

The use of experiential learning in effective provision of skills to secondary school learners in Zimbabwe

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Abstract: Practical oriented education was not foreign to indigenous education systems. Precolonial education ideology focused on promoting productivity and practicality. Given current challenges, contemporary education systems can deduct from fertile African cultural heritage to mitigate educational shortfalls promoting unproductivity and unemployment. Contemporary Zimbabwe education, if not most of Africa, from primary to Tertiary level lacks emphasis of practical skills. Yet one can argue that, practical subjects/skills are the foundational cornerstone of sustainable productivity and socioeconomic development. Many curricular obstacles hinder promotion and teaching of diverse practical subjects. At the top of several hindrances is lack of supportive infrastructure for effective practical subjects teaching; and lack of practical subjects teachers given absence of a pro-practicals teacher college education in Zimbabwe. Most persistent hindrance is the history driven ideology associated with practical subjects. The purpose of this qualitative study through analysis of published literature was to determine the cause of above-mentioned hindrances. This study discovered a limited inclination towards practical subjects by the current Zimbabwe education system and related practical subject's pedagogy. Therefore, one can conclude logically that, limited teaching of practical subjects in most schooling levels highly affects productivity of active citizens contributing towards national sustainable growth. Hence, there is a need for practical subjects' access diversification at all schooling levels and train relevant teachers towards that end.

Key terms: Practical subjects, experiential learning, curriculum, pedagogy, practical skills

I. INTRODUCTION

Zimbabwe schools do no place central emphasis on practical subjects education and yet economic and development challenges re in demand of productive, practical literate graduates. Practical subjects oriented educating was no foreign to indigenous African education system (Ocit, 1994; Seepe, 2001; Fajana, 1986; Nsamenang & Tchombe, 2011; Adeyeni & Adeyinka, 2002) and should not be foreign in the African's blood and intellectual capabilities. Precolonial education ideology focused on promoting productivity and practicality. Unfortunately, all indigenous knowledge is rapidly being lost to lack of research and incorporation into contemporary school curricular. Given current African social, economic and political challenges, contemporary education seeking for solutions can deduce lessons from fertile African cultural intelligences to mitigate contemporary educational shortfalls promoting unproductivity and Westerncentric theoretical dependency. Contemporary Zimbabwe education,

if not most African education seems, from primary to primary level can be criticised as lacking strong emphasis of practical skills compared to precolonial education (Nsamenang and Tchombe, 2011). Yet one can argue that practical subjects/skills are the foundational cornerstone of sustainable productivity and socio-economic development. This study argues that practical subjects can be a torch that can illumine Africa and its struggling economies.

Current Zimbabwe academic oriented formal schooling has not automatically brought economic growth and societal development, contrary to human capital theory predictions. The current theoretical focused education ideology limit majority of Zimbabweans to receive adequate practical education and pragmatic oriented education and literacy. Current theory inclined pedagogy is deficient in local wisdom, needs, and situated intelligences, which Africa's agrarian economies require most.

In post-colonial Zimbabwe, there is a long tradition of placing more emphasis on academic subjects given colonial caused hatred attached to few practical subjects mainly Woodwork, Needlework and Agriculture, perceived as promoting master-servant colonial ideology (United Nations, 2011; World Bank, 1990; National Action Plan of Zimbabwe Education, 2015). Yet sustainable education from ancient societies to developed contemporary economies of Asia and the West depend and depended on practical pedagogy and subjects like Design and technology, Engineering, Technical graphics, Software programming, Blacksmithing, Wood and metal technology. Today practical subjects are seen (Beatty & Woolnough, 1982; Gunstone, 1991; Johnstone, 1982; Hodson, 1990; Mohamedbhai, 2001) essential foundation for sustainable living and industrial growth. It is widely appreciated and accepted (Abraham, 2011; Atuahene & Ansah, 2013; Lazarowitz & Tamir, 1994) that practical subjects no only enable skills acquisition but also leads to greater conceptual understanding of the universe. However, while there is appreciation and research factors into how practical subjects influence economic development, there is limited research into the existing conditions and factors, which affect inclusive practical subject's pedagogy in most Zimbabwe primary, secondary and tertiary schools. Therefore, this study analyse reasons practical subjects exclusion to all children in the contemporary Zimbabwe education system. This study also seek to find out possible benefits to the teaching and learning of practical subjects for national development.

Statement of the Problem

Contemporary Zimbabwe schools do not place a compulsory central emphasis on offering a wide variety of practical subjects to all learners. Yet all learners need diverse practical knowledge for sustainable living and healthier living. Where practical subjects offered, in most cases, they will be traditional practicals like Agriculture, Woodwork and Metalwork offered to 'less intellectually' gifted learners. In most cases, sciences and other practical subjects like Chemistry, Physics, Biology and Technical Design offered to 'intellectually gifted' learners. The researchers sees this as a problem and a discriminatory education mentality, because no learners need scientific or practical skills in life more than other learners do. I have observed during teaching practice supervision complimented by informal dialogical discourses in visited primary schools both in rural and urban setups that there are limited practical subjects being taught and assessed to all learners. In some cases, no practical subjects offered or taught at all. Many primary schools, and high schools especially to advanced level students, offer limited practical subjects. Yet I could argue that practical subjects or functional literacy matters more compared to reading and writing literacy for sustainable development and living (Nyerere, 1973; Wiredu, 2004; Boateng, 1990; Lucius, 1996; Gordon, 2008). However, not totally dismissing reading and writing literacy useless and irrelevant. Since creation (Adler, 1996), practical skills have contributed immensely in economic, social and political coherence and prosperity of human kind. Practical education lead technological and economic prosperity across the universe and is essential to all inventions and future technological development. One can argue that practical subjects play a pivotal role in technological change, innovation and invention. All human societies require practical knowledge and skills for survival. In turn, this implies high priority given to practical pedagogy in contemporary education.

Research Questions

1. What are the curricular obstacles that hinder promotion and teaching of diverse practical subjects in Zimbabwean education?
2. How can practical skills assist in correcting obstacles that hinder promotion and teaching of diverse practical subjects in Zimbabwean education?

II. THEORETICAL FRAMEWORK

Africa needs practical solutions to achieve sustainable development and solve contemporary and future economic, social and political challenges. Africans will achieve both mental and physical liberation by adopting practical education orientation and perception of life. From ancient societies to contemporary economic demands, hands-on practical knowledge application is needed (Austin, 1993; Levine & Cureton, 1998; Sax, Keup, Gilmartin, Stolzenberg & Harper, 2002; Schroeder, 1993). In other words, high literacy in reading and writing, as prevailing in Zimbabwe, being book-

smart without functional literacy is inadequate for sustainable development. Zimbabwe's economy and citizens need practical skills for sustainable living just like any other country seeking sustainable development (Busse, 1992; Brown & Hesketh, 2004; Coplin, 2003). John Dewey (1938) borrowing from ancient civilisations and Realism, described education involving full range of learner's life experience, not just academic experience. Dewey believed education deeply, perhaps inextricably intermingled social phenomenon that serves to reinforce practical aims and methods of society as a whole (Dewey, 1916; Dewey, 1902; Dewey, 1938). More simply, Dewey believed education is a practical and applicable in life, in the current Zimbabwe case, be rather applicable in life. Unfortunately practical pedagogy philosophy appears largely ignored in contemporary Zimbabwe education orientation. Contemporary Zimbabwe education must strike a balance between gaining practical real world experiences in disciplines rich in theory. To achieve that balance Progressivists, Pragmatists and Dewey (Harris & Katz, 2001; Katz & Chard, 1989; Bridges & Hallinger, 1991; Aspy, Aspy and Quimby, 1993; Anderson & Armbruster, 1990) suggest several active approaches to practical learning: Project based learning; applied learning; practical skills/life skills training; service learning, authentic and action oriented learning. However, these approaches here and there used in contemporary Zimbabwe education system do not bring anticipated educational paradigm shift from theory to practical pedagogy inclination.

Practical Subjects and Pedagogy

The expectation in general in the world is for effective education to solve all human kind problems. Practical subjects education is a worthy investment to partial fulfil of that expectation with immense social and economic benefits. Research (Hugg & Wurdinger, 2007; Anderson & Armbruster, 1990; Astin, 1993; Busse, 1992; Betts, 1995; Grossman, 2006; Hu & McMahon, 2010) shows that individuals who graduate and have access to quality practical education throughout primary and secondary are more likely to find gainful employment, create employment, have stable incomes, contribute to national economic growth and be active productive citizens. They are also less likely to be a burden to society, commit crimes, less likely to place high demands on public health care system and less likely to be enrolled in welfare assistance programs (Husen & Tuijnman, 1991; Alexander, 1997; Ridell, 2004; Rindermann, 2008; Grossman & Kaestner, 1997; Frank & Nason, 2009; Lochner & Moretti, 2004). Above all learners exposed to practical education are likely to be productive, self-reliant and agents of economic transformation and innovation.

The national importance of education including practical education is based on the thought that assume education influences individual lives and the welfare of communities (Baker & LeTendre, 2005; Martinez, 2000; Mayer, 2000; MacMahon, 2000; Desjardins, 2008; Frank & Nason, 2009). Education is a way to train children in the much-needed

societal skills, attitudes and knowledge they need in their daily lives to create, find jobs and above all live well. In addition, education has broader social and economic benefits for individuals, families, communities and society. The wide spread improvement of social and economic conditions are a direct outcome of educated population that is better able to use learned skills and information to make wise decisions for self and others.

A great deal of recent research (Frank & Nason, 2009; Nerzer, 1998; Bierman, Torres & Schofield, 2010; Sternberg, 2008; Kingston et al., 2003; Dee, 2004) demonstrates how the consequential benefits of effective practical education extend far beyond each learner's individual academic gains. Contemporary studies agree to pre-colonial African philosophy educational implications indicating a practical educated population having less dependency on public assistance programs, and bring better tax revenue. Education also plays a key role in the reduction of crime and poverty, contributes to improved public health, functional literacy and greater political and civic engagement. Not only does practical education pass on to its beneficiaries survival skills, it also pass on lifetime skills and learning experiences—learning to know, learning to do, learning to live and learning to address developmental needs. Practical subjects promote holistic approach to life seeking integrative thinking, envisioning and designing change and transformation (UNESCO, 1996; UN, 2011). Even though, theoretical true this seems a realistic challenge in contemporary Zimbabwe education given high unemployment rate despite high reading and writing literacy.

Not only are practical subjects a provision of a holistic education. Practical subjects connecting students with nature at time when here is a growing disconnection between humans and nature due to urban life styles. In other words, practical subjects can address the increasing complex and interdisciplinary challenges of today and future. However, to embrace practical pedagogy Zimbabwe education must give up current 'conveyor-belt model' of pedagogy, which focuses on theoretical testing and standardization in isolated subjects. Instead, we should move toward a model where learners create, invent, design, program creative solutions to complex contemporary and future problems, technologies and living. Practical subjects in the creative perspective encourages learners to investigate the question, explore the question from different viewpoints and form a decision on how things work and behave. In practical subjects compared to theoretical abstract knowledge students work on real-life problems that are relevant to their immediate life needs not for knowing appreciation sake.

III. METHODOLOGY

The study used qualitative study through analysis of published literature was to determine the cause of above-mentioned hindrances. Document analysis is a systematic procedure for reviewing or evaluating documents—both printed and electronic (computer-based and Internet-transmitted) material. Like other analytical methods in qualitative research,

document analysis requires that data be examined and interpreted in order to elicit meaning, gain understanding, and develop empirical knowledge.

In this study, documents that were used for systematic evaluation as part of this study took a variety of forms. This included agendas, minutes of meetings; manuals; background papers; books and brochures; diaries and journals; letters and newspapers that highlighted the use of practical subjects in Zimbabwe education system.

IV. FINDINGS

The findings from literature analysis complemented by teaching practice supervision of primary teacher trainees by the researcher (UN, 2011; World Bank, 1990; National Action Plan of Zimbabwe Education, 2015; Hugg & Wurdinger, 2007) reveal a wide gap between practical and theoretical orientation focus in contemporary Zimbabwe formal schooling. This gap is attributable to diverse factors. Some of the factors are historical borrowed, while others are more contemporary driven and some cases both historical and contemporary influenced. These factors include various resource constraints. Other factors include negative teacher, pupil and school administration attitudes prioritising examination and theory focus. Sometimes challenges caused by lack of awareness on the relevance of practical knowledge and skills hinder effective teaching of practical subjects. Above all, there is lack of a wide spectrum of practical subjects offered to all students and schools in Zimbabwe. Those schools that offer practical subjects discriminate access to learning of practical subjects.

Practical subjects are relevant for sustainable development and self-reliance (Nyerere, 1973; Appiah, 1997; Asante & Asante, 1990; Coplin, 2003). Practical subjects are not only relevant for sustainable living but also support other subjects and multiple intellectual skills organising, designing, observing, predicting, interpreting, constructing, comparing, measuring, weighing, drawing and others (Adams, 1993; Gardiner, 1993; Colby & Witt, 2000). Practical subjects are relevant to all students despite their intellectual capacities and to all education qualifications. Providing primary and secondary learners compulsory practical education for all has broad values applicable immediately and in future. Practical subjects give value of evidence-based knowledge achieved through practical investigation and experimentation. Practical subjects are influential to society development and progress because of its reality, usefulness and application.

V. DISCUSSION

Although the importance (Collins, 2001; Hodson, 1990; Watson, 2000; Parkinson, 2004) of practical subjects is theoretically accepted, many challenges (Lazarowitz & Tamir, 1994; Cook & Taylor, 1994; Halai, 2008) hinder achieving high quality practical subjects' inclusive education orientation in Zimbabwe. Expansion of inclusive practical subjects teaching from primary to tertiary level is haunted by challenges such as, defective teaching, poorly equipped

workshops, in some schools no workshops are there for practical learning, inadequate qualified teachers, limited textbooks and general lack of practical subjects inclined education ideology. These challenges suggest Zimbabwe schools are not offering adequate opportunities to learn practical subjects which are critical to economic and social development of the country.

Researchers from Dewey, 1903; Kerr, 1963; to Thompson, 1975; Abrahams & Saglem, 2010 generally agree that practical subjects or work develop multiple-skills in learners. Skills like cultivating accurate observation, measuring, and recording, promote simple common sense, scientific methods of thought, develop manipulative skills, train problem solving critical reasoning, promote logical reasoning methods of thought, train students the ability to comprehend and carry out instructions, develop self-reliance attitudes, promotes industrial aspects of work, enhance learner intellectual and aesthetics appreciation and understanding. However, current Zimbabwe education tends to emphasize on 'book-knowledge' at a time when Africa needs to liberate itself from foreign technological and cultural dependency. Achievement of education for work and self-reliance happens when formal schooling combines practical subjects/work pedagogy with academic work. Therefore, relevant education will be more productive with a focus on practical skills that have technological and cultural utilitarian value for learners and their communities.

VI. RECOMMENDATIONS

Considering study findings, the study recommends Zimbabwe to undertake broadly based audit of existing education practice and exist skills. Reviewing national education philosophy and ideology explores introduction of wide spectrum of practical subjects to all learners. Relevant raining and continuous professional development of practical subjects' teachers is a priority. Assessment of practical skills is required for qualification and relevant funding allocated for constructing supportive practical subjects infrastructure, technologies, equipment and laboratories.

VII. CONCLUSION

Despite practical subjects being vital for sustainable development and work, there is limited evidence of effective practical subjects teaching and learning in most Zimbabwe schools except for traditional Agriculture, Woodwork, Art, Metalwork and Technical drawing. Practical subjects discriminately taught to learners thought to be less intelligent in sciences and academic subjects and treated as occupier subjects yield underdevelopment. Majority learners in Zimbabwe from primary to tertiary schooling hardly acquire wide experiences from diverse practical knowledge, skills and attitudes that make them productive citizens employment creators and employable. Lack of practical skills exposure and the ability to invent, make things and develop technologies is a concern. Zimbabwe without practical pedagogy focus will

continue to produce graduates with limited ability to create new ideas and solve Africa's practical life challenges.

REFERENCES

- [1] Abrahams, I. (2011). *Practical work in school science: Minds-on approach*. London: Continuum.
- [2] Adeyeni, M. B., & Adeyinka, A. A. (2002). Some key issues in African traditional education. *McGill Journal of Education Spring*.
- [3] Adler, P. J. (1996). *World civilisations*. St. Paul: West Publishing Company.
- [4] Alexander, K. (1997). Education and the public good. *Social Forces*, 76(1), 1-30.
- [5] Anderson, R. C., & Armbruster, B. (1990). Some maxims for learning and instruction. *Teachers College Record*, 91(3), 396-408.
- [6] Appiah, K. A. (1997). *The arts of Africa*. The New York Review of Books, 44(7).
- [7] Asante, M., & Asante, K. (Eds.). (1990). *African culture: Rhythms of unity*. Trenton: Africa World Press.
- [8] Aspy, D. N., Aspy, C. B., & Quimby, P. M. (1993). What doctors can teach teachers about problem-based learning. *Educational Leadership*, 50(7), 22-24.
- [9] Astin, A. W. (1993). *What matters in college? Four critical years revisited*. San Francisco: Jossey Bass.
- [10] Atuahene, A., & Ansah, F. A. (2013). A descriptive assessment of higher education access, participation, equity and disparity in Ghana. *SAGE Open*, 2013, 3-31.
- [11] Baker, D., & LeTendre, G. (2005). *National differences, global similarities world culture and the future of schooling*. Stanford: Stanford University Press.
- [12] Beatty, J., & Woolnough, B. E. (1982). Why do practical work in 11-13 science? *The School Science Review*, 768-770.
- [13] Betts, J. R. (1995). Does school quality matter? Evidence from the national longitudinal survey of youth. *The Review of Economics and Statistics*, 77(2): 231-50.
- [14] Bierman, K. L., Torres, M. M., & Schofield, H. L. T. (2010). *Developmental factors related to the assessment of social skills*. New York: Springer Science, Business Media.
- [15] Boateng, F. (1990). African traditional education: A tool for intergenerational communication. In M, Asante & k, Asante (Eds.). *African culture: Rhythms of unity*. Trenton: Africa World Press.
- [16] Brown, P., & Hesketh, A. (2004). *The mismanagement of talent: Employability and jobs in the knowledge economy*. Oxford: Oxford University Press.
- [17] Busse, R. (1992). The new basics: Today's employers want the three Rs and so much more. *Vocational Education Journal*, 67(5), 24-47.
- [18] Coplin, W. (2003). *10 things employers want you to learn in college*. Berkeley, CA: Ten Speed Press.
- [19] Dee, T. S. (2004). Are there civil returns to education? *Journal of Public Economics*, 88, 1697-1720.
- [20] Desjardins, R. (2008). Researching the links between education and well-being. *European Journal of Education*, 43(1), 23-35.
- [21] Dewey, J. (1902). *The child and the curriculum*. Chicago: University of Chicago Press.
- [22] Dewey, J. (1916). *Democracy and education*. New York: MacMillan.
- [23] Dewey, J. (1938). *Experience and education*. New York: MacMillan.
- [24] Fajana, A. (1986). Traditional methods of education in Africa: The Yoruba example. In J. Okpaku., A, Opubor, & B. Oloruntimehin (Eds.). *The arts and civilisation of black and African peoples*. Lagos, Nigeria: Centre for Black and African Arts and Civilisation.
- [25] Frank, C., & Nason, E. (2009). Health research measuring the social health and economic benefits. *Canadian Medical Association Journal*, 180(5), 528-34.
- [26] Gordon, L. R. (2008). *An introduction to Africana philosophy*. Cambridge: Cambridge University Press.

- [27] Grossman, M. (2006). *Education and non-market outcomes*. Elsevier: Maryland Heights.
- [28] Grossman, M., & Kaestner, R. (1997). Effects of education on health. In J. R. Behrman & N. Stacey (Eds.). *The social benefits of education*. Ann Arbor: The University of Michigan Press.
- [29] Gunstone, R. F. (1991). *Reconstructing theory from practical experience*. Milton Keynes: Open University Press.
- [30] Harris, J. A., & Katz, L. G. (2001). *Young investigators: The project approach in the early years*. New York: Teachers College Press.
- [31] Hodson, D. (1990). A critical look at practical work in school science. *School Science Review*, 71(256), 33-040.
- [32] Hu, S., & McMahon, W. W. (2010). Higher learning greater good: The private and social benefits of higher education. *Higher Education*, 60(1), 123-25.
- [33] Hugg, R., & Wurdinger, S. (2007). A practical and progressive pedagogy for project based service learning. *International Journal of Teaching and Learning in Higher Education*, 19(2), 191-204. Retrieved from <http://www.isel.org/ijlhel>
- [34] Husen, T., & Tuijnman, A. (1991). The contribution of formal schooling to the increase in intellectual capital. *Educational Researcher*, 20(7), 17-25.
- [35] Johnstone, A. H. (1982). The demands of practical work. *Education in Chemistry*, 19(3), 71-73.
- [36] Katz, L., & Chard, S. (1989). *Engaging children's minds: The project approach*. Norwood: Aldex.
- [37] Keller, D. (2004). Applied learning: Adapted from engaging the world. The Powerful Strategies of Applied Learning. Retrieved from http://www.newhorizonsorg|strategies|applied_learning|keller|htm
- [38] Kingston, P et al., (2003). Why education matters. *Sociology of Education*, 76(1), 53-70.
- [39] Lazarowitz, R., & Tamir, P. (1994). *Research on using laboratory instruction in science*. New York: McMillar.
- [40] Levine, A., & Cureton, J. S. (1998). *When hope and fear collide: A portrait of today's college student*. San Francisco: Jossey-Bass
- [41] Lochner, L., & Moretti, E. (2004). The effects of education on crime: Evidence from prison inmates, arrests and self-reports. *American Economic Review*, 94(1), 155-89.
- [42] Lucius, T. O. (1996). *On race and philosophy*. New York: Routledge.
- [43] MacMahon, W. (2000). *Education and development: Measuring the social benefits*. Oxford: Oxford University Press.
- [44] Martinez, M. E. (2000). *Education as the cultivation of intelligence*. Mahwah: Lawrence Erlbaum Associates, Inc.
- [45] Mayer, R. E. (2000). Intelligence and education. In R. J. Sternberg (Ed.). *Intelligence*. Cambridge: Cambridge University Press.
- [46] Mohamedbhai, G. (2001). *Higher education in Africa facing the challenges in the 21st century*. Retrieved from <http://www.dx.oi.org/10.6017/ijhei.2011.638534>
- [47] National Action Plan of Zimbabwe Education Report. (2015). Harare: Government Press.
- [48] Nsamenang, A. B., & Tchombe, T. M. S. (Eds.). (2011). *Handbook of African educational theories and practice: A generative teacher education curriculum*. Bamenda: Presses Universitaires d'Afrique.
- [49] Nyerere, J. (1973). *Ujamma: Essays on socialism*. London: Oxford University Press.
- [50] Ocit, J. P. (1994). *An introduction to indigenous education in East Africa*. Makerere University Press.
- [51] Parkinson, J. (1994). *Practical work: The effective teaching of secondary science*. London: Longman.
- [52] Riddell, W. C. (2004). *The social benefits of education: New evidence on an old question, in taking public universities seriously*. Toronto: University of Toronto.
- [53] Rindermann, H. (2008). Relevance of education and intelligence at the national level for the economic welfare of people. *Intelligence*, 36(2), 127-42.
- [54] Sax, L. J., Keup, J. R., Gilmartin, S. K., Stolzenberg, E. B., & Harper, C. (2002). *Findings from the 2000 administration of our first college year: National aggregates*. Los Angeles: University of California.
- [55] Schroeder, C. C. (1993). New student-new learning styles. *Change*, 25(4), 21-26.
- [56] Seepe, S. (2001, October 21). *Indigenous knowledge systems can benefit everyone*. Mail and Guardian, p. 7.
- [57] Sternberg, R. J. (2008). Increasing fluid intelligence is possible after all. *Proceedings of National Academy of Science*, 105(19), 6791-6792.
- [58] United Nations. (2011). *Education challenges in Africa*. New York: UN Department of Economics and Social Affairs.
- [59] Watson, J. R. (2000). *The role of practical work*. London: Open University Press.
- [60] Wiredu, K. (Ed.). (2004). *A companion of African philosophy*. Malden: Blackwell.
- [61] World Bank. (1990). *Zimbabwe: A review of primary and secondary education*. Harare: Population and Human Resources Division World Bank Vol 1 and 11.
- [62] Wurdinger, S. D. (1997). *Philosophical issues in adventure education*. Dubuque: Kendall/Hunt.