CHAPTER 2:
Impact of pedagogy and andragogy as means of instructional design and delivery in institutional programmes: A review

This chapter reviews the literature on the impact of pedagogy and andragogy as means of instructional design and delivery in institutional teaching-learning. In addition to demonstrating knowledge of pedagogy and andragogy and the associated vocabulary, the literature review also addressed three fundamental purposes. First, it exposed the researcher to what has already been written on the topic and that which has not been written that exposes methodological, theoretical and conceptual inadequacies of the existing literature and how the present study could address these gaps. Secondly, as asserted by Snyder (2023), it exposed the researcher to experts in the field of design and delivery, the questions that they have addressed and those still outstanding that the current research would contribute towards to avoid replication of previous studies. Finally, the review allowed the researcher to contextualise his study and understand how models of institutional learning are defined and understood in international, regional and national contexts which then inform praxis.

Curriculum development requires the application of rational systematic analysis with the aim of making education more effective and efficient in responding to the learner, organisational and societal needs (Coombs, 1972; Ololube, 2009; 2013). In this regard, the principal objective of educational planning is to ensure that education becomes result oriented for the development of the individual and the society at large. In this same argument, Gboku & Lekoko (2007) advocate for the use of adult education programme development rather than planning because the latter would simply imply a prescriptive blueprint. On the other hand, development is participatory encompassing environmental analysis (Political, Economic, Social, Technological, Global and Legal factors- PESTGL), SWOT analysis, training needs analysis and clientele analysis based on programme development philosophy (Erasmus *et al.*, 2006; Nadler & Nadler, 1994; Wheelen & Hunger, 2006). The point of departure is that programme development encompasses quite a few activities that are then sequentially arranged for implementation whilst dependent on each other for input and output, thus making up a system (Kaufman, 1972; Ololube, 2013). These activities are approached differently depending on whether the programme is andragogical or pedagogical. The approach to coming up with these activities is also dependent on whether the programme is institutional or developmental.

According to Thompson (2018), the American education system is characterised by so much tension as to which model to use because of the combination of traditional

and non-traditional students that characterise university learning. The traditional students may be comfortable with pedagogy while the working adults or non-traditional component may be oriented to andragogy. It needs to be acknowledged that the process of curriculum development and the methodologies applicable to these models are different and also complimentary in certain contexts. These differences and contextual applicability determine the extent of the way that the models impact individuals. Thompson (2018) argues about mixed situations of pedagogy and andragogy, whether correctly or wrongfully. Mashak (1983) cited in Thompson (2018) argues that though pedagogy and andragogy can be complementary, their impact has to a greater extent been weakened by the inability by the professoriate to identify circumstances and contexts in which the two can have a significant impact as individual entities. In this regard, he argues that there are non-traditional institutional programmes that are made to conform to university requirements in terms of course content, methodologies, MBK and examinations. In this regard, he argues that there are non-traditional institutional programmes that are made to conform to university requirements in terms of course content, methodologies, MBK and examinations. This violates the pure andragogical model since some content and methodologies may be dictated, thus leading to unmet non-traditional learner needs. To this end, there has been fissures with the current set up at the university where certain programmes who by virtue of their clientele(non-traditional) have been directed to adopt a full-time approach. This reflects a prescriptive approach to programming to the detriment of providing education to the adult learners who have got work and other family commitments. By and large, the status quo at the university reflects the effect of SEDs in the context of school factors on educational Andragogy is a model that is premised on five principles whose thrust is learner centeredness and learner autonomy. Before the popularisation of andragogy, the students' voice in curriculum development had been topical as can be seen from Tyler (1975) Curriculum Design Model. He argues that if a student perceives the learning to be interesting and beneficial, he or she would participate in it energetically. The implication is that according to Reubenson (2006)'s Expectancy —Valence theory, the curriculum should address the learner expectations and should add value to their lives and the society at large. The Zimbabwean government's efforts to address the curriculum indicates that the curriculum does not address the expectancy and valence of the learners in the realm of developmentalism. Aoki (1993) argues about the 'otherness' of others where the focus should not be the curriculum as determined by the facilitator but others in the form of learners. Another curriculum theorist, Freire (1993) advocates for libertarian curriculum development perspective in which both teachers and students do not have a contradiction but are simultaneously teachers and students.

In line with the students' voice in curriculum development, another curriculum theorist Esner (2001, p.371), questions, "what opportunities do students have to

formulate their own purposes and to design ways to achieve them?" The above extracts from the three theorists extrapolates the fact that the need for student involvement in curriculum development has always been there even before the popularization of andragogy. However, the andragogical perspective brought in a more comprehensive dimension in which learning must be more learner centred than in the traditional pedagogical perspective.

The development of an andragogical curriculum requires learner inclusion. The learners have to determine what must be learnt, how it is to be learnt, and the evaluation of the learning process. There is need for clientele analysis so that the curriculum reflects what the clientele wants. The community as the recipient of the education must also be involved (Evans, 2016). The content should be consistent with what the community desires in line with its developmental discourse. It therefore implies that the MBK should be determined by the learners. This brings to the fore the following questions: how then does the learning conform to the national aspirations as determined by government if learners determine what they want to learn at a particular time in a particular society?; how then does the education conform to the national philosophy as determined by government?; is it feasible to factor all the needs of the learners given that the non-traditional component has got varied needs? Whilst the learners and the society are the ones that are affected by the learning outcomes, Wang *et al.* (2014) argue that absolute autonomy of learners in determining content in an institutional programme may not be feasible. This is because the fundamentals that learners must learn are determined by the institution and government. This is the situation in Zimbabwe where institutions in consultation with ZIMCHE come up with MBK. To this end, the applicability and impact of the andragogical model in content building is affected. This is because the subsequent learners who enrol for the programme become beneficiaries of needs that are not consistent with them. In the Zimbabwean context, institutional content is subject to review after about 4 or 5 years meaning that during this time there is prescribed curriculum.

Having indicated in the preceding paragraph, the competence gap with respect to factoring in all learner needs in an institutional programme, how then is this void compensated. According to Evans (2006), the void is compensated for by the pedagogical discourse. The implication is that unlike in developmental programmes where the content can be changed regularly depending on learner needs, the institutional model looks at learner needs consistent with the government educational discourse. In this regard, fundamentals are prioritized and will only be reviewed after some time. It therefore implies a less impacting role of andragogy in institutional program content development. Wang *et al.* (2014) argue that during the content building of an institutional programme, learner experience plays a minimal role. This is because if the subject is new to the learner, there is very little or nothing

that he/she can add. Bhatia (2013) and Chan (2010) assert that the educational discourse cuts across an array of disciplines and whatever the competences that an adult wants to gain, he or she may enrol for a particular programme that provides such competences. However, it should be noted that the adult enters a programme such as medicine or psychology on the backdrop that not all his needs within that field would be addressed. Southhard (2017) therefore argues that andragogy may be applicable to post-graduate learning and in the later years of undergraduate learning.

The impact of andragogy therefore becomes limited in view of the Educational Effectiveness Theory. This is because institutional learning cannot be conducted on ethno-philosophical lens where a society or a group of learners would decide to learn divorced from the national philosophy of education, yet the opposite might be true in developmental programmes. It is therefore the writer submission that to a certain extent learners are involved in the design of institutional programme curriculum to determine the MBK for a particular period of time. This therefore relegates the learner needs to universality which is however unrealistic. The MBK are not exhaustive as they would be in a developmental programme. This is probably the case in the Zimbabwean universities in which the content is arrived at through a process of needs analysis using a particular group of potential learners, the community and academics who may not be part of the educational process. The institutional curriculum can therefore be argued to be more pedagogical and impacts positively in as much as the teaching of fundamentals is concerned which may be consistent with developmental discourse probably in the first few years and would eventually become obsolete. It therefore shows that the way institutional content is built does not allow for adequate room for the implementation of the andragogical model in its totality. This therefore weakens the andragogical model in the curriculum development of institutional programmes, leaving the pedagogical model with an upper hand. However, this shows the frequently used model but it does not imply that it is the most effective model because the content may be divorced from the society. The bottom line remains that a model that reflects on the needs of the learners and the society in the curriculum would be the most ideal without necessarily having to prescribe the content.

Knowles *et al.* (2012) talk of the application of theory to the real world. Learning should not be all about theorisation and mindless idealism (Merriam, 2002). It should aim at addressing practical and real-world situations (Wankel & DeFillip, 2003). The real-world issues must be brought into the classroom through simulations, role plays, group discussions, field projects, skills practice, and case studies. The learning must be collaborative, experiential, transformative, experimental, investigative, and problem solving. These are the typical methodologies in andragogy and resonate well with   the thrust of higher education of dealing with reality and application to the

learners' lives. Chan (2010) adds that the methodologies must be complemented by conducive physical and psychological environment of mutual respect and reciprocity. This could be the one missing tenet in the Zimbabwean university education that breeds antagonism and reliving primary and secondary education leads to the detriment of the teaching learning process. In her research in Kennesaw State University, Thompson (2018) found out that straight lectures, rote learning, recitation, mere presentations, a culture of examinations and prescriptive learning in which the lecturer assumes the repository of knowledge contributed much to the academic excellence of students in terms of grades but lacked application to the real world. To this end, she concluded that the learning was progressively regressive in that it focused on the passing of students and theorization with very little application. In the context of Mlambo (2008) and Raftopoulos (2004), these pedagogical methodologies and pedagogical content have detached Zimbabwean institutional learning from the societal problems. Even in the era of Education 5.0, the philosophy has not been supported by the relevant models of learning, with the traditional classroom teaching-learning and assessments remaining dominant at the expense of industry and community situated learning and assessments.

It is therefore the submission of the writer that the andragogical methodologies become more impactful in institutional learning by virtue of bridging the gap between theory and real-life situations. They also act as compensatory to the more pedagogical curriculum through constructivism, constructionist, pragmatic, progressive, radicalism and humanness of the teaching-learning process. It needs to be acknowledged that principles and concepts are introduced through pedagogical methods such as straight lectures that is if the students are entering into a generally strange area. Progressively, depending on the competence of the facilitator, there should be a paradigm shift to andragogy to cement these principles through life applications and tapping into the students' experience. In this vein, Teodoro & Mesquita (2014) argue that the most critical consideration in the introduction of a programme is the exploration of multiple representations (graphical, verbal, analytical etc.) especially in subjects such as science and mathematics.

The overall submission of the writer is that institutional programme planning is more rooted in pedagogical content. This content is built from the environmental scan, the SWOT analysis and needs analysis and then qualified as relevant MBK through consultation with ZIMCHE. This process is more andragogical in nature but as the content is recurrently prescribed on the learners, it becomes pedagogical. It also needs to be taken into consideration that though it can be argued to be more andragogical, not all learner needs are captured despite being used on an array of non-traditional students. The process of needs analysis is to an extent determined by the national educational philosophy and developmental discourse such as attaining a middle-income economy by the year 2030. Tertiary institutions therefore use

prescriptive course outlines rather than having content peculiar to a non-traditional group. In the methodological context, the pedagogical methods of rote learning, straight lectures, presentations etc. as argued by Thompson (2018) impact more when new concepts are being introduced but their continued use would just aid in producing excellent passes in examinations. In fact, they will do very little in the overall educational impact which is then addressed by the andragogical methodologies that have got a nexus with real-life situations. These andragogical methodologies become compensatory to the prescriptive curriculum and also address the gap created by mere theorisation in pedagogy. This is because learners can bring value to their learning through independent interrogation of their individual and societal problems and bring them into the learning environment for the benefit of others.

The gap that exists in the methodological contexts is that pedagogy resonates well with the prescription of fundamentals, principles or new concepts. However, its continued application becomes progressively regressive as it impacts less on the effectiveness, efficiency and efficacy of learning as outlined by the Educational Effectiveness Theory and Holistic Education Concept. To this end, the humanness, learner centred and problem centred andragogical methodologies can then be argued to impact more as the learning progresses in institutional programmes. This brings to the fore the argument that the two models are not dichotomous but exist along a continuum of complementarity. However, the ineffectiveness of education systems in most countries, Zimbabwe included, could be because of the professoriate failing to articulate the best impacting moments of the two models from programme planning to evaluation. This implementation gap motivated the study to interrogate the role of the professoriate on the application of pedagogy and andragogy in institutional learning.

Fredua-Kwarteng & Ofosu (2018) in their study of Universities in West Africa observed that the effectiveness and efficiency of institutional programmes is dependent on the qualifications of lecturers, the degree programme requirements, a rigorous examination system and course content. They observed that there is very little that is paid to the teaching-learning process of adults. It is assumed without even a shred of evidence that lecturers by virtue of being experts in their disciplines would effectively and efficiently impact on the teaching learning process. Fredua-Kwarteng & Ofosu (2018) also noted that theories, abstracts and figures are literally thrown to the students in the classroom in what they have described as Straight Lectures. The lecturers are considered the sole actors and repository of knowledge without allowing for students' perspectives and critical thinking. They also argue that straight lecturers are a poor approach to prepare university students for employment. This is because the pedagogical straight lectures are non-collaborative, non-reflective, non-transformational and cognitively boxed. Over and above, the

approach does not facilitate the connection of students to their societies and economies which is the thrust of Education 5.0. This has been blamed as part of the causes of high unemployment of university graduates in African countries. According to Kanyongo (2005), the Zimbabwean situation is neither different nor better from the rest of Africa. He argues that students who graduate from universities and colleges lack the requisite skills to be employed. He therefore argues that the Nziramasanga Commission of inquiry sought to create a curriculum that focussed on employment related skills. In the context of Shizha & Kariwo (2012), Zimbabwean higher education requires to be indigenised so that it moves away from the colonial legacy to issues that are peculiar to the Zimbabwean society and the economy but also being considerate of the benefits of a globally appealing education system, thus heritage-based education and harnessing relevant technologies from across the globe. A convergence is drawn between Education 5.0 and the Nziramasanga Educational Paradigm. However, good as they may or might have been, the educational philosophies suffer from lack of an effective design and delivery model as has been seen by the continued use of straight lectures and other approaches that promote theoretical graduates.

The line of argument as postulated by Fredua-Kwarteng & Ofosu (2018), Kanyongo (2005) and Shizha & Kariwo (2012) extrapolates that generally African and Zimbabwean higher education systems are devoid of holistic learning models that connect the teaching-learning process with the society and economy. There is progressive-regressive education because of the continued use of primary and secondary education pedagogy up the ladder focusing mainly on perennial principles at the expense of progressivism, pragmatism constructivism and constructionism (Garuth, 2014). The authors argue that the most impacting model is one that promotes transfer learning. In this vein, the impact of pedagogy or andragogy as absolute models of higher education teaching and learning needs further interrogation so that a more holistic model can be adopted.

Dambudzo (2015) postulates that the effectiveness of university learning is determined by whether it promotes development or not. This is achieved through teaching that is problem based, collaborative, project driven, enquiry based, and one that promotes critical thinking. In the context of Brundiers & Redman (2010), classroom activities, the curriculum and the methodology must be linked to the realities of the world. There should be extension of the learning organisation to the learning community through Community Engagement (CE) (Kearney & Zuber-Skerrit, 2012). This should be complimented by technology, content and pedagogical knowledge. This implies varied methodologies and a curriculum that addresses the fundamental principles of subjects, and the learner needs as they relate to the industrial and societal discourse. There is also need for subject competence from the professoriate consistent with the societal and learner needs. The crux of university

institutional learning should be problem solving, employability, functionality, innovation, and industrialisation (Bidabadi *et al.*, 2016; Khali *et al.*, 2013; Ratiu & Anderson, 2014).

The general perception among most Zimbabweans is that the higher the qualification one attains, the higher the chances of attaining a good job and good life (Nherera, 2014). This is the reason why university education is valued in Zimbabwe. Society expects a lot from these institutions and the degree to which they satisfy the societal needs defines their relevance (Ubillus & Diaz, 2015). Raftopoulos (2009) in this regard argues that the Zimbabwean university education can be argued to be effective, efficient and relevant if its programmes address the demands and needs of the students, the society and the nation at large to better their lives. In the context of Nyerere (1967, p.382), "relevant university knowledge is that which fulfils students' real social needs, the needs of the community and the needs of the state and the world." It is in this context that university education in Zimbabwe has been accused of straying from the traditional purpose of problem solving (Raftopoulos, 2004; Mlambo, 2008; Maravanyika, 2005; Nyazema, 2010). Nyazema (2010, p.233) postulates that, "universities in Zimbabwe have failed to produce skilful people with specialised knowledge of problem-solving and the promotion of economic development." Waghid (2002a) blames the dysfunctionality of the Zimbabwean education system on the higher education policy or Strategic Educational Directives (SED) and institutional models of learning which are not accountable and answerable to the communities and the broader society.

In this regard, the government, the academics, the society, captains of industries, politicians, and the Zimbabwean generality need to conceptualise education that aims at social transformation rather than unilateral declaration of SED without stakeholder analysis and consultation. It is the submission of the writer that such collective approach to the policies, curriculum and models of learning can then make education a tool to address the current problems such as run-away inflation and abject poverty. The purpose of university education should not be to produce numbers of Doctors and Professors who cannot arrest the political, economic and social quagmire bedevilling the country. Therefore, the impact of pedagogy and andragogy in university learning should therefore be contextualised in their ability to address the above tenets. In this regard, SED in the form of the new curriculum and Education 5.0 are clear indicators that Zimbabwe is trying to come up with a learning paradigm that is holistic enough to address the above-mentioned variables.

Traditional university education was a preserve for the youth or young adults soon after graduating from high school. However, the world over, university education has seen the significant increase of the non-traditional component (Southard, 2017; Yoshimoto *et al.*, 2007). Zembere (2018) argues that university education in

Zimbabwe can effectively respond to the political, socio-economic, and environmental problems being faced by the country. She draws this argument from Dewey (1916)'s explanation that education creates a critical faculty so that a person articulates the complexities of the socio- economic and political environment. This does not merely happen because adults have attended university education. The university pedagogy or teaching-learning to which students are exposed can empower them to think critically, radically and practically or disempower them through silencing education or oppressing pedagogy. Therefore, higher education should be used as a platform in which the classroom environment is used to openly discuss the issues and challenges affecting developmentalism without fear of victimization. Zembere (2018) calls this Democratic Citizenship Education (DCE). This is supported by Waghid (2010a) cited in Zembere (2018) who argues that the teaching model in universities should advance democratic teaching learning processes. It should also promote the students' autonomy in thinking and participating in the design and delivery of instruction. The professoriate and students must actively participate in the teaching learning process as change agents (Subba, 2014).

According to Bangura (2017), much of what is conceptualized as adult learning in universities is the compulsory transmission of knowledge and culture under institutional environments. Bangura (2017) sees pedagogy as a model of learning that permeates the educational discourse including adult education. He therefore argues that pedagogy is problematic in educating African adults because it has got specific objectives derived outside the context of the societal needs. It does not provide an absolute model for learning of African phenomena. It is critical to highlight that in the context of Bangura (2017), pedagogy applies to both children and university adults and is probably effective in university learning given certain educational goals, settings, participants and content. However, he is quick to point out that the model cannot address every individual adult learner needs because the needs are not universal. Adults cannot solve individual problems from content designed by the university, faculty or teacher alone but they want to identify areas consistent with their learning agendas.

Contrastingly, Knudson (1980) argues that whilst pedagogy is a preserve for children and in certain contexts for adults, both pedagogy and andragogy should not be seen dichotomously but as existing along the spectrum of a continuum. In this regard, he argues that a more holistic approach would be Humanagogy which is basically pedagogy and andragogy combined. Humanagogy takes education as a matter of degree and not kind. It does not take away what educators already know about pedagogy and andragogy but put both into perspective, thus takes development of the whole being from birth to death (Holmes & Abington-Cooper, 2001). This line of argument is also supported by Oyeleke (2018) who argues that the concepts of

andragogy and pedagogy are intertwined giving a sliding scale from self-directed to teacher centred learning. He argues that some adults learn better in self-directed mode while others do better in the teacher centred mode. He argues that the two cannot be absolute models standing on their own but need complementarity for effective and efficient learning.

It is the submission of the writer that the impact of pedagogy and andragogy in Zimbabwean institutional programmes has been very minimal because of the failure to determine the extent of their complementarity. There could be a mismatch of contexts with regards the models in terms of the learners, the degree programme and timing etc. It is also the argument of the writer that whilst Knudson (1980) argues that humanagogy can be an absolute model of institutional learning, national policies may also play a pivotal role in circumventing the impact of pedagogy and andragogy. This according to Raftopoulos (2006) has affected the extent to which Zimbabwean higher education has been responsive to societal problems. It is also the submission of the writer that there have been more principles teaching without striking a balance between the need for practical solutions and mastery of subject matter.

Tanaka & Evers (1999) postulate that the impact of institutional learning is achieved through the implementation of Ergonagy. *Ergon* is a Greek word which means 'work' whilst *agogos* means 'to lead'. Therefore, university education should prepare graduates for work performance in occupational-vocational education and training. According to five (5) case studies conducted in Japan and the US on university education, all of them revealed that neither pedagogy nor andragogy can be an absolute model to address the teaching-learning process that leads to developmentalism (Tanaka & Evers, 1999). A combination of andragogy, pedagogy and ergonagy ensures that fundamental principles are taught, learning is work related and self-directed which is probably the missing link in Zimbabwean university education.

Heutagogy which basically means self-determined and transformative learning (Hase & Kenyon, 2000) is a model that incorporates pedagogy and andragogy in action learning. It is research-based learning, experiential learning, and collaborative learning that promotes environmental scanning. It is proactive learning rather than reactive problem solving. The aim is to produce graduates that are employable in their field consistent with global job market demands. Blaschke (2012) argues that heutagogy is net-centric implying the use of the internet as a technological self-directed resource centre. It is capability based rather than objective based and is on the extreme end of the pedagogy-andragogy-heutagogy (PAH) educational continuum. From the foregoing, the heutagogy model is more or less similar to humanagogy, ergonagy and andragogy models. As alluded to earlier on, the missing link in the Zimbabwean context could be the extent to which pedagogy is being

applied at the expense of the other models because much of the professoriate is deeply entrenched in pedagogy.

Ubuntugogy is a model that transcends pedagogy, andragogy, heutagogy, ergonagy and humanagogy. It is the art and science of teaching and learning within the confines of humanity towards others (Bangura, 2017; Ganyi & Owan, 2016). The aim is to develop an adult who is cultured and operates within the dictates of the whole society as a collective entity. Morals are of paramount importance and anything that violates the moral fabric and peace of others is taboo (Ngonidzashe & Hapanyengwi-Chemhuru, 2014). The rationale behind this African epistemology as argued by Bangura (2017) is that universities in Africa have for long relied on the Western models causing Africa's underdevelopment, mal-development, civil conflicts and low literacy rates. In this regard, the models that are applied in African tertiary institutions do not resonate well with the philosophy of *Ubuntu* and how the African society should progress.

The discussion in the preceding paragraphs clearly shows that there is no absolute model of institutional learning between pedagogy and andragogy but a combination of over-arching models. However, the degree to which they impact on institutional programmes and in which contexts as individual entities need to be established. It can also be seen from the foregoing that the institutional model of learning, its effectiveness, efficiency and efficacy is not a Zimbabwean problem alone but probably in most African countries. It is also the submission of the writer that all the discussed models of learning might be in use in the Zimbabwean context but however being employed in the wrong contexts or being misinterpreted.

According to Tapera & Kuipa (2016), Higher Education Institutions (HEIs) represent centres of academic excellence. The industry and other stakeholders look forward to the production of quality graduates with relevant skills, knowledge and expertise to drive the industry. The graduates are also expected to develop cutting edge innovations, inventions and above all should match the global job market (Mohamedbhai, 2014). However, Tapera & Kuipa (2016) posit that research conducted on the quality of graduates from Kenya, Burundi, Rwanda and Uganda by the Inter-University Council for East Africa observed that 51% to 63% of the graduates from these countries do not meet the employers' expectations because of lack of relevant skills and competencies. This is the problem that affects the Zimbabwean HEIs as postulated by Mlambo (2008), Raftopolous (2006) and Nyazema (2010). However, the Zimbabwean government established a board to oversee the quality of university education called the Zimbabwe Council of Higher Education (ZIMCHE).

ZIMCHE was established in 2005 as a response to the rapid expansion and emergence of universities to which the public had complained that the institutions had lost quality nationally and internationally. The recommendation to look into the quality of university education came from the Nziramasanga Commission of 1999. This therefore obligates universities to meet certain benchmarks to remain viable in the national education discourse. ZIMCHE works hand in glove with the university quality assurance department and advises the government (Hwami, 2012). The areas of concern would include among others the quality of teaching, quality of research, quality of learning, quality of support services, institutional and programme accreditation. However, the Council has borne the brunt of interfering with university autonomy such as recommendations to include or remove certain degree programmes (Garwe, 2015). Coming up with MBK in consultation with relevant stakeholders is one of the duties of ZIMCHE. However, since its inception in 2005, it can be argued that the MBK have not been forthcoming and reflective of what the societies want. To this end, Raftopoulos (2010) observes that those better off in society have resorted to sending their children to outside universities where they think there is quality education.

It is the writer's submission that the pedagogical process of prescription that most policy makers, administrators and academics have been subjected to continue to take its toll on the determination of MBK. In this regard, SEDs are not consistent with what the society wants and expect from the university. The world over, the government through approved boards needs to determine whether the MBK are consistent with the national philosophy and national educational philosophy. However, the process in Zimbabwe seems be flawed, thus up to now the MBK are failing to address the national aspirations of developmentalism. The MBK are the fundamentals that need to be learnt in each and every discipline, but they are not an end to themselves but a means to an end. This is because they do not holistically attend to all the system, the school and classroom factors. ZIMCHE emphasizes that university students should be taught the concepts to address the MBK but does not emphasise on whether they are to be taught andragogically or pedagogically. However, it needs to be acknowledged that MBK are a prescription from the national government to the universities. Universities are not to deviate from the confines of the set MBK, and examinations are set on the basis of testing these. Therefore, this becomes pedagogy of adults and its failure to impact on the teaching learning process should partly be borne by the State because ZIMCHE would have failed to come up with relevant content for industrialization. However, it needs to be noted that the autonomy of the university and the necessary flexibility as postulated by Garwe (2015) needs to be observed so that the institution can add value to the MBK rather than religiously following them.

Bangura (2017) argues that needs are not universal and thus the MBK might not accommodate all the needs of the students. He is quick to mention that they are a monitoring tool for quality by the university and the government but need to be complimented beyond that. This brings to the fore the question; can higher education institutional programmes have impact on the learners and the national development discourse on the sole basis of following MBK or on the sole basis of advancing learner needs?

From the foregoing, MBK are necessary as the yardstick to measure the extent of knowledge gained. However, if all universities are guided by the same, why then do graduates from certain universities have better employment chances than those from others? It can tentatively be argued that the MBK cannot solely render university education effective and efficient. Therefore, societal needs and learner needs should be addressed to complement the MBK. This andragogical process resonates well with Garwe (2015)'s autonomy of universities. In this context, the university must complement the MBK through needs analysis at institutional level as well as varied methodologies. It is therefore the submission of the writer that Zimbabwean university education is impacting less on the society probably because the MBK are wrong from the onset leading to knowledge that is not consistent with the Zimbabwean industrial discourse being parcelled out. This brings the writer to Mutunhu (2011)'s critical assessment of the relevance of modernisation and the dependence theory in African development discourse as typical example of obsolete MBK. He concluded that though being continuously taught, the two theories are not relevant to Africa's development. In short, the SEDs do influence the adoption of learning models and how these subsequently impact on the teaching learning process. The discussion emanates from the recently promulgated Education 5.0 that seeks to address the skills gaps of Education 3.0 whose thrust is on teaching, research and community service. To this end, Professor Murwira suggests a model of learning which seeks to review the MBK and do away with programmes that create idle graduates without innovative skills. Education 5.0 seeks to research, teach, community serve, innovate and industrialise. In the context of Magaya (2019), the paradigm should be contextualized as remedy to the historical chronologies that have weakened Africa's education system. He argues that Africa missed the first industrial revolution because of slavery, the second industrial revolution because of colonialism, the third industrial revolution because of the liberation struggles and it should now participate in the fourth industrial revolution spearheaded by technology and innovation.

In his inaugural speech, Professor Murwira argued that science is the power that drives the industry. Development must not be bought but be created through Science, Technology, Engineering and Mathematics (STEM). The Education 5.0 paradigm is driven by a Heritage based philosophy such as in China, Japan and

Germany. Technology is drawn from all over the world to develop, innovate and industrialise Zimbabwe using the local resources in terms of people, science and the universities. As an example, if orange juice is produced from Europe because oranges grow naturally in Europe, Zimbabwe can as well produce *matamba* juice because *matamba* grow naturally in Zimbabwe. It is therefore the submission of the writer that this educational discourse seeks to address economic development. It seeks to place much emphasis on science development as the panacea to sustainable development. This therefore means that the thrust of universities is being channelled towards science education which is considered the crux of development.

Whilst the writer intends not to delve much into the implications of this new discourse on developmentalism, a synoptic conclusion is that it pursues functional development. It is concerned with the aggregation of goods and services (Hettne, 2008). It subscribes to Mainstream Development (MD) in that the focus is on economic development in line with the country's Vision 2030. However, it seems to be devoid of the fundamental tenets of developmentalism which are economic, human, political, cultural technological, environmental, and social growth. Development should not be premised on the quantitative growth of objects but the qualitative growth of people in relation to their community and environment that sustains them as means of removing all the un-freedoms and poverties (Todaro & Smith, 2015; Johan & Jespersen, 2016). Credit should however be given to the educational paradigm for trying to pursue endogenous, needs based and self-reliant development as expounded by the heritage-based philosophy. This is the Alternative Development (AD) discourse as advocated by Nerfin (1977) and Marx-Neef (1991).

In the context of education, it needs to be scrutinized whether Education 5.0 advances holistic education. Holistic education is education that focusses on completeness and avoids excluding any aspects of the human experience. Education should cultivate a relationship in the individual of aspects such as the intellectual, spiritual, emotional, physical, aesthetic and social. It also focusses on relations between the individual, society and the environment, the intrinsic-self of students and outside environment, reason and emotion, different levels of knowledge and how to know. It is not confined to fundamental skills but life experiences (Majethia & Patel, 2018). It is therefore the argument of the writer that Education 5.0 might not be holistic as it seeks to side-line the other discipline whose episteme, metaphysics, axiology and logic are equally important for developmentalism. As an example, one would then question whether the paradigm is insinuating that those studying History or those who do not fall within the confines of STEM are not relevant to developmentalism. If so, this therefore ultra-vies the concept of developmentalism that seeks to address all facets of development, be it human, social, cultural, economic, political or environmental. Education for development is not all about

the geospatial, aeronautical and space science, information-communication technology, energy and minerals research or biotechnology.

The writer also submits that the educational paradigm does not conform to the model of Ubuntugogy as propounded by Bangura (2017) in that it has drawn prescriptive parameters of education, defying other tenets of developmentalism within the confines of the Zimbabwean people. It can then be seen that this SED dictates what must be taught by universities but is this the best for the country? Does it not silence certain voices from the professoriate, the captains of industry, the community and students? This therefore has got a bearing on the effectiveness, efficiency and efficacy of institutional programmes.

Most adult learners were exposed to pedagogy from primary school to high school and were conditioned to believe that learning is teacher and subject centred. This experience demotivates some adults to attend higher education learning because they do not want to relive the experience. At the same time, some adults feel that the teaching-learning process should be done pedagogically, thus they seek the continuation of the status quo from high school (McGrath, 2009). In certain contexts, adults come to universities without prior background of certain disciplines such as accounting, law, medicine etc. In these circumstances McGrath (2009) argues that the lecturers would have to teach the fundamentals pedagogically. However, as the course progresses, the students would then be encouraged to apply the taught concepts to the field of practice, thus linking experience with the taught material. This is a move from teacher dependence to self-directedness and enriching the learning environment with experience and practicability. However, McGrath (2009) observes that in most institutions, students once introduced to pedagogy might not want to change, thus would want to remain dependent. This line of argument is typical of some students in Zimbabwean HEIs who have been conditioned to pedagogy to the extent that if the andragogical model is introduced, they argue that lecturers are lazy or that they are bad teachers. Knowles (1998, p.70) observes that, "pedagogical strategy is appropriate at least as a starting point, when learners are indeed dependent and when entering a totally strange content area."

In short, the pedagogical model is ideal at the beginning of courses but becomes detrimental when continued up the ladder. This therefore brings to the fore the contextual applicability and effectiveness of pedagogy and andragogy. Southard (2017) argues that the contextual applicability of pedagogy and andragogy should be seen in the perspective of whether students are undergraduates or postgraduates. It should also be seen in the context of the nature of discipline e.g. mathematics or sociology. He further argues that it would be appropriate and more impacting when pedagogy is introduced to cover fundamental concepts at undergraduate level whilst at postgraduate level, the most dominating model would be andragogy. This does not

mean that andragogy at undergraduate level is not applicable, but the dominating model would be pedagogy to give students the necessary grounding. This argument therefore shows that pedagogy or andragogy cannot stand as absolute models if they are to impact positively on the design and delivery of instruction in university institutional programmes. Pedagogy is not necessarily a preserve for children but adults as well and must be complemented with andragogy.

Whilst pedagogy and andragogy are models that can be implemented in university learning, those that implement them could determine the extent to which they become effective. Ward (2001) observes that a mediocre lecturer is good at telling, while a good teacher finds time to explain. He argues that the very good teacher emphasizes demonstrations while the superior teacher is one who inspires. It is therefore the superior teacher who can exhibit the connoisseurship of university teaching because he/she has got the subject matter competence and has the art and science of delivery.

Hiatt (1991) in his research on American universities showed that most of the colleges in the USA in the 1980s and 1990s still had a significant chunk of untrained professoriate. Kapur (2017) observed that the qualifications of university lecturers in India have got more to do with pedagogues dealing with pedantics. He argues that lecturer training has taken very little cognisance of the non-traditional students flocking universities. To this end, he observes that Indian universities notably Rajasthan, Madras, Sri-Venkateshwara, Garhwal and others have introduced lecturer training in andragogy for the purposes of facilitating non-traditional students. In the Russian Federation, universities have got colleges of andragogy to ensure that those that deal with adults have got an additional qualification of andragogy in addition to the pedagogical qualification (Yoon, 2009). Rule (2017) therefore argued that teaching at university level required that the professoriate acquire the requisite knowledge and skills in the teaching process. Schmidt (2008) argues that the professoriate does not necessarily need to focus on pedagogy training alone to impact on the teaching learning process. He argues that the lecturers should attend to university learning the way they attend to their research implying experimentation, practicability, collaboration and attention to student experience. They should not focus on the content that they want the students to learn only but the development of cognitive and critical thinking skills (Berret, 2012).

The existence of lecturers who are not trained in either pedagogy or andragogy could be contributing to the ineffectiveness, inefficiency and inefficacy of university education in Zimbabwe. The systematic design of instruction from needs analysis up to implementation is a pre-requisite for all the teaching staff. As alluded to by Berret (2012), lecturers need to understand the process of how adults learn best and how the teaching-learning should be managed.

The study was informed by the e Educational Effectiveness Theory. The theory has got its early roots in the works of Brookover *et al.* (1979) in the USA. It is also rooted in the research work of Mortimore & Ouston (1979) in Britain. It is a holistic theory that measures the effectiveness of an educational system basing on the inputs of the education system, the processes, the contexts in which learning takes place and the subsequent outcomes which could be immediate or long term. In the context of Schreens (2015), educational effectiveness is a theory rooted in a combination of system level, classroom level and school level factors. The Society for Research on Educational Effectiveness (SREE) (2011) defines educational effectiveness as a theory that explains or provides direction on why, how, in what circumstances, for whom, education practices and policies would positively or negatively impact on the overall education outcome. The present research was informed by this theory because in determining the impact of andragogy or pedagogy, the focus is on the national philosophy of education and the curriculum which are represented by the system factors. The determination of learner needs by a particular institution, its policies, practices, its general orientations with regards pedagogical and andragogical paradigm can be summed up as the school factors. The methodological approaches that characterise institutional programmes in higher education, the student-teacher relations, the environment and the audio-visuals are characteristic of the classroom factors.

The Educational Effectiveness Theory is a theory that does not focus on the academic achievements of learners alone but goes beyond the classroom. It focuses on the classroom cognitive, behavioural, constructivism, constructionist, and Gagnes Learning Theory aspects. The humanness of the classroom environment and the facilitators' role augers well with the Cybernetic Theory of Learning. Thus, the Cybernetic view and Humanist Theory of Learning are the other constructs of the theory.

In the broader context, education would then be deemed effective and functional if it produces man who is not only in the world but with the world, which is to mean learners who are responsive to the world social order (Nyerere, 1968). In the same vein, Freire (1974) argues that education should radically transform society and should not produce conformists and docile graduates whom he described as products of Silencing Education. It therefore follows that we cannot talk of educational effectiveness or the impact of pedagogy and andragogy without considering Freire (1974)'s Critical theory or Reconstructionism as derived from the Frankfurt School. Educational Effectiveness Theory is also supported by Dewey (1941)'s pragmatism and progressivism. In the context of Dewey (1941), education would be dysfunctional if it restricts learners from producing the best out of themselves.

Learning should have practical implications and should not constitute empty idealism (Elias & Merriam, 2002; Saleh, 2013).

Beyond the institutional horizons, educational effectiveness to a larger extend is informed by the national policies, the strategic guidelines or the system dictates. The migration along the education continuum from Education 3.0 to Education 5.0 is one strategic narrative that would then influence the functionality of the Zimbabwean education system. It is a national policy which would then inform pedagogical and andragogical orientations of institutions, lecturers and students. In short, the success of developmental or institutional programmes would be to a greater extend be determined by the national education philosophy. This philosophy would then inform the curriculum, the methodologies, the purpose or aims of education, the role of the learner and that of the facilitator. It is important to highlight that the impact of both pedagogy and andragogy falls within the confines of the national philosophy down to the classroom factors. This means that the impact of pedagogy and andragogy in institutional programmes should be looked at holistically considering the Educational Effectiveness Theory from the system factors to the classroom factors.

This chapter focused on the review of related literature with a strong bias to issues of educational effectiveness, efficiency and efficacy as driven from the theoretical framework. The research questions provided themes to guide the review of the literature. The chapter provided a synoptic review of curriculum development and methodologies in pedagogy and andragogy. It focused on tenets of educational effectiveness, efficiency and efficacy in university learning with a bias on what would be deemed the connoisseurship of university learning. The possibilities of an absolute model of institutional learning, the dilemma of satisfying MBK and learner needs, the perceptions of lecturers and students on the impact of pedagogy and andragogy on university learning were also looked at. The review looked at the contribution of trained and untrained lecturers on the effectiveness and efficiency of university education within the realm of employing pedagogy and andragogy in a complementary continuum. It also looked at the theory underlying the study. The next chapter focusses on research methodology.