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HIGHER EDUCATION IN EVOLVING WORLD: ACCELERATING THE PACE OF CHANGE IN TEACHING FOR LEARNING

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Abstract:
World-wide, 21st century higher education (HE) involves knowledge acquisition focused on addressing societal challenges. Fundamentally valuable are high order skills, such as critical thinking, creative problem solving, teamwork, evaluation, analysis, digital literacy, adaptability, and communication which can be used to navigate across a wide range of disciplines attributive to success in modern society. This is achievable through quality teaching for quality learning and hence the need for modernized pedagogical experience. In this regard, modern pedagogy in HE demands beyond routinized merely teachers' transmission of information versus students' retention efforts. It delves into the teaching of students on how to handle, address and interpret concepts, evidence and ideas, how to think and act as experts and how to produce original insights and valuable knowledge for the benefit of society, and ultimately, how to remain ahead of foreseeable societal challenges. Due to this, universities should change pedagogical approaches from fact-based traditional lecturing to interactive teaching with the aim of fostering deep understanding and expert-mindedness for problem-solving. This would result in graduates who fit the emerging economic, social and political situations that nations experience. They should be able to; approach societal challenges given their grounded curiosity, critical thinking and creativity, apply innovative skills in addressing real world problems, display a strong sense of personal and professional identity, and portray a high sense of self-efficacy. This paper is an attempt to explain how HE can give forth products who are world leaders in their specific disciplines in respect of teaching, research and community service.

Keywords: higher education, evolving world, teaching for learning

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1. Introduction

Today, HE is hard pressed to respond to the demands of specific global community evolving environments characterized by increasingly complex multidisciplinary problems which demand fresh perspectives to find answers. Thus, Schwab (2016) retorted the need for accelerating pace of change due to emerging demands for students of HE to be better equipped for almost every aspect of our lives today inclusive of work, technology, interconnectedness, and environment. In its vision for the future of education in 2030, the Organization for Economic Co-operation and Development (OECD, 2018) views essential learner qualities as the acquisition of skills to embrace complex challenges and the development of the person as a whole, valuing common prosperity, sustainability and wellbeing. Wellbeing is perceived as "*inclusive growth*" related to equitable access to "*quality of life, including health, civic engagement, social connections, education, security, life satisfaction and the environment*".

2. Higher Education Pedagogical Approaches for Expert-Mindedness

Following are some suggested methods that would be applied by lecturers in HE to enhance appropriateness and satisfactoriness of knowledge for the 21st Century expectation of university education:

2.1 Interactive Teaching Environments

There is a large and growing body of evidence on effective learning in higher education, specifically in STEM (Deslauriers, Schelew and Wieman, 2011). This research clearly shows that traditional, primarily lecture-based teaching does not yield the best results in terms of learning gains, 21st century skills and student success. Educational techniques that best enable learning are more interactive, engage the students at different levels, increase their sense of personal and professional identity, improve all students' learning and create a stronger sense of community. This strategy will build upon this foundation to introduce interactive, digitally enhanced teaching across the whole university.

2.2 Crafting Active Learning Experience

Crafting an interactive mode of teaching leads to students who are more equal participants with basic knowledge for a content-based teaching-learning experience hence procedurally discover, innovate and learning through and from misconceptions and mistakes. Noteworthy, students in a classroom setting, normally, are at varied starting points, for which active learning exposes to the teacher. According to Holmes, Wieman and Bonn (2015), this results in learning to act and think as experts and a clarified professional identity based on inspired starting point capabilities. This is supported by Freeman, Eddy, McDonough, Smith, Okoroafor, Jordt, and Wenderoth (2014) who claims that active learning methods enhance conceptual effectiveness of teaching and instruction.

Noteworthy, a transformation to active learning (Talbot, Doughty, Nasim, Hartley, Le, Kramer, Kornreich-Leshem, and Boyer, 2016) will allow students to spend a significant portion of their class time on activities that require them to interrogate information in a variety of ways, from using electronic clickers to answer questions, to completing worksheet exercises and exploring problems through discussion with fellow students. Such interactive techniques also make learning more engaging, challenging, authentic and satisfying, whilst leading to better retention of learning outcomes. In this respect, responsibility for learning is shifted towards the learner, who is the host destination. These approaches accommodate rotation of teachers between modules, individual teaching strengths of instructors, different academic disciplinary boundaries as well as variance in career pathways, trajectories and aspirations of students (Freeman et al., 2014; Von Korff et al., 2016).

2.3 Peer Learning Communities

Modern pedagogy in higher education regards students as active participants in the shaping of their learning and teaching environment, as rich emitters and not as spongy passive absorbers of knowledge content. Such sharing means that they can enhance their own learning experience whereby their peers teach as they learn in an academic journey with symbiotic participants. In this was students are empowered to become more interactive community members with enhanced knowledge and practical skills for deep understanding. If students feel part of a community that they can contribute towards, they value their learning experience (Smith, Sheppard, Johnson, and Johnson, 2005). In peer community learning environments students learn to work as teams (each playing a role that they sharpen their abilities and shape the destiny of group activity outcome). In such teams, learning is not majorly examination oriented as they learn wholesome values for team goal acquisition. Among the benefits are mental health and general social wellbeing, hence decreased failure rates, decreased risk of social Isolation (probably depression) and increases their resilience towards goals.

2.4 Technology for Innovative Learning

Digital and online technology has redefined the nature of the classroom by defining it in a global context devoid of space and place hindrances. According to Tamim, Bernard, Borokhovski, Abrami, and Schmid (2011), if delivered appropriately, courses that blend pedagogically-sound learning technologies can be highly effective. As a choice mode of content reception at the comfort of their homes and or workplaces, and participating students can derive high levels of satisfaction. It is also relatively cheap as they are minimized travel and extra-ordinary accommodation costs. Other benefits include: flexible classroom and laboratory time being more interactive with study materials available online; real-time teacher-learner communication. This can stimulate peer interaction hence a participative global learning environment. Emerging evidence shows that together interactive learning and digital technology innovation are particularly

successful in improving students' learning (Ghadiri, Qayoumi, Junn, Hsu, and Sujitparapitaya (2013).

Opportunities for innovation in the use of technology to further enhance our education include real-time, two-way feedback between students and teachers; this allows teachers to become aware of areas that students are finding challenging just before or during the delivery of a course so that they can adapt accordingly. The use of blended learning, which combines the use of online material with face-to-face learning, can be used to create flexi-time classroom for more interactivity. Students can be asked to study online materials before coming to class and will be better prepared for the actual, interactive classroom teaching. This has the benefit of enabling smaller group teaching and increased opportunities for students to interact directly, emotionally and personally with staff. Changing the balance of activity within the classroom creates space for real-time assessment, enabling students to check their progress and helping staff to know how to focus their efforts most effectively for optimized classroom goal-oriented outcomes.

2.5 Peer Evaluation of Pedagogical Innovations in Education

Given that a substantial percentage of teaching staff are engendered in traditional lecturing form of content delivery, hence the title 'lecturers' efforts should actively and continuously be made by universities to change their trajectory. This effort to transform teaching should procedurally be followed by gauging their methodological effectiveness in both formative and summative evaluation. In addition, such approaches and findings ought to be shared with colleagues internally and externally, thus contributing to global knowledge for accelerated pace in the necessary change in higher education teaching. In this respect, of value is Smith et al. (2005) who noted the importance of evaluating education through a combination of an investigation of how self-efficacy can be nurtured in the local and global contexts of individual disciplines, gauging the professional gaps in respect of skills and ethical identity needed in addressing emerging societal challenges.

2.6 Inclusivity within Diversity in HE Educational Environments

Modern day education acknowledges the existence in a global environment that is characterized with various forms of diversities. Such societal variations include but may not be limited to, gender, sexual orientation, ethnicity, nationalities, orientations, cultural background, mental or physical disability, age, political persuasions, and economic class position. Literature posits that learner experience is better in an inclusive teaching-learning scenario whereby teachers exhibit appropriate attitudes, cooperatively disseminate curriculum content, support interactive peer-learning communities, appreciation of the value of different backgrounds, exposures, abilities and opinions in an integrated manner (Scudamore, 2013). Thus, would result in a deliberate effort to create equal opportunities for all variety of learners to succeed not only in a college setting but also beyond graduation, as these variations are a sneak-preview of the real world.

3. Towards Results Oriented Pedagogical Experience

3.1 Research-based Learning

Research-based learning experience prepares students to be co-producers and co-communicators of information with the lecturer/ supervisor, as creators of original knowledge. In this regard, it is critical to identify societal problems exhibited in reasoned and clarified knowledge gaps and societal questions which denote uncertainty in an academically- cum-professional manner. Inquiry-based learning is a powerful generalized method for coming to understand the natural and social world through a process of guided investigation towards desired HE goals (Sharpe, Benfield, Roberts, and Francis (2006). It has been described as a powerful way to encourage learning by encouraging learners to use higher-order thinking skills during the conduct of inquiries and to make connections with their world knowledge.

A research-based education enables inspires student curiosity to look for evidence before they act, work together across disciplines, manage ambiguity, accept that making mistakes is a crucial part of innovation, understand there are no simple answers to big problems, be confident in the face of uncertainty and understand that positive change frequently requires a challenge to the status quo (Schwab, 2019). These highly applicable skills and attributes are valued by employers and will benefit students in any future career. Graduates of HE should not only be employment oriented but should endeavour to be job creators. It baffles one to imagine what a graduate of agriculture could be doing in the city suffering unemployment there. It is even more disheartening to meet engineers and ICT experts trekking day-in-day-out complaining about their unemployment.

HE should engage student in a teaching-learning experience that strategically aims at creating progressive solutions for generally non-academic communities from appoint of deep understanding for the global multi-disciplinary setting. Inquiry learning is a pedagogy for optimized long-term-output-reference kind of approach to education which involves in-depth discovery learning. According to Herodotou, Aristeidou and Scanlon (2018), citizen inquiry is a combination of creative knowledge building of inquiry learning with the mass collaborative participation realized through citizen science, changing the consumer relationship that most people have with research to one of active engagement. This is what belies the building blocks of the industrial age that hungers for appropriate university graduates.

3.2 Student-focused Teaching for Learning

Learners value environments where they bear responsibility for their learning. (Yoon, 2002) Student-centred education also means giving students responsibility for their own learning. They will participate in setting their own goals, manage their own learning process and have the freedom to find their own direction in their education. They will become independent thinkers by developing the strategies and the confidence to learn by discovery, rather than simply memorising factual information. Peer-teaching is vital if the students will develop lifelong learning skills that should enable them to tackle 21st

century problems and to compete in the global job market. Creating opportunities for students to actively shape innovation in learning and teaching.

3.3 Learning Must Be Learner-focused

Education Evolving believes that learning must be designed with students at the center. That is, learning must be personalized to students' unique assets, interests, identities, varied starting points versus capabilities, and aspirations. In modern day education, the beneficiaries are key stakeholders who ought to be consulted from an all-inclusive point of view by listening to students in a manner reflective of the global demand for quality. Education Evolving has identified seven common principles of learning that are present when students are at the center of institutional teaching and research design-related decisions. There are tenets that are of value as explained in the following:

1) Positive relationships: Having a sense of belonging within an educational institution whereby their input is sought and valued, and their potential optimized through friendly and motivated teaching staff desiring of their enhanced achievement.
2) Basic needs provision : According to Maslow's needs hierarchy, foundations requirements are fundamental to survival hence reference to physical, psychological, and safety needs. These ought to be addressed by the in-school community.
3) Self-awareness for positive self-identity: learners appreciate themselves for whom they are in the superficial community that they belong in an institution of learning. Variations include academic capability, religion, race, ethnicity, gender, and sexual orientation.

3.4 Student Ownership of Learning Interactions

Students who own their anticipatory learning experience, take responsibility for their learning, and exercising choice to pursue their interests and passions. In this regard they act as agents that shape their school environment by participating in moulding whatever learning aspects may be within their realm. Such a scenario presents teachers with a simple task of merely facilitating and guiding. When students are engaged in learning as a team or community the learning experiences are more fruitful (Hudson & Hudson, 2011).

3.5 Environmental Soundness for Prosperity

Students ought to be relevant to answer today and tomorrow's world questions from a point of research-based knowledge. According to Schwab (2016), today's industrial world demands industrially charged HE products. Investing in education would be worth the sacrifice, only if graduates of HE are seen to solve problems that exist in the real world of-the-day, learning skills and knowledge in a multidisciplinary context that they will use in their future lives and careers.

3.6 Evidence-anchored Teaching for Learning

Several scholars recommend evidence-anchored teaching and learning as grounding for research, the mainstay of university activities. In this regard, studies on modernized pedagogical approaches show a strong positive the relationship between active learning methods and better student learning outcomes (Yoon,2002), aimed at the industrialized world vision that many countries have. It is therefore important for institutions in HE to be innovative as regards teaching methods, continuously evaluating the effectiveness of such learning and teaching on the teacher and learner experience, for optimal goal achievement. The findings of such endeavor, when published, in journals build on the 'second generation' of global evidence on interactive teaching.

4. Teacher Change for Optimized Pedagogical Outcomes

Literature reveals that the teacher is the most significant input in any educational enterprise (Dawo, 2011; Le Maistre & Pare, 2010; Hudson, Beutel, & Hudson, 2009). It is in this regard that the value of the teacher in an educational process in HE cannot be gainsaid. This is given that the teacher determines the teaching method to apply for given content which eventually influences the learner uptake and exposure, in this case, reference is made to modernized pedagogical approaches to give forth graduates for the current technological scientific world. In this respect, there is need to use evidence-based approach to identify the most effective pedagogies and assessment methods to suit specific learning outcomes and particular disciplinary needs.

There's needed to adopt a subject-specific innovative approach by sampling and recognizing best practices appropriate to discipline-specific contexts through benchmarking with the best institutions available. It's important to note that varied students have varied capabilities alongside their varied starting points as a prerogative for determining what change priorities may be needed and at what pace the desired change may be rolled out. Change should involve curricula content review and design; pedagogic transformation for curricula implementation and mode of curricula evaluation and reporting; filling in curriculum gaps through innovation; teaching staff capacity building; prioritization of upgrading of institutional infrastructure; and student support mechanisms . Change implementation should be on-going and evolutionary across facets touching on staffing, money, time, and management.

5. Change in Higher Education Context

A teacher graduating from university commences teaching with the same responsibilities as more experienced teachers in the school; yet it is widely recognized that beginning teachers need support in their first few years of teaching (Le Maistre & Paré, 2010), they are left in a "sink or swim" approach some, evidently clutching onto straws as they nearly drown. Teachers don't merely deliver the curriculum. They develop, define it and reinterpret it too. It is what teachers think, what teachers believe, and what teachers do

at the level of the classroom that ultimately shapes the kind of learning that young people get. This may be altered by the nature of appreciation they have for specific incentives (Ngasi, Dawo & Sika, 2020). Authorities such as Wasonga, Wanzare and Dawo (2015) emphasis on assistance beginning teachers with teaching rather than assessing them in these formative years of teaching, in which mentoring appears to be a preferred support mechanism as it draws upon the expertise of existing school staff who can provide immediate benefits to the beginning teacher. That is further supported by Dawo (2011) who identifies induction as key to quality teaching for enhanced academic programmes. In relation to this, Induction programs have been developed by education departments in Australia with attention to school culture and infrastructure. However, increasing benefits to beginning teachers that include mentoring for effective teaching require quality preparation Australian Journal of Teacher Education (2012) and careful selection of mentors (Hobson, Ashby, Malderez, & Tomlinson, 2009).

Literature calls for trained mentors who can effectively guide beginning teachers through what may well be one of their most difficult years of teaching (Wasonga, Wanzare & Dawo, 2015), the days when they start implementing the knowledge from college training. This is because through quality mentoring in respect of emerging environmental real-teaching scenarios, beginning teachers can develop a repertoire of problem-solving strategies for dealing with the practicalities and complexities associated with contextual school and teaching situations (Le Maistre & Paré, 2010; Wasonga, et al. (2015). Noteworthy, there is no formal preparation for university teaching, worse so, a great percentage of university lecturers have no training background in pedagogy. Hence, they just jump into the sea of teaching, perhaps leading to the floppy kind of job performance witnessed in university education. Change is therefore necessary and urgent if the university are to respond to their external environment in terms of teaching, research and community service. This paper considers institutional drive towards change in teaching and teacher change towards change for improved quality of output. This therefore presents at two levels hence reference to Lewin's and Guskey's change models.

5.1 Lewin's Force Fields Model for Change in Teaching Management

It is important to note that change is the result of dissatisfaction with present operational strategies that hinder performance outcomes and failure to attain objectives with a vision for a better alternative. This when realized, causes disappointment and stress in stakeholders, key among them in a teaching-learning scenario being teachers (Sharplin, O'Neill, & Chapman, 2011). Factors such as underperformance and failure to meet public desired objectives may drive change in an educational enterprise, in this case a university. This paper will focus on Lewin's change management model which identifies change forces categorized into two, that is, forces facilitating change and forces restraining it. Where there is equilibrium between the two sets of forces there will be no change because in order for change to occur the driving force must exceed the restraining force. For a HE setting, the forces are classified as the following:

5.2 Internal Forces of Change from within the University:

1) Desire to enhance performance outcomes,
2) Desire for public appreciation,
3) Desire to remain competitive in the rush for students,
4) Availability of University strategic plans,
5) Presence of departments that concern linkages and partnerships with other universities and relevant organizations in the changing global scene.

5.3 External Forces of Change from without the University:

1) Increased demand for higher quality customer service,
2) Greater competition,
3) Technological change,
4) Global appeal,
5) Scarcity of resources,
6) Changing nature of workforce.

5.4 Restraining Forces that Demand more Effort to Realize Change:

a) Individual University personnel based reasons;
   - Parochial self-interests whereby individuals prefer to focus on how change will influence them.
   - Habit whereby individuals are comfortable with status quo for their psychological security.
   - Unclear purpose for change due to lop-sided or inadequate information communication.
   - Low tolerance of change that may come with the need to learn new activities and practices.
   - Economic implications which may involve increase in time, money, energy, and infrastructure to support the change.
   - Fear and anxiety as regards what the change will imply consequently leading to insecurity before the change activity.

b) University organizational based reasons;
   - Structural inertia whereby the systemic imprints are unwilling to alter its operations to target the desired change.
   - Resistance from work groups who play various roles to realize university goals.
   - A history of failure of previous initiatives.

5.5 Facilitative Forces that Support Effort towards Realization of Change:

- Staff with teaching area content basic skills,
- Realization that there is need for change within the university,
- Presence of university vision,
- Opportunities available as identified in university mission,

- Presence of an active/ interactive quality assessment and assurance department with personnel,
- Presence of some basic infrastructure,
- Presence of students enrolled in specific courses,
- Plans by university to develop staff in areas of need.

In this HE scenario, Lewin's analysis can be used to:

- Identify key stakeholders who are vital in enhancing the desired change process that would result in university graduates appropriate for today's world.
- Identify the forces that may oppose university management intentions towards a better pedagogical framework.
- Identify the supporting powers that would be exploited towards the achievement of globalizing university output.
- Explain how the key stakeholders can be manipulated away from their generally neutral to negative position towards emotional and physical support for ideas towards a globalized output.

5.6 Guskeys' Model for Teacher Change towards Quality Output

Even though a HE institution may realize the need for change and demand change among its stakeholders, this may not be achievable without emotional, mental, physical, and experiential involvement of teachers. In this regard, institutions ought to lay strategies to manipulate teachers towards cooperating to achieve desired outcomes (Ngasi, Dawo & Sika, 2020). Such deliberate institutional efforts to increase possibility of goal achievement , most often involves management providing incentives that drive unidirectionally towards a pre-set HE goal. According to Guskey (1985), if teachers change their beliefs their pedagogical practices change and eventually, this reflects on the job input which eventually is displayed in the output quality. According to Guskey's model of teacher change (Guskey, 2010), sustainable change in teacher practices only happen after an individual teachers' beliefs and attitudes have changed as a result of seeing improvements in student learning outcomes that resulted from changes in teaching practices.

6. Conclusion

Globally, there is agreement that there is need for change in HE to suit the ever changing and demanding world. To realize such change, teacher professional development is vital with the aim of altering "important" teacher beliefs, along with other factors, that impact on the learning experiences of learners. Research indicates that beliefs are commonly seen to be stable but can be held with varying degrees of conviction with the consequence that the more central beliefs are resistant to change thus indicating that in university, changing from lecturing to a more appropriate pedagogical approach may not be easy. To the universities' advantages, on the other hand, some beliefs may be open to change

by outside influences that respond to evolving world expectations. Literature posits that there is a relationship between teacher beliefs and teacher practice. They, however, indicate varying degrees of consistency between teachers' professed beliefs and their actual instructional practices. This beheld value has connection with beliefs that a teacher is seen to enact within a classroom situation, as compared to beliefs that the teacher may or may not embed within their act of teaching. It is therefore critical to address beliefs and values when developing professional learning programs for teachers because to change their practice in classrooms, they ought to change their articulated beliefs.

Conflict of Interest Statement

I, Jane Irene Dawo (PhD), declare that I have no conflict of interest as regards matters relating to the content of this journal.

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