



## INNOVATION IN EDUCATION AND HUMAN CAPITAL DEVELOPMENT: A CASE OF PRIMARY EDUCATION IN UGANDA. A SYSTEMATIC LITERATURE REVIEW

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### ABSTRACT

**Background:** Innovation in education is found to improve human capital with relevant knowledge and skills in schools. Innovation in education maintains competitive advantage for an individual, a dominant discourse of knowledge, and a source of productivity. Governments have now embraced innovation in education as an approach to create more efficient education systems. The objectives of the study are; To identify strategies of innovation in education that improve human capital development; To examine the effectiveness of innovation in education that improve policies of human capital development and, to identify the challenges to innovation in education that affect human capital development. **Methods:** The study explore the human capital theory, this postulates the significance of education and training as elements of educational investment that encourage the competitiveness of human capital. The study identified and evaluated data from 2015 to 2020 that followed the systematic literature review method which used a documented research process for inclusion and exclusion of selected articles, and created evidence to suit the research objectives. **Results:** The results indicated that innovation in education implored employee's education and training, professional development, total quality management and adoption of digital technologies. **Conclusion:** The study recommended that education institutions should implore innovation in education to increase knowledge, skills, and competencies for human capital development.

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## INTRODUCTION

The world today is undergoing changes and the education sector in Uganda needs to respond to the globalized world. According to the <sup>(1)</sup> World Bank report, in Uganda only 6 percent of school-going children can read and write, this could be attributed to the quality human capital employed in the education sector. The <sup>(2)</sup> human capital index states that, Uganda stands at 0.3 percent, which is a lower bound attributed to the country's low education outcomes. <sup>(3)</sup> States that education and training together with new technological skills as an innovative strategy encourage intelligent and flexible education production processes. With the current trend of the COVID-19 pandemic, innovation in education is paramount oriented towards human capital development. Human capital development depends on education and training, and today education institutions emphasize novel approaches oriented towards competitiveness, acquisition by

training and experience, <sup>(4)</sup>. Human capital theory supports the view that human capital needs to gain appropriate education and training that can help it acquire the necessary skills and competencies <sup>(5)</sup>. This is also supported by <sup>(6)</sup> that training of human capital is significant in improving the quality of human capital through innovation in education. Innovation in education is doing things in novel ways, and doing them competitively necessitates the human capital to acquire better ways and processes <sup>(7)</sup>. Human capital in this case is a significant resource that is only managed effectively under transformative leadership <sup>(8)</sup>. According to <sup>(9)</sup> school administration, requires transformative and charismatic leadership. Transformational leadership will bridge the leadership gap; avert social risks that could emerge even to other sectors of the economy that the education sector provides skilled human capital development. Human capital development is the process where human capital is able to acquire education, knowledge, competencies, abilities, values together with social capital that makes them competitive in performing given tasks <sup>(10)</sup>. Human capital development is the

training of existing human capital within an organizational context and introducing processes and systems and training programmes for staff that should increase the productivity and effectiveness of such an organization<sup>(11)</sup>. Human capital development encourages talent management, attracting, keeping and developing the talented human resource the organization's needs<sup>(12)</sup>. This is a key source of competitive advantage in an organization supported by innovation in education. Innovation in education is the provision of different ways of ensuring an intellectual capital shift in human capital if the current ways are not performing effectively<sup>(13)</sup>. Innovation in education is also the implementation of improved ideas, knowledge, and practices<sup>(14)</sup>. Innovation in education helps us to identify our potentials and in so doing we are able to gain innovative ways of service delivery<sup>(15)</sup>, it, therefore, involves an idea and a shift to doing things differently. These innovative ideas foster the development of human capital development. This paper aimed at and organized as follows. Section two describes the method and materials, section three presents the results, section four focuses on discussion and section five presents the conclusion, followed by acknowledgment and references.

## MATERIALS & METHODS

We systematically reviewed the literature to identify the relevant articles on the innovation in education strategies, effectiveness, and challenges that impact on human capital development. Our study adopted a systematic literature review method to analyze the data available from January 2015-August 2020. We followed the systematic literature review process, planned, conducted, and reported the review<sup>(16)</sup> & <sup>(17)</sup>. The search strategy used Boolean logic connectors “AND”, “OR”, and “NOT” to increase or reduce search results using search terms ‘innovation in education\*’ and ‘human capital development\*’ to cover the concepts under investigation. The open-access search database were Educational research information center (ERIC) and Google scholar from January 2015 – August 2020, the search returned from ERIC n=59, Google scholar n=2650. Not all the articles published met the topic of review, another search gave us only 42 articles, involving strategies, effectiveness, and challenges to innovation in education on human capital development and published in English met the criteria as stated in appendix 1. The starting year 2015 identified new trends and the current education policy changes.

## RESULTS

**The Strategies of Innovation in Education that improve Human Capital Development:** Lifelong learning improves human capital development in the 21st century. According to<sup>(18)</sup>, lifelong learning is defined as the purposeful education that individuals take on to better their personal abilities necessary in service delivery.. Lifelong learning creates an avenue for workers within the educational institutions to gain skills at the same time in full-time employment. Lifelong learning, therefore, promotes all-inclusive education to change and take complex tasks as advanced by<sup>(19)</sup>. This, therefore, motivates workers to develop their career, talent, and experience<sup>(20)</sup>. Total quality management is a strategy of innovation in education<sup>(21)</sup> that encourages human capital to gain novel ways. The purpose is to improve and bring out the best for the education institution by adopting novel quality

management that enables human capital to be competitive. Total quality management aims to ensure better quality outputs and quality services that are able to meet the needs and satisfaction of the customers. The components of Total quality management include customer focus, employee participation, continuous leadership, and magnificent vision and operations<sup>(22)</sup>. Total quality management helps education institutions to achieve excellent repetitions. Introducing information and communication with social technologies as strategies of innovation in education improves human capital development. According to the<sup>(23)</sup> report, it is emphasized that increased use and participation of digital technologies offer a wider potential for the growth of skilled workers. Implementing the innovative process of improving human capital quality is significant for the education sector in the competitive global trend. The<sup>(24)</sup> report supports that embracing information technology in education improves the ability of human capital to accomplish the given tasks and out rightly promotes human capital development. Education and training improves the efficiency and effectiveness of human capital with effective knowledge and skills to start novel ideas<sup>(25)</sup>.<sup>(26)</sup> state that an innovative teacher is significant in delivering knowledge to the current generation challenged with global world trends. Education and training will provide human capital with opportunities to gain inclusive knowledge and skills. The education sector in the 21<sup>st</sup> century can only survive with human capital that appreciates novel ideas and takes risks. Professional development enriches the human capital with current knowledge and skills to solve current global complex problems<sup>(27)</sup>. Most Human capital does not integrate the innovative knowledge desired to deliver service, and professional development is an educational innovative strategy adopted to improve human capital which encourages work activities like job coaching, job recruitment, and job development.<sup>(28)</sup> state that professional development supports in-service training of the human capital to equip them with knowledge and skills that enhance novel ideas and improve the quality of education.

**The Effectiveness of Innovation in Education to improve policies of Human Capital Development:** Innovation in education impacts on the capacity building<sup>(29)</sup> of employees as a policy of human capital development. It endows employees in educational institutions with the subject-matter, professional skills, and the interest to impart knowledge and deliver service to the organization. According to<sup>(30)</sup> they associate the capacity building with performance, skills, and attributes and the ability to perform tasks effectively. Employees are agents of change in society and promote the quality of education. The global trends require employees to be fully ready to change with the changing trends to improve their skills, competencies, and knowledge. The education sector is competitive today and this has been attributed to the global world trends. This requires that educational institutions need to put up policies to sustain their human capital and the use of innovative digital technologies<sup>(31)</sup> is effective to support human capital development. Information and communication technology equips human capital with modern digital technological skills, making them more efficient and proficient. Information and communication technology also improves the quality of human capital<sup>(32)</sup> enabling them to offer quality services in the education organization. Innovation in education encourages training of human capital, significant in promoting efficiency and motivation of employees to perform their duties. Training refers to the specific learning activities undertaken to improve

an employee's knowledge, skills, and abilities to perform better their duties<sup>(10)</sup>. Training is an organized process where human capital gains knowledge to perform a specific task<sup>(33)</sup>, for example the training in science, technology, engineering, and Mathematics (STEM) boasts technological change<sup>(34)</sup> and ultimately acquired knowledge will be applied which boasts human capital development. Mentoring of human capital is where human capital more endowed with more knowledge supports and directs a newly recruited human capital to improve the employees' competencies and abilities<sup>(35)</sup>. According to<sup>(36)</sup> mentoring is the sharing of knowledge between more experienced and less experienced employees in a specific field of work for purpose of promoting learning. Here, mentoring involves coaching, supervising, and guidance of employees in an organization. Mentoring is significant in improving the quality of employees and promotes human capital for continuity in case of old age, death and retirement.

**The Challenges to Innovation in Education that affect Human Capital Development:** The employees' current knowledge, skills, and beliefs<sup>(37)</sup> about the on-going innovation strategy for example use of technology is a challenge to innovation in education and impacts on the development of human capital. The change to the use of technology in performing tasks is challenged as most human capital lacks the technical knowledge.<sup>(19)</sup> state that teachers adequately don't have Information and communication skills to support teaching. According to<sup>(38)</sup> the non-use of technology by human capital in task performance is attributed to limited time and limited information technology knowledge which adversely affects human capital development. School administrators are a challenge to innovation in education. School administrators are always keen on the changes that may disrupt the school activities<sup>(15)</sup>. Here, school leaders, are always hesitant to take them, which is detrimental to human capital. If they take them up, they may not fully implement and supervise the education innovations as required.<sup>(39)</sup> support the view that school principals lack the knowledge and skills; they cannot implement the integration of information, communication, and technology in their schools.

This affects the intended aim of education innovation in using information and communication technology in the daily activities of service delivery. Employees in education institutions require training as an innovative measure to remain competitive in the global world. Training programmes should improve on employees' knowledge and skills in different professionals. The relevancy of training programmes that don't meet the expectations of the employees creates a negative attitude towards change<sup>(40)</sup>. According to<sup>(41)</sup> a training programme that doesn't embrace learning society strategy and encourage social interaction fails its intended purpose.

## DISCUSSION

The current global trends have created challenges in the education sector that desires innovation for improved quality of human capital. Recently educational institutions have introduced the use of technology and in practice, the use of the internet has made innovation in education possible. In recent articles on innovation in education, there are ample opportunities for exploration. In the definition's context of innovation in education, implementing improved novel ideas, knowledge and practices requires that, to support such

knowledge and competencies, human capital should gain education and training. According to<sup>(42)</sup> human capital theory encourages human capital to adapt to the changing circumstances by embracing education and training so as to remain competitive. Innovation in education can solve the changing challenges in the education sector as it emphasizes novel knowledge that promotes 21st-century skills<sup>(43)</sup>. The context of innovation in education as analyzed in the various published studies implies that innovation in education is significant and the education systems should take it up, especially in these current education global challenges. Education institutions need to come up with novel ways of doing things and be competitive.<sup>(44)</sup> supports our findings that innovation in education is an engine for skills acquisition that improves human capital development. Leadership is an educational innovation strategy that schools need to embrace.<sup>(45)</sup> supports our finding that leadership is crucial in support of innovative tendencies, especially in the current global educational complexities and uncertainties. Here we refer to transformative and charismatic leadership that has the qualities needed to enhance and promote innovation in education. Transformative school administrators would focus on supervising and monitoring the quality of human capital significantly needed for performance of tasks.

Innovation in education is a strategy that enhances the employees' professional development.<sup>(46)</sup> supports our finding that professional development encourages employees to update their knowledge in research and curriculum development. The findings are an accurate reflection of refresher courses employees undertake to improve on their competencies, which helps them to perform tasks efficiently. Total quality management improves human capital development. It is an innovative educational strategy where customers' needs and expectations are satisfied through the process of continuous improvement of the human capital charged with the responsibility of service delivery. The study is supported by<sup>(47)</sup> who stated that total quality management improves the quality of human capital in an organization, impacts on the effectiveness of human capital and enables management to effectively utilize human capital optimally. Innovation in education is also effective in the policy of training that improves human capital development. Most training programmes apply to the skills and knowledge of employees, this encourages the human capital to undertake most of the training such that they can improve and gain 21st-century skills and competencies.<sup>(46)</sup> state that 21st-century critical thinking skills are necessary to produce learners innovative in various aspects, although it is without challenges in the education sector.

Capacity building as a policy of human capital development is effective in the course of implementing innovation in education. In support is<sup>(30)</sup>, who emphasize that investing in education enables educational institutions to tackle the education global problems in different ways and capacity building is not exceptional. Capacity building encourages the human capital to learn from others and as such human capital will be able to appreciate the ability to use emotional intelligence skills that are necessary for the development of human capital. Mentoring competence is effective in support of human capital development. This has been achieved through innovation in education, that emphasized mentoring competencies by offering adequate education and organizational structures that offered support and a sufficient

learning environment. <sup>(48)</sup> supports our findings that mentoring encouraged the effectiveness of human capital and that as an inbuilt learning skill necessary for human capital development. Innovation in education advances the possibility of use of technology in the education sector to enhance the quality of services.

However, <sup>(49)</sup> state that usage of information and communication technology in Ugandan schools is inadequate among the human capital and the poor information and communication technology facilities. <sup>(50)</sup> further support our finding that in Malaysian schools, teachers resisted the implementation of information and communication technology, that it doubles the work of a teacher, coupled with lack of connectivity and poor information and communication technology infrastructure, all affects the implementation of technologies in education institutions.

## CONCLUSION

This paper reviewed the literature on innovation in education and human capital development. The human capital theory was identified as it relates to the development of human capital through investment in education. The findings suggest that the strategies of innovation in education are critical towards the improvement of human capital development. In the findings of the study, emphasis were directed towards human capital professional development as an avenue to improve the ineffective performance of human capital. Human capital should be encouraged through peer reviews and mentoring as well as attending seminars, workshops, and conferences to improve on their knowledge. The innovation in education strategies that improve human capital development in education institutions aim to enhance the knowledge and competencies of human capital through conducting education, training, adapting information and communication technologies in carrying out their duties and adapting the strategy of lifelong learning <sup>(20)</sup> this motivates workers to develop their career, talent, and experience. Innovation in education too improves human capital development could not go without challenges, most administrators lack the necessary knowledge and skills to implement innovative ideas while other administrators are scared of disruption associated with innovation in education however, it is necessary for the educational institutions in Uganda to encourage human capital to advance their competencies, through innovation in education which prepares them for the current global competitive world.

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## Appendix 1: Table of reviewed articles

Author Year Country	Title	Journal	Objectives	Participants	Methods	Conclusion
Mpaata, K. A. & Mpaata, Z. (2019) Uganda	The Leadership Role of Secondary School Head Teachers in Delivering Integrative Quality Education in Uganda	<i>International Journal of Educational Leadership and Management</i> , 7(2), pp203-230.	To examine the relationship between the secondary school head teacher's leadership roles in delivering the much-needed integrative quality education in Uganda.	165 teachers teaching in the 11 government aided secondary schools in Eastern Uganda	A descriptive analysis	Head teachers are expected to put strong emphasis on the required integrative education which encompasses student knowledge application, acquisition of life career skills and innovation.
Adams, D. & Muthiah, V. (2020) Malaysia	School principals and 21st century leadership challenges: a systematic review	<i>Journal of Nusantara Studies</i> , Vol 5(1) 189-210	To analyze the existing literature on leadership challenges faced by school principals in the 21st century.	Two main databases, Web of Science and Scopus considering that both databases cover more than 256 fields of studies	PRISMA (Preferred Reporting Items for Systematic Reviews and Meta- Analyses)	The review of these documents resulted in three main themes – personal challenges, school context, and stakeholders, and 11 sub-themes.
Agbo, A.D. (2015) Nigeria	Staff training and development programmes in Nigerian university libraries: The case of Michael Okpara University of Agriculture, Umudike	<i>International Journal of Multidisciplinary Research and Development</i> , 2(2): 553-557	To Examine the staff training and development programmes in Michael Okpara University of Agriculture Umudike library.	59 library staff	A descriptive survey design	Library administration has a lot of task to perform in ameliorating these challenges in order to ensure adequate participation of staff in staff training and development programmes.
Nzarirwehi, J & Atuhumuze, F. (2019). Uganda	In-Service Teacher Training and Professional Development of Primary School Teachers in Uganda	<i>IAFOR Journal of Education Volume 7 – Issue 1</i>	To support and enhance professional development of teachers through in-service teacher training.	610 primary school teachers in the districts of Bushenyi, Rukungiri and Sheema.	Descriptive research design	In- service teacher training has a significant effect on teachers, particularly on their academic qualifications, performance, and professionalism.
Amede, L. & Ekwutosi, E.C. (2020) Nigeria	Teachers' Capacity Building: A Genuine Mechanism for Achieving Human Capital Development in Nigeria	<i>Journal of Guidance and Counselling Studies</i> , Vol. 4, Issue 1, 8-23	Examine teachers' capacity building as genuine mechanism for achieving human capital development in Nigeria	The sample of this study consisted of 330 teachers	A descriptive survey design	Attention should be paid to development programmes that would make teaching career appealing and geared towards achieving human capital development in Nigeria.
Bagarukayo, E. (2018) Uganda	Social Media Use to Transfer Knowledge into Practice and Aid Interaction in Higher Education	<i>International Journal of Education and Development using Information and Communication Technology (IJEDICT)</i> , Vol. 14, Issue 2, pp. 211-232 <i>Social</i>	Use Facebook (FB) technology to facilitate a task of students' applying operating systems knowledge to record and upload a video installing a virtual machine and operating system onto a group; to promote content access, and interactive and cooperative learning. Bowers	A Group page on Facebook for students taking the Operating Systems course.	Bowers Affordance analysis eLearning design methodology framework	Facebook should be integrated as a tool for learning at the university since students appreciate it, find it easy to use and familiar
Findiko lu, F. & Ihan, D. (2016) Turkey	Realization of a Desired Future: Innovation in Education	<i>Universal Journal of Educational Research</i> 4(11): 2574-2580	To present that innovation in education is to be handled carefully	The paper reviews the previous studies regarding innovation as a prerequisite for novel learning environments and revising strategies for successful adaption of technology to education	The paper reviews previous studies	Innovation is of vital importance in transforming and reconstructing the learning environments along with the curricula, the role of the teacher and teacher training.
Kocasarac, H. Taspinar, M. Karatas, H.(2019) Turkey	Perceptions of school principals working at science and social sciences high schools on the characteristics of innovative teachers	<i>The Turkish Online Journal of Educational Technology – volume 18 issue 3</i>	To determine the perspectives of the school administrators working in the high schools of science and social sciences.	The interview form was applied to 14 school principals in public / private science and social sciences high schools in Ankara	The qualitative method was used in this study	Anything that can help children in adapting to the changing world, can guide, integrate them with the world and facilitate the learning of children can be evaluated within the scope of innovation.
de Matos, S.L. M, Ludolf, N. V. E, Quelhas, G. L. O, Meiriño, J.M (2020)	Innovation in the digital era: new labor market and educational changes	<i>Ensaio: aval. pol. públ. Educ., Rio de Janeiro</i> , v.28, n.106, p. 66-87	Investigates these factors through analytical indicators such as the workforce, education, and innovation in Brazil within a global context. It	Documentary data from the literature and data from census surveys in Brazil and abroad	Qualitative exploratory research	Brazil is significantly delayed in the digital industry, human capital, and research – behind all the other BRICS countries (Russia, India, China and South Africa) in terms of innovation.
Hanim, N.R (2020) Malaysia	Innovation in education: barriers and facilitating factors	<i>European Journal of Education Studies</i> 6 (10)	Explore how the environment influences innovation in learning.	Different facets of innovation in education.	Literature review	There should be innovation in education to cater to the changing needs of millennial.
Pasamar, S., Diaz-Fernandez, M. & de la Rosa-Navarro, M.D (2019)	Human capital: the link between leadership and organizational learning	<i>European Journal of Management and Business Economics</i> Vol. 28 No. 1, pp. 25-51	Hypothesize that transformational leadership – more concerned with innovation – will encourage generalist human capital (HC), while transactional leadership – more focused on the efficiency of existing operations – will promote specialist HC	Population comprised Spanish manufacturing firms with more than 50 employees included in the SABI database.	Structural ambidexterity approach	The versatile role of transformational leaders, who are able to promote both types of HC and, in turn, both types of organizational learning
Leal-Rodríguez, A.L., Alborn-Morant, G. (2019) Spain	Promoting innovative experiential learning practices to improve academic performance: Empirical evidence from a Spanish Business School	<i>Journal of Innovation &amp; Knowledge</i> 4 97–103	Examine the impact exerted by an experiential learning based educational methodology on students' level of academic performance.	Spanish private business school, using a sample of students belonging to the Bachelor's Degree in Business Administration at a Spanish Business School.	Pearson's correlation and structural equation modeling	Fostering experiential learning strategies favors the students' understanding of theoretical concepts and leads to the attainment of superior performance.

Salas, E. Diaz Granados, D. Klein, C. Burke, C.S, Kevin C. Stagl, K.C. Goodwin, G.F & Halpin, S.M. (2008) USA	Does Team Training Improve Team Performance? A Meta- Analysis	<i>The Journal of the Human Factors and Ergonomics Society</i> 2008 50: 903	Effectiveness and boundary conditions of team training interventions for enhancing team outcomes.	Database consisted of 93 effect sizes representing 2,650 teams.	Meta-analytic integrations were conducted	Team training interventions are a viable approach organizations can take in order to enhance team outcomes.
Serdjukov, P. (2017) USA	Innovation in education: what works, what doesn't, and what to do about it?	<i>Journal of Research in Innovative Teaching &amp; Learning</i> Vol. 10 No. 1, pp. 4-33	Present an analytical review of the educational innovation field in the USA.	USA education system	Literature survey and author research	US education badly needs effective innovations of scale that can help produce the needed high-quality learning outcomes across the system.
Okeoghene, M.A, (2018) Nigeria	The Influence of Leadership Style, Organizational Justice and Human Capital Development on Employee Commitment in University Libraries in South-West, Nigeria	<i>Library Philosophy and Practice</i> 4(1), 1	Influence of human capital development on employee commitment in university libraries in South-West, Nigeria.	684 librarians from 43 universities in the six states of South-West, Nigeria.	Survey research design	The current propensity towards human capital development by university libraries in South-West can be strategically deployed to induce staff motivation, resourcefulness, growth, and staff retention.
Brereton, P.B. Kitchenham, B.A, Budgen, D.Turner, M. Khalil, M. (2007), UK	Lessons from applying the systematic literature review process within the software engineering domain	<i>The Journal of Systems and Software</i> 80 571–583	Adopt systematic approaches to assess and aggregate research outcomes in order to provide a balanced and objective summary of research evidence for a particular topic.	Six archival journals dating from 2000 were used as data sources	Systematic literature review	Systematic literature review process seems appropriate
Lea, Q.T (2020) Vietnam	Orientation for an Education 4.0: A New Vision for Future Education in Vietnam	<i>International Journal of Innovation, Creativity and Change. Volume 11, Issue 3,</i>	Focus on an overview of the development trend of Vietnamese education in the era of the industrial revolution 4.0.	Vietnamese Education system	Research Article	Each organization or individual must have a clear awareness of this change and prepare for themselves the appropriate knowledge and skills to easily accept the new change of the world.
Shahi, S.P (2018) India	Innovation in Teaching and Learning Process	<i>A Journal of Nehru Arts and Science College</i> Vol 6 issue 2	To inculcate student love for knowledge, students commitment and interest for the subject	India's education system	Research Article	Educational institutions are opting to support the education with technology for better management and delivering techniques.
Dosunmu, A.G & Adeyemo, K.S. (2018) South Africa	Lifelong learning, human capital development and the career advancement of women in the telecommunications industry in South Africa	<i>Industry and Higher Education</i> 1–8	Insights into the concepts of lifelong learning and human capital development	133 junior workers at a mobile telecommunications network in South Africa.	Quantitative research method	HCD and Lifelong learning are critical in creating opportunities for women to become leaders in the workplace and society.
Ekaale, E.J Namusonge, G.S & Makokha, E. N. (2017) Kenya	Effect of Innovation Strategies on Competitive Advantage in Public Secondary Schools in West Pokot Sub County, West Pokot County	<i>International Journal of Research and Review</i>	Investigate the effect of innovation strategies on competitive advantage in public secondary schools in West Pokot sub County of West Pokot County	Secondary school principals, HODs, teachers, students and boards	A descriptive research design	Public secondary schools in West Pokot sub County of West Pokot County had a Competitive advantage over other schools in the County and in Kenya
Ghami Al- Saffar, N.A & Obeidat, A.M (2020) Qatar	The effect of total quality management practices on employee performance: The moderating role of knowledge sharing	<i>Management Science Letters</i> 10 PP 77–90	Identify the effect of Total Quality Management (TQM) practices on their dimensions on employee performance who worked for Qatar Ministry of Interior	Employees who worked for Qatar Ministry of Interior.	Quantitative research	Develop and implement different strategic directions that enhance the performance of employees through the adoption of TQM and the dissemination of a culture of knowledge sharing.
Nafukho, F. (2013)	Capacity building through investment in people: key to Africa's development	<i>European Journal of Training and Development</i> 37(7) 604-614	To provide a prologue to the issue of development in Africa and the critical need to build capacity through investment in people.	Literature pertinent to the topic of development in Africa is provided.	Research Article	Capacity building is a broad concept, which includes human resource development and various management issues and trends such as strategic management, change management, quality management, organizational re-engineering, knowledge management and information management.
Gabdullin, N. (2020) Russia	Human capital development in the global- knowledge economy	<i>SHS Web of Conferences</i> 74, 02004	To analyze the structure of multivariate data on the factors of human capital development, e-education and the use of ICT by households in Russian regions.	The average annual values of the relevant factors of monitoring the development of the information society in the Russian Federation for the period 2010 to 2017.	The initial statistical data of the information society development monitoring in the Russian Federation (RF) are presented in the form of "object-property" matrix	Digital technologies support human development and provide competitive advantages for regions being the part of clusters with a high level of human capital development.
Giorcelli, M. (2019) Italy	The Long-Term Effects of Management and Technology Transfers	<i>American Economic Review</i> , 109(1): 121–152	To examine the effects of the Productivity Program on firm performance	6,065 Italian firms eligible to apply for productivity management and their yearly balance sheets from 1946 to 1973	Marshall Plan Productivity Program.	There is evidence of complementarities between management and technology
Autor, D. Goldin, C. & Katz, L.F (2020) US	The race between education and technology revisited: Extending the Race between Education and Technology	<i>AEA Papers and Proceedings</i> , 110: 347–351	To examine the evolution of the college wage premium from 1914 to 2017.	US college wage premium	Production function	The largest part of increased wage variance in the twenty-first century comes from rising inequality among college graduates.

Chidi, N., Akinwale A.V (2017) Nigeria	Principals' Human Capital Development Practices For Enhancing Staff Personnel Administration In Secondary Schools In Oyo State, Nigeria	<i>International Journal of Advanced Research and Publications</i>	To investigate principals' human capital development practices for enhancing staff personnel administration in secondary schools in Oyo State.	94 principals and 588 teachers.	Descriptive survey design	Government should provide annual grants for principals to sponsor teachers workshops, seminars and conferences in order to enable them update their skills and knowledge on current issues and also help them adapt to innovation in educational practices.
Liu, Y., Aad, A.A, Maalouf, J & Hamdan, A. O. (2020), UK	Self- vs. other-focused mentoring motives in informal mentoring: conceptualizing the impact of motives on mentoring behaviours and beneficial mentoring outcomes	<i>Human Resource Development International</i>	To propose a conceptual model To depict the relationships between mentor motives in informal mentoring and the individual, relational, and organizational outcomes of mentoring, with mentor behaviors as a mediating mechanism.		Literature review and conceptual development	It is important for organizations to provide training to potential mentors to help them see the full array of benefits that can be potentially achieved when they demonstrate more other-focused mentoring behaviors.
Hamutoglu, N.B & Basarmak, U. (2020) Turkey	External and internal barriers in technology integration: A structural regression analysis	<i>Journal of Information Technology Education: Research, 19, 17-40</i>	To propose and test a model in which perceived barriers to technology integration are handled within a broad framework.	449 teachers working in different branches at nine public schools in the academic year of 2018-2019 at the city center of Kirsehir province	A structural regression analysis	The identification of barriers in different settings should be used as the first step in minimizing the impact of such barriers in technology integration in education.
Goh, E & Sigala, M. (2020) Australia	Integrating Information & Communication Technologies (ICT) into classroom instruction: teaching tips for hospitality educators from a diffusion of innovation approach	<i>Journal of Teaching in Travel &amp; Tourism</i>	To review factors preventing university academics from embracing new Information and Communication Technologies (ICT) into their instructional methods and to discuss ways on how to overcome these issues.	Using the Diffusion of Innovation theory as a theoretical lens to better understand educational change,	Literature review	Educators and Administrators must promote the technology educational benefits, identify technology integration barriers, and identify and implement strategies to remove these barriers.
Hashim, H. I. C., Shariff, S.M.M. (2016) Malaysia	Halal Supply Chain Management Training: Issues And Challenges	<i>Procedia Economics and Finance 3, 33 – 38</i>	Focus on issues and challenges of trainings for the halal industry	Halal executives and halal committee members.	Literature review	Education is an important element to increase individual knowledge and skills.
Seechaliao, T. (2017) Thailand	Instructional Strategies to Support Creativity and Innovation in Education	<i>Journal of Education and Learning; Vol. 6, No. 4</i>	To investigate the guides on how to design the instructional strategies that support creation of creative and innovative education	Sample consisted of 11 experts in the field of instructional strategies that support innovation of education.	The research instrument used a semi-structured interview with open questions related creative and innovative education	The findings revealed that instructional strategies which support the creation of creative and innovative education should focus on system approach.
Chalkiadaki, A. (2017) Spain	A Systematic Literature Review of 21st Century Skills and Competencies in Primary Education	<i>International Journal of Instruction Vol.11, No.3 pp. 1-16</i>	To discuss the 21st century skills in the context of primary education.	A sample of texts satisfying the predetermined inclusion criteria was analyzed (n=40)	systematic literature review	Authors visualize the 21st century as an era majorly characterized by the evolution of technology and ICT, globalization and a need for innovation.
Aksela, M. (2019), Finland	Towards student-centred solutions and pedagogical innovations in science education through co-design approach within design-based research	<i>International Journal on Math, Science and Technology Education 7(3) 2019 pp 133-139</i>	To demonstrate how a co-design approach could be used within design-based research (DBR) with diverse multi-stakeholders in the LUMA ecosystem to promote social creativity towards novel student-based solutions and pedagogical innovations.	Teachers from 160 schools were active participants and professional key contributors.	Qualitative content analysis	The co-design approach implementation can offer a new kind of an educational model for both pre-service and in-service training.
Mirzajani, H. Bayekolaei, M.D., Kookandeh, M.R. Rezaee, S.R.S, Kamalifa, A.A. Shani, H.R (2016) Malaysia	Smart Schools an Innovation in Education: Malaysian's Experience	<i>Asian Journal of Education and Training Vol. 2, No. 1, 11-15</i>	To use ICT in Malaysian Smart School and comparing it with the Smart Schools in Iran.	Library, documents, Web sites and electronic journals	Research Article	Training and learning new skills are being inevitable
Walbe, S. G. (2019). Nigeria	Mentorship culture and academic Staff job effectiveness in public universities in North-Central Nigeria.	<i>KIU Journal of Social Science, 5(4), 295–302.</i>	The extent to which mentoring prgrammes encourage job effectiveness of public University lecturers in North-central Nigeria.	The sample of 501 lecturers from two Universities was used	The survey method	Carry out mentorship programme strategy for junior academic staff to inbuilt it as an important skills learning tool for job effectiveness.
Kakim, S., & Priest, K. (2020)	Developing leadership capacity using visual thinking strategies	<i>Journal of leadership education</i>	Illustrate how discursive practices of Visual Thinking Strategies (VTS) can foster leadership development capacity of college students.	Twelve community college students who participated in the eight-week summer research program in 2019 took part in a mediated dialogue activity.	Descriptive process	Explore the future application of VTS, including the advancement of discursive practices using art-based pedagogy for capacity building and leadership development.
Arora, N., & Gupta, S. (2020)	Total Quality Management for Employee Engagement: A Study	<i>Test Engineering and Management.</i>	Analyse the impact of TQM practices on Employee engagement in an automobile company of north India.	automobile company of north India	Quantitative survey methodology	Employee Engagement is impacted by HRM policies.

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