nigeria
Abuja, Nigeria
Email: Bridgechi2000@yahoo.com

References

Adamu, L.S. (2011). The impact of the third screen on students' academic performance in ABU Zaria. The Nigerian Journal of Communication 2:40-51.

Akubugwo, I. (2013). Influence of social media on social behaviour of postgraduate students. A case study of Salford University, United Kingdom. IOSR Journal of Research & Method in Education (IOSRJRME). 3. 39-43. 10.9790/7388-0363943

Amadi, Eric Chikweru & Ewa, Cecilia Jabe (2018). An Overview of Social Media on the Academic Performance of University Students in Nigeria. International Journal of Innovative Information Systems & Technology Research 6(1):1-14. Accessed on https://seahipaj.org/journals-ci/mar-2018/IJIISTR/.../IJIISTR-M-3-2018.pdf

Andreas M. K. (2015) Social Media, the Digital Revolution, and the Business of Media, International Journal on Media Management, 17:4, 197-199, DOI: 10.1080/14241277.2015.1120014. Available at https://doi.org/10.1080/ 14241277. 2015.1120014

Baym, K.N. (2015). Social Media and the Struggle for Society. Social Media + Society. 1. 10.1177/2056305115580477

Raut, V., & Patil, P. (2016). Use of Social Media in Education: Positive and Negative impact on the students. International Journal on Recent and Innovation Trends in Computing and Communication ISSN:23218169 Volume; 4 Issue:1

Chukwuere J.E., & Chukwuere, P.C., (2017) The Impact of Social Media on Social Lifestyle: A Case Study of University Female Students. Academic Journal Article of Gender & Behaviour. Accessed at https://www.questia.com/library/journal/1P4-2112125667/the-impact-of-social-media-on-social-lifestyle-a

Daluba, N. E., & Maxwell, C. E. O. (2013). Effect of social media on the use of the academic library by undergraduate students in tertiary institutions: a case study of Koggi state university. Academic Research International, 4(5), 536-542.

Fatokun, K.V. (2019). Effect of social media on undergraduate students' achievement and interest in chemistry in the North-central geo-political zone of Nigeria. International Journal of Science and Technology Educational Research. Vol. 10(2), pp. 9-15, April 2019 DOI:10.5897/IJSTER2019.0453

Eke, HN., Omekwu, & C.O., Odoh, J.N. (2014). The Use of Social Networking Sites among the Undergraduate Students of University of Nigeria, Nsukka". Library Philosophy and Practice (e-journal). 1195

Hameed, Z., Maqbool, A., Aslam, N., Hassan, E & Anwar, M. (2013). An empirical study to investigate the impact of social networking sites on student's academic performance and attitude in the case of Pakistan. Asian Journal of Empirical Research,3(6), 775-784

Hasnain, H., Nasreen, A & Ijaz, H. (2015). Impact of Social Media Usage on Academic Performance of University Students. 2nd International Research Management & Innovation Conference (irmic 2015) langkawi, 26 – 27 August 2015.

Mehmood, S., & Taswir, T. (2013). The effects of social networking sites on the academic performance of students in the college of applied sciences, Nizwa, Oman. International Journal of Arts and Commerce, 2(1), 111-125.

Mensah, S. O., & Nizam, I. (2016) the Impact of Social Media on Students' Academic Performance- A Case of Malaysia Tertiary Institution. International Journal of Education, Learning and Training Vol. 1 (No.1) Pp. 14-21 ISSN: 2289-6694

Onuoha U.D., & Saheed F.O, (2011) Perceived Influence of Online Social Networks on Academic Performance: A study of Undergraduates in Selected Universities in Ogun State, Nigeria. African Journal Online. Vol. 11 No. 1-2 (2011). Available at https://www.ajol.info/index.php/tim/article/view/83634

Owusu-Acheaw, M., & Larson, A. (2015). "Use of social media and its impact on academic performance of tertiary institution students: A study of students of Koforidua Polytechnic, Ghana". Journal of Education and Practice, vol. 6, no. 6, pp. 94-101.

Saba M. (2013). The Effects of Social Networking Sites on the Academic Performance of Students in College of Applied Sciences, Nizwa, Oman. International Journal of Arts and Commerce Vol. 2 No. 1 January 2013.

Subair S. 'Tayo, Adebola, S.T., & Yahya, D.O. (2019). Social Media: Usage and Influence on Undergraduate Studies in Nigerian Universities. International Journal of Education and Development using Information and Communication Technology (IJEDICT), 2019, Vol. 15, Issue 3, pp. 53-62. Accessed on: ijedict.dec.uwi.edu/ viewarticle.php? id=2660

Song Q., Wang Y., Chen Y., Benitez J., & J. Hu (2019). Impact of the usage of Social Media in the workplace on team and employee performance". Information & Management.

Yeboah J., & Ewur G.D. (2014). The impact of WhatsApp messenger usage on students' performance in Tertiary institution in Ghana. Journal of Education and Practices 5(6):157-16

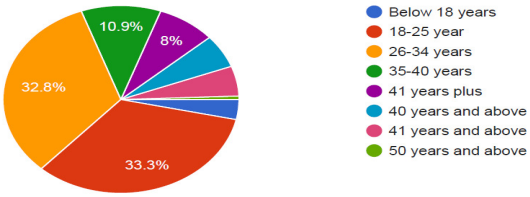
Zhang. X., Ma. L., Xu B., & F.B., Xu, (2019). "How Social Media usage affects employees' job satisfaction and turnover intention: An empirical study in China". Information & Management, 56(6), 103136.

Appendix

Appendix 1: Results: Descriptive Statistics

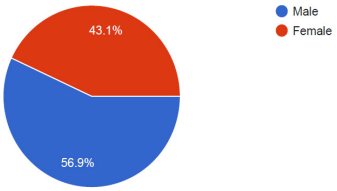
3. Age

174 responses



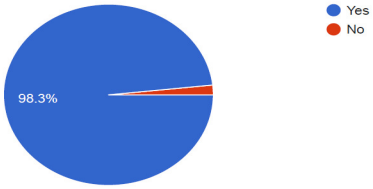
1. Sex

174 responses



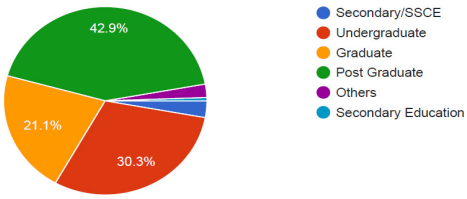
7. Do you know how to use a smart phone?

173 responses



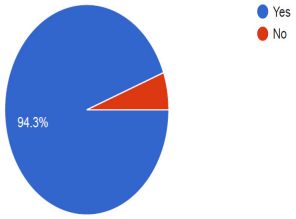
4. Category of education

174 responses



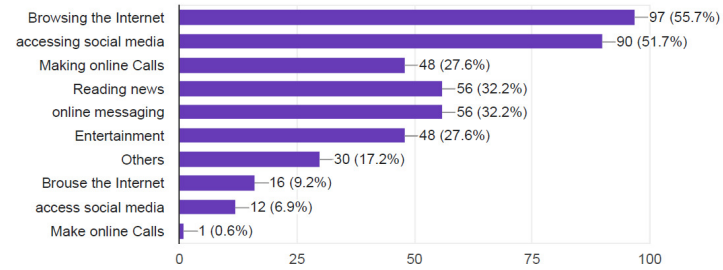
5. Is your institution located in Nigeria?

174 responses



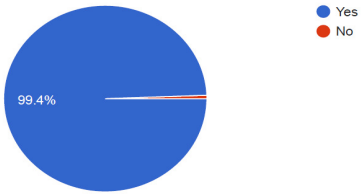
8. What online operation(s) do you perform most with your smart phone?

174 responses



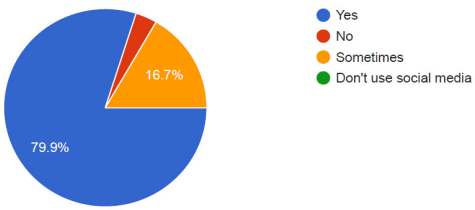
9. Do use social media?

174 responses



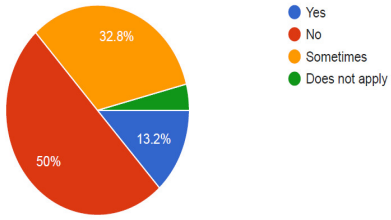
10. Do you use social media on daily basis?

174 responses



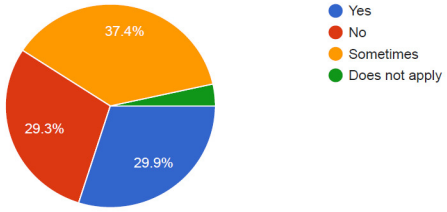
11. Do you use social media during lecture or classes?

174 responses



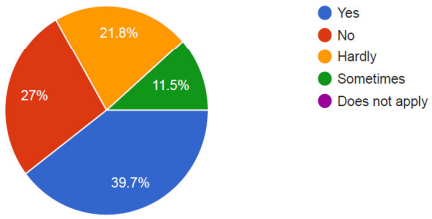
12. Do you use social media during your study time?

174 responses



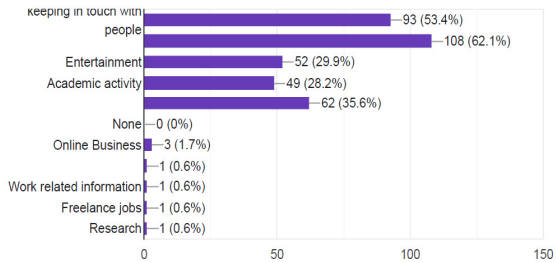
14. Can you go a day or more without accessing social media even if you have internet access?

174 responses



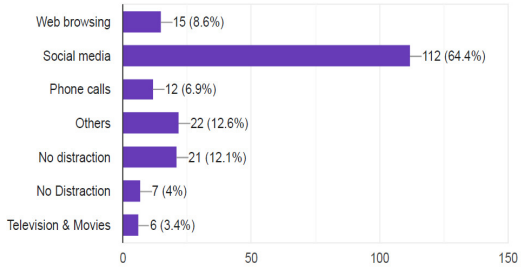
15. What do you do most on social media?

174 responses



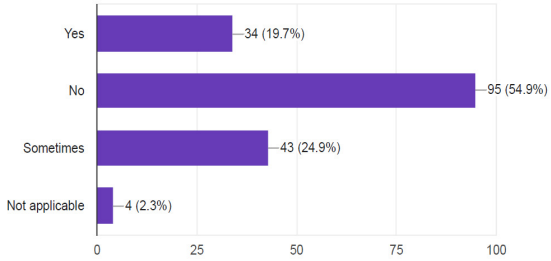
16. Which of these is the highest distraction to your academic performance?

174 responses



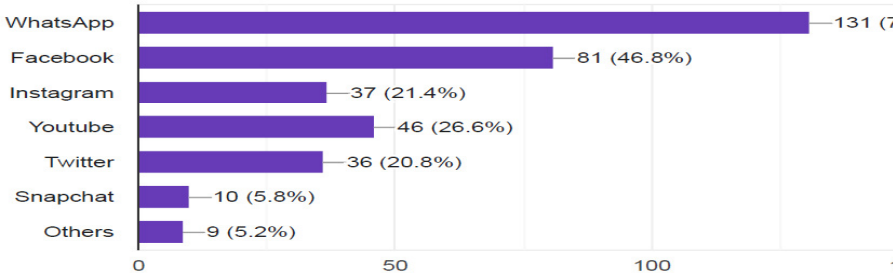
17. When you're on social media, do you find it difficult to log off when ever you want to log off?

173 responses



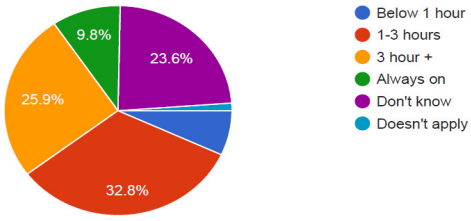
18. Select the social media channel(s) that you visit the most

173 responses



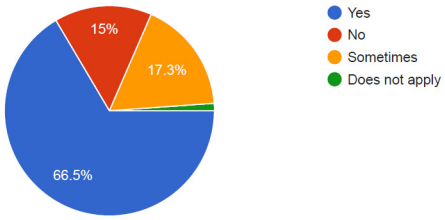
19. On the average how many hours do you spend on social media in a day?

173 responses



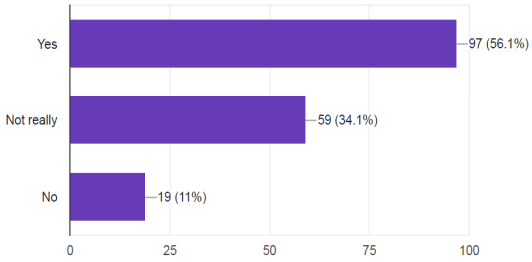
21. Do you visit social media every day?

173 responses



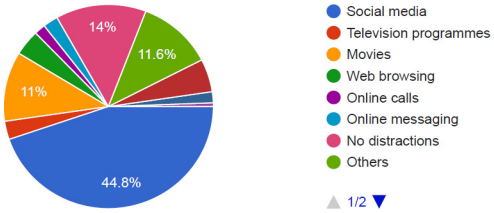
22. Are you satisfied with your academic performance?

173 responses



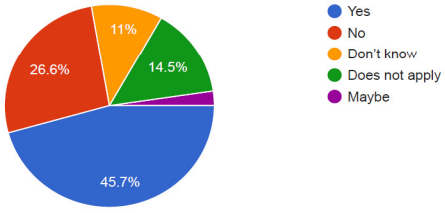
23. Which of these do you think has the highest negative impact on your academic performance?

172 responses



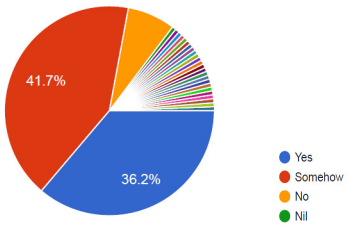
24. Do you feel you could have better grades or better academic performance if you limit your social media usage?

172 responses



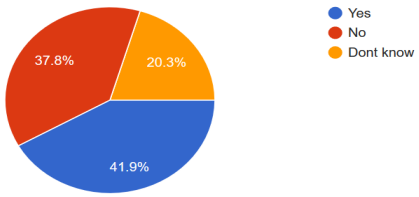
25. Does social media benefit your studies

163 responses



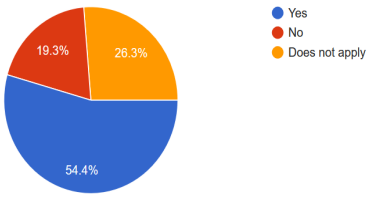
26. Are there measures put in place by your institution to curb smart phone usage by students during classes or school hours?

172 responses



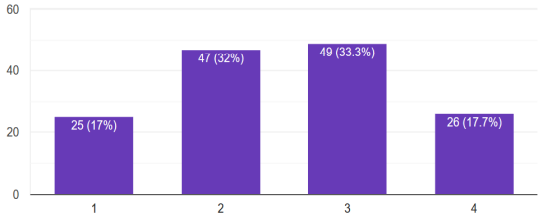
29. Are you taking any measure(s) to deal with social media distractions on your studies?

171 responses



30. if there are measures in place to mitigate social media usage negative impacts on your academic performance, please rate the effectiveness of the measure(s)

147 responses



Instructions for Authors
All manuscripts will be submitted via email. Papers will be reviewed in the order in which they are received.

Preparation of the Paper: There is no particular standard pattern of presentation, but a research-based paper will include elements such as an introduction, stating aims and objectives of the research and a review of previous work; a statement of the sample, procedure and tests; a factual statement of the results and a discussion of their significance, stating implications for policy or practice.

Peer Review Process: All research articles in the *Research Papers on Knowledge, Innovation and Enterprise* will undergo peer review, based on initial editor screening by at least two anonymous referees. Papers accepted for publication will be subject to copyediting.

Preparation of Manuscript: A manuscript submitted to the RPKIE should be a Microsoft Word file. Manuscripts should be formatted into a 210 x 297mm (A4) document with one inch margins, should be Times New Roman 12 point type-face, and should not be more than 10,000 words (including references).
***Title/Abstract Page*:** The title page should contain the article name, authors' names and the address for manuscript correspondence (including e-mail address, telephone, and or fax numbers). This page should also contain a descriptive abstract of no more than 200 double-spaced words. Author's name should appear only on the title page; any indication to the author's identity in the text should be deleted.
References should be listed in alphabetical order of surnames at the end of an article and should generally accord with the **Harvard styles**. The form in which references are given should be:

For articles: Craft, A. (1998) *Educator Perspective On Creativity: An English Study*, Journal of Creative Behaviour, 32, 4, pp. 244-256.

For books: Ainley, P. and Bailey, B. (1997) *The Business of Learning: Staff and Student Experiences of Further Education in the 1990s*, London, Cassell.

For chapters within books: McNay, I. (1995) 'From the Collegial Academy to Corporate Enterprise: the Changing Cultures of Universities' in T. Schuller (ed).
The Changing University? Buckingham, SRHE and Open University Press.

Tables/figures/illustrations/photographs: Tables should be typed out on separate sheets and not included in the actual text. One set of (finished) artwork for figures should be supplied in a form suitable for reproduction.
Authors are responsible for clearing copyrights issues of any materials used in the manuscript (e.g. figures, tables, illustrations, photographs, etc.)
Proofs will be sent to author/s if there is sufficient time to do so. They should be corrected and returned to the Editors within five working days. Major alterations to the text cannot be accepted.
Offprint (in PDF) will be supplied free of charge to authors via email.
Copyright: Individual authors. Authors may use the manuscript elsewhere after publication without prior permission from the publishers, KIE Conference Publications, provided that acknowledgment is given to *Research Papers on Knowledge, Innovation and Enterprise* as the original source.

Papers should be sent electronically to: kieteam@kiecon.org.

Papers not adhering to these submission guidelines are subject to being rejected without review.

Research Papers on

Knowledge, Innovation and Enterprise

ISBN 978-1-85924-232-2