

Evaluating Alternative Digital Credentials generic perception in Zambia

Billy C Sichone*

Central Africa Baptist University

*bsichone@cabuniversity.com

Abstract

The study explored perceptions and preferences of study participants on Alternative Digital Credentials (ADC) and Face to Face (F2F) earned credentials. It also suggested possible ways to alter perception and acceptance for eLearning growth. This primarily thematic qualitative study pursued a phenomenological approach where in-person interview guides were used to collate data exploiting open ended questions. A sample of 28 HEA accredited HEIs were selected from a national population of 63. An inclusion and exclusion criteria was used to determine the sample. Recorded data was transcribed, reviewed, sorted, themed and analysed. The study explored two related questions: Preference and perception. It found that most respondents (65%) preferred F2F earned credentials against a minority (4%) that preferred eLearning earned credentials (ADC) while another portion (31%) were indifferent which one they preferred. As to perception, the study found that most respondents (74%) perceived ADCs as authentic while 18% were unsure with 8% stating that they did not think ADC were authentic at all. The study concludes that eLearning earned credentials are less preferred compared to traditional credentials from standard F2F sources. The study equally concludes that although ADCs are not as preferred, a good portion of participants do not mind which route the person studied to acquire that credential. The study recommends that government issues policy statements affirming that ADCs are equally valid, an alternative to established traditional modes. It is recommended that aggressive ongoing sensitization and engagement of key stakeholders be undertaken. Finally, the study recommends that quality assurance should be strengthened in eLearning in Zambia to ensure required outcomes, although pedagogical processes may vary among approaches.

Keywords: Alternative Digital Credential (ADC), Preference, Traditionally earned degree, Perception, credential, Authentic

DOI: 10.7176/JEP/17-1-01

Publication date: January 30th 2026

Introduction

In a competitive world, it is important to have the right skills undergirded by a solidly acceptable credential (Ehrenreich *et al.*, 2020; Larbi-Apau *et al.*, 2020; Udegbe 2012). This credential serves as a guarantee to potential employers that the possessor was well trained and able to deliver on demand. A competitive world also demands that for candidates to thrive in it, they require the right attributes, correctly fit and able to succeed in a ferociously dynamic global world. Ehlers (2005) opined that (high) quality in credentials is a competitive advantage in a changing world. This is a perception as much as it is a standard issue.

For one thing, traditional ways of learning require that a credential must be certified authentic, able to stand rigorous testing and review for acceptable high quality standards (Protopsaltis & Baum 2019; Udegbe 2012). For instance, the curriculum must be right, sufficiently rigorous, foster interaction, have appropriate assessments buttressed by culturally correct fitting teaching (andragogy or pedagogy) methods. Fluegge (2021), writing about Theological education, argues that for deep learning to occur, adequate student-instructor interaction is essential whose absence renders online learning ineffective. He further opines that, currently (i.e. as at 2021), online learning is primarily twerked for individualistic spheres and may not resonate well with interactive collective contexts. This is a significant observation. That said, the curriculum must ensure that the course is taught in a prescribed standard minimum number of hours with attendant integrated activities aimed at imparting skills, are interactive in nature, where values and abilities are transmitted, short of which, the credential is judged ‘inferior’; not worth consideration (Yamada 2020; Grossman & Johnson 2017; Udegbe 2012; Shelton 2011; Adams *et al.*, 2007). This, in education circles, has been the gold standard thus far for ascertaining quality. However, following the Covid-19 pandemic advent, dynamics radically shifted, although these had already been in motion long before then. The radical changes of 2020 were drastic where nearly the entire world transitioned to eLearning whose dynamics changed but outcomes remained ideally the same (Abera *et al.*, 2023; Mpungose 2020). The need to stick to a protracted and rigid in-person physical sitting time class arrangement was disrupted giving way to virtual learning (FAO 2021; Munoz-Najar *et al.*, 2021; Rodriguez-Segura 2020). The 2021 World Bank, UNESCO and UNICEF report states that the drastic disruption triggered the exploration of alternative ways of learning, including cyber learning. In this cyber environment, physical proximity was removed and assessment approaches modified. No longer was it necessary to be in the same real time physical space to receive immediate

feedback to queries or be as interactive as before. In short, things altered, some of which, defied time tested procedural standards like physical real time in-class attendance, strict time table adherence, organic in-person interactions among learner-instructor or student-student, among others. Consequently, credentials acquired from eLearning sources have earned themselves a negative perception. They are said to lack standard traditional development processes, elements, attributes, hence the apparent dissonance. While some opine (e.g. Protopsaltis & Baum 2019; Fain 2019; Bettinger & Loeb 2017) that these credentials are not authentic at all, others are unsure or give Alternative Digital Credentials (ADC) the benefit of doubt, if the altered dynamics are well managed. Increasingly, however, more and more people are accepting of these credentials unlike in the past (Abera *et al.*, 2023; Pelletier *et al.*, 2023; Chaktsiris *et al.*, 2021; Udegbe 2012).

According to Pelletier *et al.* (2023) or Xu and Xu (2019), eLearning earned credentials promise multiple advantages (for high self-efficacy learners) such as flexibility, efficiency, effectiveness and, in some cases, asynchronous self-paced modules enabling students to carry on with normal life routine while getting an education. The costs also, are expected to be lowered over time since less travel is required and enhanced content access. Increased access for more learners to higher education is another advantage, especially in less resourced contexts. However, despite this highly positive verbal perception (in the Zambian context), actually, relatively fewer willingly sign up for online learning (Sichone 2023 [PhD Thesis])¹. This suggests a latent underlying perception issue although there still remains a dearth of literature (in Zambia) addressing this fact.

This study sought to fill this gap by establishing which credentials were preferred and how ADC earned qualifications were perceived by participants in the study sample. It is important to know perceptions potential stakeholders hold about a credential because this gives a clue as to probably why far fewer people voluntarily sign up for eLearning despite its apparent many enthusiastic proponents. This enquiry is also important because it gives empirically researched data on what people in the Zambian context think about eLearning earned credentials.

In this particular study, a ‘credential’ is to be understood as any award or qualification earned after formally undergoing training to acquire a skill or set of them. The Cambridge dictionary (online)² describes it as the ‘abilities and experience that make someone qualified for a particular job or activity’. Thus, if a person submits a paper qualification for a job interview, for instance, it is assumed that the person in question has undergone all the required standard processes to acquire certification. In traditional approaches like F2F, these standards are clearly laid down as earlier alluded to but in emerging morphing educational technologies, the challenge remains. This lack of clear universally accepted standards breeds dissonance among gate keepers, teachers, potential employers and even students because quality is not assured, so it is perceived (Falode *et al.*, 2021; Adams *et al.*, 2007; Seibold, 2001).

Literature Review

Credentials, irrespective of what they are or where sourced from mean something (Ehrenreich *et al.*, 2020; Winslow & Allen 2020). While some carry a strong brand image commanding instant positive perceptions and feedback, others tend to project the opposite effect, for various reasons. For instance, if a person submits an Oxford University earned credential and another submits a similar credential from UNZA pitting them side by side for a competitive job interview, the evaluator will naturally most likely gravitate towards the Oxford paper (Shelton 2011). Credentials could be said to be symbols, image carriers, branding or demonstrations of quality reduced to a paper. The word ‘credential’ may mean different things in different contexts but for the purposes of this study, as earlier hinted at, a credential is loosely defined as a paper, sheet or document reflecting and representing expertise, certified skills or qualifications (Cambridge online dictionary 2023). Inherent in that academic (or professional in the case of MOOCs etc.) document is value attesting to the fact that the possessor has undergone the required standard processes qualifying them to be holders of that credential (Holland & Tirthali 2014; Gisbert 2013). This study also generally uses the word ‘credential’ to denote quality, rigor and recommendation of the possessor to competently execute a task within the credential scope, unless otherwise stated. Thus, at face value, a given credential is a symbol of competencies, quality, abilities etc. An example will do to buttress this argument. During the data collection period for this study, respondents were asked which credential they preferred between one from F2F mode versus one earned from eLearning approaches. With little exception, most vouched for the one (F2F) over the other (ADC). When the question was twerked a little and asked which credential they preferred between an ADC from Oxford University versus another (F2F earned

¹ Billy C Sichone, unpublished PhD Thesis 2023 at Africa Research University.

² The Cambridge dictionary definition is accessible at: <https://dictionary.cambridge.org/dictionary/english/credentials>, accessed on 10th October, 2023.

credential) from, say, UNZA, for the same degree, most respondents suddenly changed and opted for the Oxford option. This alone, betrayed a latent perceived value judgement and preference (Winslow & Allen 2020).

Several experts in the field (e.g. Abera *et al.*, 2023; Fain 2019; Protopsaltis and Baum 2019; Xu & Xu 2019; Udegbu 2012; Adams *et al.*, 2007) have argued that F2F earned credentials are perceived superior over those from ADC sources. For instance, Grossman and Johnson (2017) state that online earned credentials are comparatively less valued. Among the reasons advanced have been the perceived comparative lower rigor, lower learner-instructor interaction or perceived lack of quality assurance elements that many consider weak in emerging technologically driven forms of learning. Another aspect highlighted by Robertson (2020), is the comparative higher attrition levels in eLearning. Without reflecting deeply, many in the Zambian context opt for credentials earned from a formal in-person institution that is nationally accredited, possessing a track record of strong alumni effecting impact on the industry landscape. Protopsaltis and Baum (2019), for instance, have strongly argued that online education, although with attendant potential has serious limitations and gaps. They claim that eLearning earned credentials lack the critical interactive elements, generate low skills development or lack practical hands-on experience deemed essential to acquiring psychomotor skill. This, in their view, makes online learning inferior. Naturally, this kind of scenario creates cognitive dissonance and reservations. If potential employers, teachers or learners are not exposed to eLearning or possess limited exposure, first time experiences can affect future perceptions either direction (Kayombo and Mwiinga 2021; Mukwena & Sinkala 2020). Fain (2019) even calls for the total closure and shutting down of eLearning altogether. In his view, it amounts to a scam, a mere defrauding of honest hard working clients out of their hard earned money in exchange for a raw substandard deal. The bottom line is perception possibly affecting preference (Wakahiu & Kangethe 2014; Telmesani 2010).

This entire study was underwritten by a relevant theory, Maslow's hierarchy of needs. According to Banda (2014), the theory posits that individuals will rarely think of or desire the next higher level need if the immediate lower level need is not met. For instance, if basic survival needs like air, water, food, security, health etc. are not met, individuals will scarcely venture to think of luxurious items like a gold watch, top of the range car or some such. The theory further posits that human needs are rarely satisfied until they reach the perceived apex level called self-actualization. By that token, to arrive at this latter end (i.e. self-actualization), people climb up the needs triangle ladder exploiting various means including education. If education is perceived as the primary means towards a higher quality life, then it will be pursued in whatever modes it is offered (Winslow & Allen 2020). This includes eLearning.

The study is premised on several assumptions. It was assumed that respondents were well aware of eLearning, its potentials and down sides. The enquiry also assumed that participants had been exposed to educational technologies following the Covid-19 outbreak in 2020. If a favourable perception exists of a given credential and mode, then there is a likely hood that preference will equally be favourable. If the reverse is true, then a number of effects may result including low acceptance, lower adoption and growth of eLearning, lower employability prospects and even rejection of ADCs in certain contexts as historically used to be the case (Adams *et al.*, 2007). Increasingly, however, gradual perceptual changes have been observed over time (Falode *et al.*, 2021; Grossman & Johnson 2017; Sichone 2023 [PhD Thesis]). From a place where eLearning was never a point of discussion in public discourse, it has now etched a place for itself a potential authentic alternative to F2F, although still needing to be mainstreamed (McGreal & Olcott 2022; Moloi & Mhlanga 2021; Sood, Padron, Pirkkalainen & Camilleri 2020; Czerniewicz, 2018; Kato, Galan-Muros, and Weko 2020).

There is need to ensure strong positive perception and preference of ADC for eLearning growth to be fostered. This can be done in several ways which are beyond the scope of this paper.

Methodology and Data

The study was primarily a thematically qualitative in approach with limited qualitative elements. It explored the phenomenological route to data collection where guides were used via in-person interviews. This approach was best because it enabled qualitative data to be elicited yielding opinions, thoughts, motivations and desires of participants. Patton (2002) or Berg (2009) both opine that qualitative studies are best used to capture data yielding deeper meaning to phenomenon where the sample need not be large nor representative of the entire population. The enquiry adopted an inclusion and exclusion approach to institutional sampling where 28 HEIs were selected out of 63 HEA accredited institutions. Nine of these were public funded institutions while the rest were private. Only institutions that approved site visit request were included in the sample. At each site, at least two purposively selected respondents were interviewed. Selected respondents were either students, administrators or faculty members with at least two years at the University at interview time. Recording (audio

& written) was done during the interviews, with data stored, reviewed, transcribed, sorted, themed, interpreted and reported. Interviewing more than one person at a given site mitigated bias. Results of this exercise are reflected in the ensuing section.

Finding Results and Discussion

The study explored two intimately related concepts: the preference attached to credentials (i.e. ADC and F2F) and perceived authenticity by sample respondents. These findings are shown in Figures 1 & 2 respectively. The enquiry found that most respondents (65%) preferred a credential earned through F2F means, a minority (4%) preferred eLearning acquired awards while another portion (31%) were indifferent (not bothered which means were used in credential acquisition).

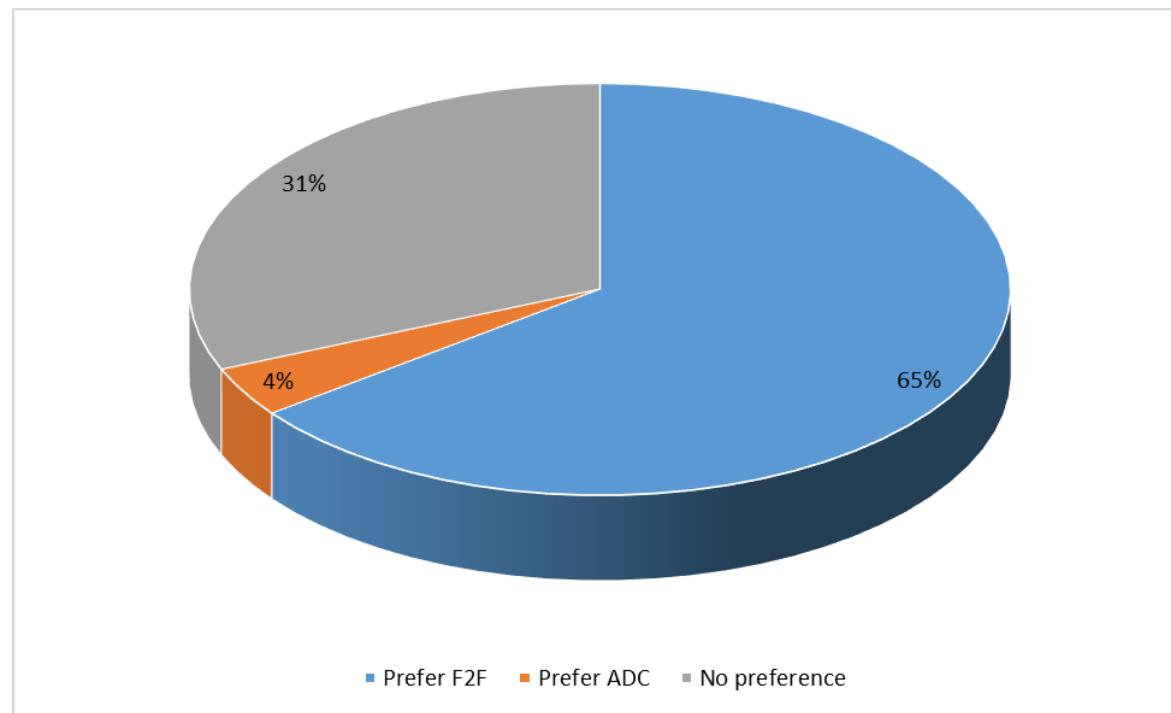


Figure 1: respondent comparative perceived value (weight) of F2F and ADC. (N=51).

Source: Study Data (2023)

Preference of one credential over another may suggest a number of things including convenience of earning that credential, inherent value, perceived authenticity, among others. If one credential is preferred over another, it may subtly suggest that the other is inferior or not desirable. In this part of the study, participants gave their preference based on their perception and a majority (65%) opted for F2F. It is interesting though that a sizeable portion (31%) were indifferent or had no preference. It means either mode was fine with them. Since this study was done post Covid-19, it is possible that most in this (31%) bracket likely had initially preferred F2F but with exposure, had reviewed their stand. A small portion (4%) opted for eLearning earned credentials (ADC). This means a large portion of gatekeepers, administrators, teachers, learners in Zambia still do not prefer eLearning earned credentials for various reasons. This finding is consistent with what Abera *et al.*, (2023) found in the Ethiopian and Rwanda University case studies. If eLearning is to grow, there is need to have a greater portion of respondents to be in the indifferent or clearly supportive of ADC categories. This requires aggressive sensitization, policy changes, pronouncements and sustained leadership (Abera *et al.*, 2023; Sichone 2023 [PhD Thesis]).

The study then sought to establish what perceptions participants had about the various credentials on offer, including ADC. In the previous section of this study, it was found that the majority preferred F2F earned credentials. In this section, the study established the hidden perceptions and feelings respondents had about the credibility ADC earned credentials. It was found that 74% felt eLearning sourced credentials were credible, 8% felt they were not credible at all while 18% felt that not all eLearning programs and attendant credentials were credible. This latter cohort (i.e. 18%) opted for a case by case judgement though did not entirely reject eLearning (i.e. unsure). Figure 2 highlights specific responses of how respondents felt ADCs were perceived on the

Zambian labor market.

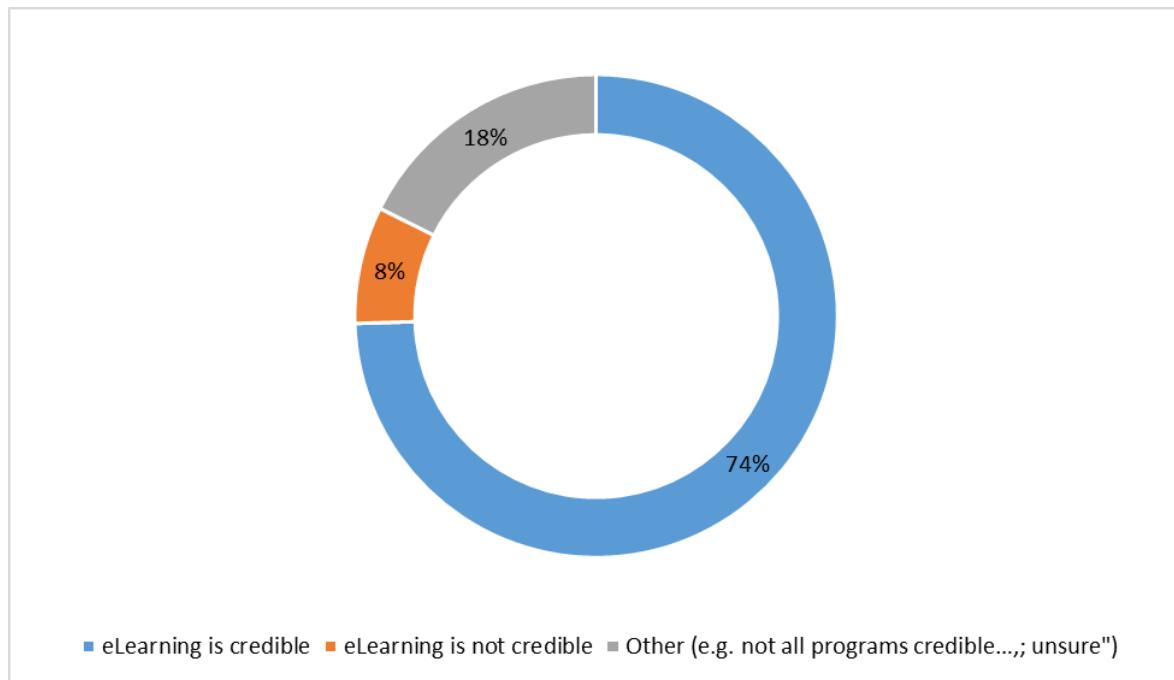


Figure 2: respondent perception of Alternative Digital Credential (ADC) credibility. (N=51).

Source: Study Data (2023)

Perception of a given credential is important. Depending on the perception, this may likely affect acceptance of that credential. It may even affect how gatekeepers view and respond to individuals that have studied using emerging online learning means. This then affects eLearning growth, demand, support and acceptance because learners and teachers will be reluctant to engage in something they know will not be accepted or valued by potential employers. Others would worry about skills, performance and other essential attributes necessary to making a well-rounded graduate exhibiting the required outcomes. To get better buy in, stakeholders must be assured that the product is of high quality, of similar or better standard, among others. If, however, the perception is low, growth is not guaranteed. A majority (74%) felt ADC was credible with a few (18%) being unsure about the credibility of the credential. There is need to have even more individuals vouch for eLearning credentials as being as good as any other, despite using slightly altered pedagogical approaches. Furthermore, if employers have a low view of ADC, chances are that they may not employ people with ADC, hence the need not to state the mode of study (Caballero *et al.*, 2022; Dinan-Thompson *et al.*, 2021; Moloi & Mhlanga 2021; Robertson [B] 2020; Telmesani 2010; Adams, DeFleur & Heald 2007). The study findings are consistent with reviewed sources though the degree of dissonance among respondents may differ from responses in other contexts or when the study was taken (Ribeiro-Silva *et al.*, 2022; Mishra 2021; Perris & Mohee 2020; Ehrenreich *et al.*, 2020; Winslow & Allen 2020; Bukaliya & Mubika 2014; Ghandforoush 2013; Columbaro & Monaghan 2008).

Overall, it may be concluded that F2F earned credentials remain the most preferred though evident shifts have been noted over time with a portion of people having no preference which mode was used to acquire the credential.

Conclusion and Recommendations

The research explored what perceptions Zambians had about alternative digital credentials, including degrees done through eLearning in relation to other traditional modes. The study found a number of points of interest and concludes several points: first, credentials attained through online means are generally perceived as weaker than those from traditional sources. Second, credentials earned through online learning are now gaining acceptance compared to the past. Third, there seems to be a relatively low but growing awareness about eLearning earned credentials. The Covid-19 pandemic epoch helped change perceptions. Fourth, comparatively, in participant view, ADCs are considered less authentic than those earned through F2F. Fifth, there seems to be latent reservations against eLearning earned credentials probably around quality assurance. This partly explains the lower preference, acceptance and confidence. Another enquiry explores and highlights these reservations. The

study recommends that more intentionality on going sensitization (and exposure to Ed Tech) is essential around alternative means of learning, including emerging approaches like eLearning earned credentials. The study also recommends that gatekeepers and decision makers (like Academics, employers, Federations of employers etc.) be especially targeted for sensitization to change perceptions. A further recommendation would be that Government makes policy statements affirming all credentials as equitably receive authentic. The study recommends that no distinction be made based on which mode a given credential was acquired. The standards and outcomes should be the same though processes may differ. Finally, the study recommends that pedagogical approaches are designed to respond to needs in new contexts.

References

Abera, M., Byungura, JC., Ndikumana, R., Abebe, JM., Bimenyimana, PC., Gizaw, R., and Jemal, M.U. (2023). 'Implementing e-Learning in Low-Resourced University Settings: Institutional Experiences and Perspectives at the University of Gondar (UoG) and University of Rwanda (UR)', *Arizona State University & United States International University-Africa*.

Adams, J., Defleur, M.H., and Heald, G.R. (2007). 'The Acceptability Credentials Earned Online for Obtaining Employment in the Health Care Professions', *Communication Education*, Volume 56 # 3, pp 292-307, Available at: http://pilotmedia.com/adams/xPDF/HealthHiring_commed.pdf, Accessed on 6th September, 2022.

Banda, S. (2014). *Dialogue Education in Adult Education*, LAP LAMBERT Academic Publishing Available at: https://www.academia.edu/36868804/Dialogue_education_in_adult_education_978_3_659_61778_2.pdf, Accessed on 27th July, 2022.

Berg, B.L. (2009). *Qualitative Research Methods: For the Social Sciences* 7e, Pearson International Edition.

Bettinger, E., and Loeb, S. (2017). 'Promises and pitfalls of Online Education', *Brookings Institute Evidence Speaks Reports* 2, # 15 (June), Available at: https://www.brookings.edu/wp-content/uploads/2017/06/ccf_20170609_loeb_evidence_speaks1.pdf, Accessed on 5th August, 2022.

Bukaliya, R., and Mubika, K.A. (2014). 'Exploring Parastatal Employer's Perceptions of Open & Distance Learning Graduates: The Perspective of the Human Resources Managers/Officers', *IJRBSM*, Available at: <https://www.ijrbsm.org/pdf/v1-i2/4.pdf>, Accessed on 22nd September, 2022.

Caballero, A., Gallagher, S., Shapiro, H., and Zanville, H. (2022). 'Micro credentials: A new category of education is rising', University World News: The Global Window on Higher Education, # 700 [Online], Date 10th July, 2022 Accessed: Available at: <https://mail.google.com/mail/u/0/#inbox/FMfcgzGpGnRLbLwgZhdGFSpgmJqqNXWV>.

Chaktsiris, M., McCallum, K., Luke, R., Cukier, W., Patterson, L., Garreffa, N., and Gooch, E. (2021). 'Is the Future Micro? Unbundling Learning for Flexibility & Access', *ecampus-Ontario* (March), Available at: https://micro.ecampusontario.ca/wp-content/uploads/2021/03/Is_the_Future_Micro-1.pdf, Accessed on 6th September, 2022.

Columbaro, N.L., and Monaghan, C.H. (2008). 'Employer Perceptions of Online Degrees: A literature Review', *Adult Education Research Conference*, Available at: <https://newprairiepress.org/cgi/viewcontent.cgi?referer=&httpsredir=1&article=2898&context=aerc>, Accessed on 22nd September, 2022.

Czerniewicz, L. (2018). 'Unbundling and Rebundling Higher Education in an Age of Inequality', *Educauserview*, (November/December) pp 11-24, Available at: <https://er.educause.edu/articles/2018/10/unbundling-and-rebundling-higher-education-in-an-age-of-inequality>, Accessed on 06th September, 2022.

Dinan-Thompson, M., Branigan, L., Johnston, S., Cary, L., Luzecky, A., Lynch, A., Saliba, G., and Bedford, S. (2021). 'Credentialing professional Learning for University Educators: A Literature Review', *CAULLT*, Available at: <https://www.caullt.edu.au/wp-content/uploads/2022/02/Literature-Review-CAULLT-project-final-5.pdf>, Accessed on 12th September, 2022.

Ehlers, U. (2005). 'Quality in E-Learning: The Learner as a key quality assurance category', *Vocational Training*

European Journal # 29, pp1-13. Available at:
http://www.cedefop.europa.eu/files/etv/Upload/Information_resources/Bookshop/349/29_en_Ehlers.pdf, Accessed on 19th July, 2022.

Ehrenreich, J., Mazar, I., Rampelt, F., Schunemann, I., and Sood, I. (2020). 'Recognition and Verification of Credentials in Open Education', *The Oepass Consortium*, Available at: Accessed on 6th September, 2022.

Fain, P. (2019). 'Takedown of Online Education', *Inside Higher Education* (online: January), Available at: <http://ir.westcliff.edu/wp-content/uploads/2019/12/Takedown-of-Online-Education.pdf>, Accessed on 5th August, 2022.

FAO (2021). 'E-learning methodologies and good practices', 2e, FAO elearning Academy.

Falode, O.C., Ogunje, B.F., Chukwuemeka, J.E., and Bello, A. (2021). 'Perception and Attitude of Employers toward Distance Learning Graduates in Labour Market: A Case Study of Niger State, Nigeria', *European Journal of Interactive Multimedia and Education*, Volume 2 # 1 (online): 1-7.

Fluegge, G. (2021). 'How Online Learning May Disadvantage Students from Some Cultures and What to Do About it in the Theology Classroom', *The Wabash Centre Journal on Teaching* (online), Volume 2 # 1, pp 187-202, Available at: <https://www.sciencegate.app/document/10.31046/wabashcenter.v2i1.1769>, Accessed on 29th July, 2022.

Ghandforough, P. (2013). 'A Study of Perceptions of Online Education Among Professionals', *IADIS International Conference e-learning* (2013). Available at: <https://files.eric.ed.gov/fulltext/ED562275.pdf>, Accessed on 31st August, 2022.

Gisbert, M. (2013). 'The Future of MOOCS: Adaptive Learning or Business Model?', Department for Business Innovation & Skills.

Grossman, A.M., and Johnson, L.R. (2017). 'How employers perceive online accounting education: Evidence from Kenturkey', *Journal of Accounting Education*: 1-13, Available at: <https://farapaper.com/wp-content/uploads/2019/06/Fardapaper-How-employers-perceive-online-accounting-education-Evidence-from-Kentucky.pdf>. Accessed on 8th October 2023.

Holland, F.M, and Tirthali, D. (2014). 'MOOCS: Expectations and Reality', Center for Benefit-Cost Studies of Education Teachers College, Columbia University.

Kato, S., Galan-Muros, V., and Weko, T. (2020). 'The Emergence of Alternative Credentials: OECD Education Working Paper # 216', *OECD*, (March), pp. 1-40, Available at: [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP\(2020\)4&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=EDU/WKP(2020)4&docLanguage=En), Accessed on 6th September, 2022.

Kayombo, K.M., and Mwiinga, B. (2021). 'Acceptability and Challenges of Online Higher Education In the Covid-19 Era in Zambia', *Academicia*, Volume 11 # 2 (February), Available at: <http://dspace.zcas.edu.zm/handle/123456789/96>, Accessed on 19th August, 2022.

Larbi-Apau J., Sampson K., and Kwofie, B. (2020 online). 'Barriers to Online Learning adoption in higher education', *University World News: Africa Edition* (May); Available at: <https://www.universityworldnews.com/post.php?story=20200506200743715>. Accessed on 31/03/21.

McGreal, R., and Olcott, D.A. (2022). 'Strategic reset: micro-credentials for higher education leaders', *Springer Open*, Available at: <https://slejournal.springeropen.com/track/pdf/10.1186/s40561-022-00190-1.pdf>, Accessed on 12th September, 2022.

Mishra, S. (2021). 'Measuring Institutional Readiness For Flexibility in Teaching and Learning: The Ten Indicators', *Commonwealth of Learning (COL)* (online). Available at: http://oasis.col.org/bitstream/handle/11599/3781/2021_Mishra_ICDE_Leadership_Summit_Transcript.pdf?sequence=2&isAllowed=y, Accessed on 19th July, 2022.

Moloi, T., and Mhlanga, D. (2021). 'Key Features of The Fourth Industrial Revolution in South Africa's Basic Education System', *Journal of Management Information and Decision Sciences*, Volume 24 # 5 pp. 1-20. Available at: <https://www.etdpseta.org.za/education/sites/default/files/2021-09/Key-features-of-the-fourth-industrial-revolution-in-South-Africas-basic-education-system.pdf>, Accessed on 26th September, 2022.

Mpungose, B.C. (2020). 'Emergent transition from face to face to online Learning in a South African University in the Context of Coronavirus pandemic', *Humanities & Social Sciences Communications*, Volume 7 # 113 (September) pp. 1-9. Available at: <https://www.nature.com/articles/s41599-020-00603-x>, Accessed on 17th October, 2022.

Mukwena, R., and Sinkala, M. (2020). 'The impact of Covid-19 on the Higher Education Sector in Zambia: The Case of Public Higher Learning Institutions', *International Journal of Education and Research*, Volume 8 # 7 (July), pp. 203-212, Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwja_NHs-sv5AhUaYPEDHWtcCzoQFnoECAsQAQ&url=https%3A%2F%2Fwww.ijern.com%2Fjournal%2F2020%2FJuly-2020%2F15.pdf&usg=AOvVaw1M9_TcD8LM-evmQDm18UES, Accessed on 20th July, 2021

Munoz-Najar, A., Gilberto, A., Hasan, A., Cobo, C., Azevedo, JP and Akmal (2021). 'Remote Learning during Covid-19: Lessons from Today, Principles for Tomorrow', World Bank Group, Washington, DC.

Patton, Q.M. (2002). *Qualitative Research & Evaluation Methods*, 3e, SAGE publications.

Pelletier, K., Robert, J., Muscanell, N., McCormack, M., Reeves, J., Arbino, N., and Grajek, S., Birdwell, T., Liu, D., Mandernach, J., Moore, A., Parcaro, A., Rutledge, R., and Zimmern, J. , 2023 *EDUCAUSE* Horizon Report, Teaching and Learning Edition

Perris, K., and Mohee, R. (2020). 'Quality Assurance Rubric for Blended Learning', *Commonwealth of Learning*, Available at: http://oasis.col.org/bitstream/handle/11599/3615/2020_Perris_Mohee_QA_Rubric_Blended_Learning.pdf?sequence=1&isAllowed=y, Accessed on 25th July, 2020.

Protopsaltis, S., and Baum, S. (2019). 'Does Online Education Live up to its Promise? A Look at The Evidence and Implications for Federal Policy', *The Laura and John Arnold Foundation*, Available at: https://www.urban.org/sites/default/files/publication/101762/Does%2520Online%2520Education%2520Live%2520Up%2520To%2520Its%2520Promise%2520a%2520Look%2520at%2520The%2520Evidence_0.pdf, Accessed on 5th August, 2022.

Ribeiro-Silva, E., Amorim, C., Aparicio-Herguedas, JL., and Batista, P. (2022). 'Trends of Active Learning in Higher Education and Students' well-being: A literature Review', *Frontiers in Psychology*, (online) pp. 1-10, Available at: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9062227/>, Accessed on 23rd June, 2022.

Robertson, B. (2020). 'How to Monitor the Risks of Online Education: Untangling the Web', *The Institute For College Access & Success* (Online), Available at: <https://ticas.org/wp-content/uploads/2020/07/untangling-the-web.pdf>, Accessed on 5th August, 2022.

Rodriguez-Segura, D. (2020). 'Educational Technology in Developing Countries: A Systematic Review', University of Virginia.

Shelton, K. (2011). 'A Review of Paradigms for Evaluating the Quality of Online Education Programs', *Online Journal of Distance Learning Administration*, Volume IV, # 1 (Spring).

Seibold, N.K. (2001). 'Employers' Perceptions of Online Education', (DEd thesis) Oklahoma State University.

Sichone, C.B. (2023). 'Assessment of eReadiness status for enhanced adaptation to online Education in 20 HEIs in Zambia', unpublished PhD Thesis, Africa Research University.

Shelton, K. (2011). 'A Review of Paradigms for Evaluating the Quality of Online Education Programs', *Online Journal of Distance Learning Administration*, Volume IV, # 1 (Spring).

Sood, I., Padron, L.C., Pirkkalainen, H., and Camilleri, A. (2020). 'D2.2 Future Impacts of Modularization and Micro-Credentials on European Higher Education and List of Validated Scenarios', The MicroHE Consortium, Available at: <https://microcredentials.eu/wp-content/uploads/sites/20/2021/05/D2.2.Future-Impacts-of-Micro-Credentialing-on-European-Higher-Education.pdf>, Accessed on 12th September, 2022.

Telmesani, M. (2010). 'Faculty's perception of Online Education, *University of Manitoba* (online)'. Available at: <https://umanitoba.ca/faculties/education/media/Telmesani-10.pdf>, Accessed on 17th April, 2021.

The World Bank, UNESCO and UNICEF (2021). *The State of the Global Education Crisis: A Path to Recovery*, Washington D.C., New York: The world Bank, UNESCO and UNICEF.

Udegbé, B.I. (2012). 'Attitudes of Prospective Human Resources Personnel towards Distance Learning Degrees', University of Ibadan. Available at: <https://www.learntechlib.org/p/76569>, Accessed on 11th October 2023

Wakahiu, J., and Kangethe, S. (2014). 'Efficacy of Online Learning: Lessons from the Higher Education for Sisters in Africa Program', *European Journal of Research and Reflection in Educational Sciences* Volume 2 # 1, Available at: http://asec-sldi.org/docs/published-work/Efficacy_Online_Distance_Learning_Wakahiu_Kangethe.pdf Accessed on 31st August, 2022.

Winslow, C., and Allen, L. (2020). 'How They See it: Employer Perceptions of Online Versus Traditional Learning at Graduate Level', *Journal of Educational Leaders in Action*, Volume 6 # 2, Available at: <https://digitalcommons.lindenwood.edu/cgi/viewcontent.cgi?article=1026&context=ela>, Accessed on 6th September, 2022.

Xu, D., and Xu, Y. (2019). 'The Promises and Limits of Online Higher Education', *American Enterprise Institute*, (online: March), Available at: <https://files.eric.ed.gov/fulltext/ED596296.pdf>, Accessed on 5th August, 2022.

Yamada, F.M. (2020). 'Living and teaching When Change is the New Normal: Trends in Theological Education and the Impact on Teaching and Learning', *The Wabash Center Journal on Teaching*, Volume 1 # 1: 33-36.

Bio

Dr. Billy C Sichone serves as Deputy Vice Chancellor for Research and Graduate studies at Central Africa Baptist University. He holds several doctorates including a PhD in Online Education and has been in Academia for over a decade after a near two decade experience in the Development Industry. He is also author of several books and paper on Research, Apologetics and Business.