

Student-Involvement Trends (SIT) For Quality-Assurance in Higher Education among STEM Institutions, Zimbabwe



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ABSTRACT

Background, the context and purpose of the study: Higher education is shifting from institutional success factors to student-centred learning, focusing on research-based methods and student involvement. This shift emphasizes the importance of holistic education based on intended learning outcomes and suitable processes. Using the pragmatic research paradigm, the study sought to identify stakeholder attitudes and feelings regarding student involvement vis-à-vis quality assurance processes and outcomes. The study targeted 15 quality assurance officers and Student Representative Council members per institution.

Results, the main findings: Findings underscore that to a large extent, this is not the case among higher education institutions, buttressing the need for student-involvement in quality-assurance and promotion initiatives. Higher education institutions should balance student-involvement in quality-assurance processes without compromising the same desired quality. Faced with the paradox, higher education institutions tend to involve students only peripherally in important academic quality-assurance processes short-changing them thereby. Correspondingly, trends should move from university-centred evaluation of teaching and learning towards student-centred evaluation of teaching and learning.

Conclusions, brief summary and potential implications: Consistently followed, evidence indicates universities that have reacted to student feedback through enhancing their participation have student-satisfaction, closely related to clear, tangible action taken. Students of STEM can, and should be engaged as 'producers and products' at all levels of quality assurance processes, from academic boards to working with staff developing innovative teaching materials.

KEYWORDS: Student involvement trends, quality assurance, STEM, higher education

INTRODUCTION

Quality assurance approaches encompass a range of mechanisms, often tools, processes and actors to monitor overall system performance, policy implementation, university and staff effectiveness, and individual student outcomes (European Commission, 2018). These are possible only through involvement of relevant actors, the students as producers and consumers of knowledge (European Commission, 2018). Representation of students in university committees is one of the main ways in which universities engage with students, listen to them, and involve them in their internal decision-making processes (Luescher-Mamashela, 2013). Achieving quality assurance involves the systematic review of educational programmes and processes to maintain and improve their quality, equity and efficiency (European Commission, 2018), which, without students as a producer and consumer, cannot be realised, underscoring student involvement as an imperative for quality assurance. It is the feedback function of the students as consumers and evaluative feedback of students as producers that matters for quality assurance since they can single handedly determine the success of IHE, from both ends of the pendulum.

Recently conducted surveys indicate student representation in decision making among institutions of higher learning is close to universal, albeit considerably varied between and within institutions (Luescher-Mamashela, 2013). Representation at lower organisational levels has found expression at faculty, school/department, course and issue-based governance domains such as teaching and learning, students' social issues, staffing (Little et al. 2009, Luescher-Mamashela et al. 2011, Luescher-Mamashela 2013, Persson 2004). Pursuit of relevance of programmes and activities among IHL increasingly calls for student involvement in a broader sense than currently obtains. Such relevance is understood differently by different stakeholders in higher learning, itself a

Student-Involvement Trends (SIT) For Quality-Assurance in Higher Education among STEM Institutions, Zimbabwe

student-centric term that disabuses institutions of a top-down 'notion of educator' as though students bring no experiences to the learning institutions. Galileo Galilei once quipped, 'You cannot teach a man anything. You can only help him discover it within himself'. Such understanding can refer to competencies of individual students as well as collective outcomes for society (European Commission, 2018).

Gover et al. (2019) suggests the concept of student-centred learning stipulates that education provision and all its aspects are defined by the intended learning outcomes and most suitable learning process, instead of the student's learning being determined by the education provided. This view also finds expression in Standard 1.3 in the 2015 Standards and Guidelines for Quality Assurance of the European Higher Education Area (ESG), according to which universities "should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach" (ESG, 2015, 12; see also Gover et al. 2017).

Governance has become a major leverage tool for improving quality in all aspects of higher education (Hénard and Mitterle 2009) while quality assurance has globally increased with a view to addressing institutions-accountability balance. One of the major principles of good governance in higher education alludes to the concept of shared governance or distributed leadership (Tamrat 2016). This requires among other things, requires the representation of the various stakeholders (including students) in the decision making processes of universities. Compared to representation of administrators or faculty, student representation, defined as students' formal and actual ability to influence decisions made in the context of a higher education institution and administration" (Klemencic 2012). Often the actual ability remains in question although largely, participation is routine, it remains therapeutic and borders around lamented tokenism (Arnstein 1969). Many benefits have been linked to student-centred learning, which is considered to improve teaching (Warming and Frydensberg 2017) and student learning (Gover et al. 2019). It fosters transversal skills, critical thinking and active citizenship, and is thus considered to better prepare students for the current and future labour market and society. Realising that quality is a value-laden and actor-relative (Harvey and Green 1993, Dondi, Moretti, & Nascimbeni 2006, Jung and Latchem 2007), multi-dimensional (Giertz 2001) and elusive (Green 1994) concept, scholars note that tacking each of the concepts divers' interests and expectations of various internal and external actors in IHEs (Abdous 2009) would be cumbersome. Different actors' interest and expectations challenge not only the ways quality can be conceptualised but even the very meaning of quality (Mahdiuon *et al.* 2017). However, convergence quality in higher education institutions are mostly characterized in terms of students' satisfactions, cost-effectiveness, and graduation rates (Jung 2011, cited in Mahdiuon *et al.* 2017). Concerns have been raised on higher education quality by stakeholders such as industry.

In West Africa's Nigerian industry as that country's consumers of university students as output have expressed concerns captured by Dabalén *et al.* (2000) cited in Akubuiló (2013) who observed that public and private sector employers of university graduates, including the government considered the quality of university graduates inadequate. The scholars lament the said category of employers believes university graduates are poorly trained and unproductive on the job with shortcomings particularly severe in oral and written communication, and in applied technical skills, such as STEM. Anugwom (2009, 128) cited in Akubuiló (2013) assert higher education acquired can only be relevant to the extent it transforms the lives of the individual and society, thus underscoring the student involvement imperative. The quality of tertiary education system in Nigeria is reflected in its products, the graduates (Anugwom 2009, cited in Akubuiló 2013). Tracking the root-cause of such poor quality, Ayeni and Dada (2011, 204) insist the educational system in Nigeria has not had the financial resources to maintain higher educational quality in most of the significant expansions.

Tapera and Kuipa (2017) unpack Zimbabwe's higher education sector as having significantly grown over the past three and half decades, from the University of Zimbabwe at independence in 1980 to the current 18 universities, private and state owned. This scenario has been unfolding elsewhere on the African continent (Mohamedbhai 2014, Tapera and Kuipa 2017). Given the rate of growth of the Zimbabwean higher education sector, there is a great likelihood that, without checks and balances, universities may end up focusing on quantity rather than quality (Schwartzman 2013, Wong 2016, Tapera and Kuipa 2017).

At the earliest phase of the establishment of the world's oldest universities, students assumed a dominant power in terms of administering institutions by virtue of their being the major payers for the setting up of universities and for the salary of their professors (Tamrat 2016). However, as this power was gradually lost, with the advent of IHE funding from public budget has been increased accountability for such funding (Oliver 2005, Abdous 2009, Masoumi & Lindstrom 2012), the responsibility of making decisions within universities moved to administrators and faculty (May 2010, Moore et al. 1998, Tamrat 2016). This led to a situation whereby students were literally side-lined and institutions claimed to assume the role of *in loco parentis*-acting as a substitute parent (Jones 1974).

This apparent neglect or role substitution eventually led to student revolt and relentless quest for student governance that dates as far back as the 1700's (May 2010, Tamrat 2016). In Zimbabwe, Majoni (2014) argues many universities have no formal quality promotion policies or structures to meet audit requirements and are in the process of reviewing their practices. The scholar further asserts most universities use peer review as the main mechanism for quality assurance and use external reviewers or examiners (Majoni 2014). The senate, Majoni (2014) is the main quality assurance body and custodian of academic quality among IHEs.

METHODS/EXPERIMENTAL

RESEARCH OBJECTIVES

To determine the dominant student involvement trends in STEM Institutions

To highlight student involvement challenges faced among STEM Institutions

RESEARCH QUESTIONS

How are student involvement trends in quality assurance structures of STEM IHL?

What are the challenges faced in student involvement among STEM Institutions?

THEORETICAL FRAMEWORK: THE STAKEHOLDER THEORY (FREEMAN 1984, FREEMAN et al. 2010)

The Stakeholder Theory by Freeman (1984) is practical, as all firms have to manage stakeholders. Numerous scholars have tested and supported this theory across a number of industries, in both domestic and international firms, and in a variety of contexts (Choi & Wang 2009, Cording et al. 2014, Harrison & Freeman 1999, Henisz, Dorobantu & Nartey, 2014, Hillman & Keim 2001, Sisodia, Wolfe & Sheth 2007). The concern in the theory's lens is how good organisations are at managing stakeholders towards stated goals. The classic definition of a stakeholder is 'any group or individual who can affect or is affected by the achievement of the organization's objectives' (Freeman 1984, 46). "Stakeholder" as a concept the way we use it first appeared in the Stanford Research Institute in 1963 (Freeman et al. 2010). The term challenged the notion that stockholders are the only group to whom management need be responsive (Freeman et al. 2010). The theory holds that a company's stakeholders include just about anyone affected by the company and its operations (Friedman and Miles 2006). It views IHLs in terms of their relationships to a broad set of partners, drawing increasing attention as a model for ethical governance (Harrison and Freeman 2010).

IHL should be seen as a cluster of stakeholders whose purpose should be managing stakeholders' interests, needs and viewpoints (Friedman 2006, Henisz et al. 2014). That view is opposed to the long-held shareholder theory by Milton Friedman that the only stakeholders a company should care about are its shareholders, as its bottom line. Friedman's view is that companies are compelled to make a profit, to satisfy their shareholders, and to continue positive growth. By contrast, Freeman suggests IHL stakeholders are those groups without whose support the IHL would cease to exist. The view paints the higher education environment as an ecosystem of related groups, all of whom need to be considered and satisfied to keep the company healthy and successful.

Freeman (1984) Freeman et al. (2010) describe how a healthy IHL never loses sight of everyone involved in its success. Organisation cannot ignore any of its stakeholders and truly succeed. As stakeholders become dissatisfied, and feel let down, the organisation cannot survive." Theorists argue this is necessary to ensure stakeholders' interests and participation in decision making while at the same time, as an agent, ensuring the survival of the firm to safeguard the long term stakes of lecturers/researchers; students; society; and industry's needs (Friedman 2006, Fontaine et al. 2006, and Freeman et al. 2010). To that end, the Stakeholder theory suggests "managing for stakeholders" involves attending to the interests and wellbeing of these stakeholders, at a minimum (Harrison, Bosse & Phillips 2010, cited in Maurício and Boaventura 2015).

RESEARCH METHODOLOGY

At the philosophical level the study hinged on the pragmatic worldview whose demands in interpreting phenomena is detected by the need for both qualitative and quantitative approaches. Tashakkori and Teddlie (2003) and Creswell (2011) underscore the growing need for mixed methods research arguing that that it facilitates a holistic understanding of phenomena by allowing for balanced perspectives. Collecting data using semi-structured questionnaires with both open ended and closed ended questions, the study triangulated data collection methods through balancing views and perceptions to capture feelings among IHL stakeholders. Such data entailed collection and analysis in an integrated way by allowing participants' views to be included in open ended questions. In this paper, use was made of questionnaires on trends in student involvement for quality assurance and promotion among IHL that targeted quality assurance structures for sampling. Saunders, Lewis and Thornhill (2016) Saunders et al. (2012) present this view through the research onion that shows the layered methodological approaches used with this philosophy.

TARGET POPULATION

The study targeted quality assurance managers from institutions of higher learning (IHL) within Matabeland with a focus on Science, Technology, Engineering, and Mathematics (STEM). Two IHL were selected from quality assurance managers were purposively selected to participate in the study for their proximity to the information sought by the study. Fifteen quality assurance managers were sought from each IHL and altogether 26 out of potential 30 quality assurance managers were drawn purposively from each IHL through snowball sampling to saturation point to select quality managers to respond to the questionnaire, equating to a participation rate of 86% response rate. Questionnaires covered the following topics: (1) trends in balancing theory and practice, fostering student centred learning, (2) trends in STEM programming on practical teaching and learning; (3) dominant methods of acquiring practical skills among STEM institutions in Zimbabwe, (4) How regional STEM institutions have handled practical teaching and learning for student success, (5) Challenges faced in aligning STEM programming to regional best practices, (6) methods the IHL is using to foster student centred learning for academic success, (7) biographical data and institutional background.

RESULTS AND DISCUSSION

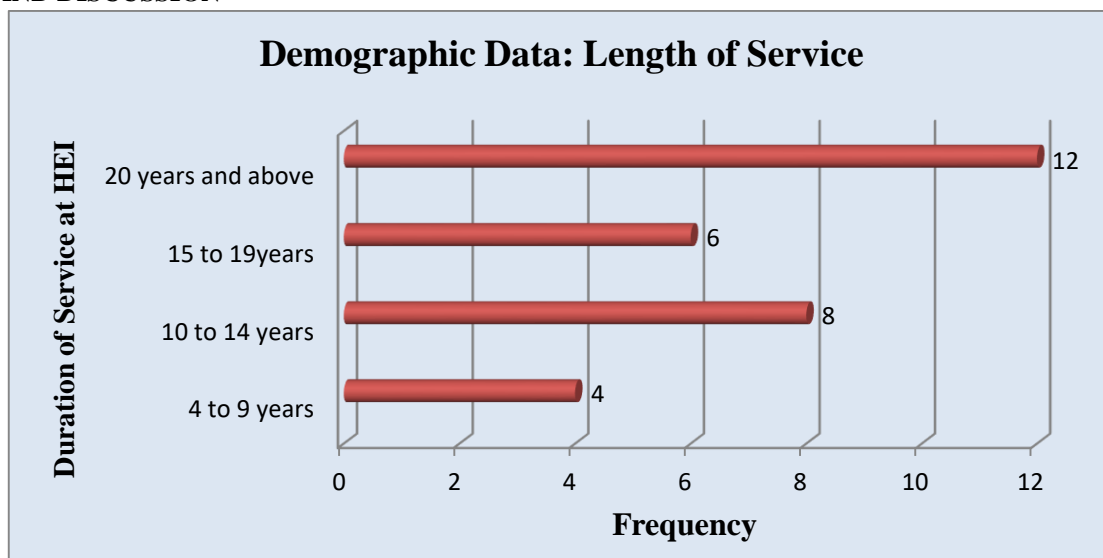


Figure 1: Democratic Data: Length of Service at IHL, Source: Primary Data

The figure above shows that senior IHL staff by service in higher education responded to questionnaires, lending credibility to the findings based on their knowledge of student involvement trends through familiarity. Respondents were man quality control and assurance related portfolios in the IHL.

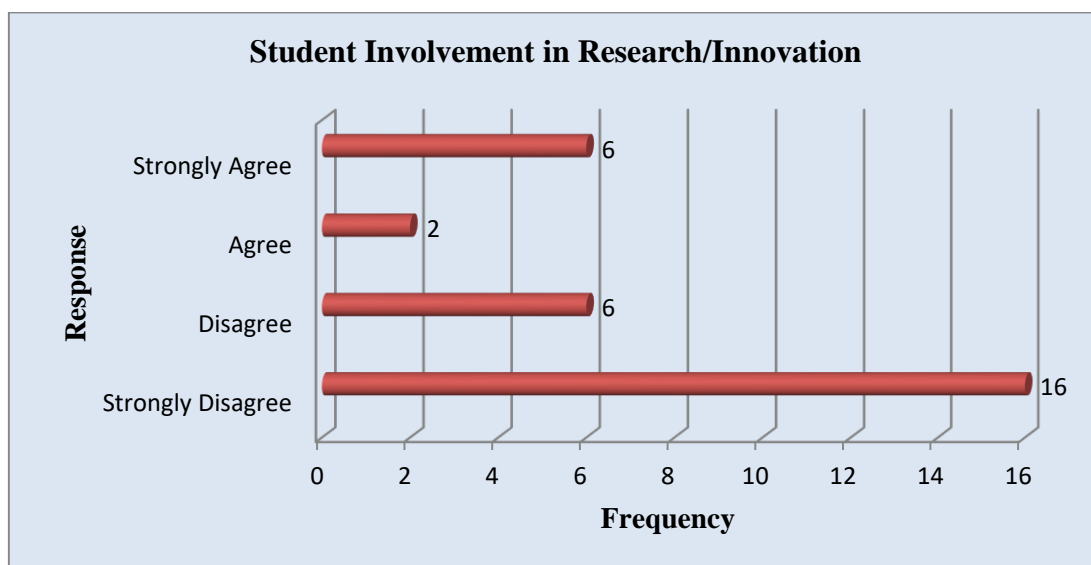


Figure 2: Student Involvement in Research and Innovation, Source: Primary Data

The figure 2 above shows the extent of student involvement in research and innovation, which was measured against the three levels of ‘strongly agree’, ‘disagree’, and ‘strongly disagree’ and the respondents ‘strongly disagreed’ (16) that students are involved in research and innovation among Zimbabwe’s IHLs. This was corroborated by a further six respondents (6) who concurred, against six (6) who ‘strongly agreed’ that students are in fact involved in research and innovation initiatives. From the data presented IHLs need to make this imperative a reality for students.

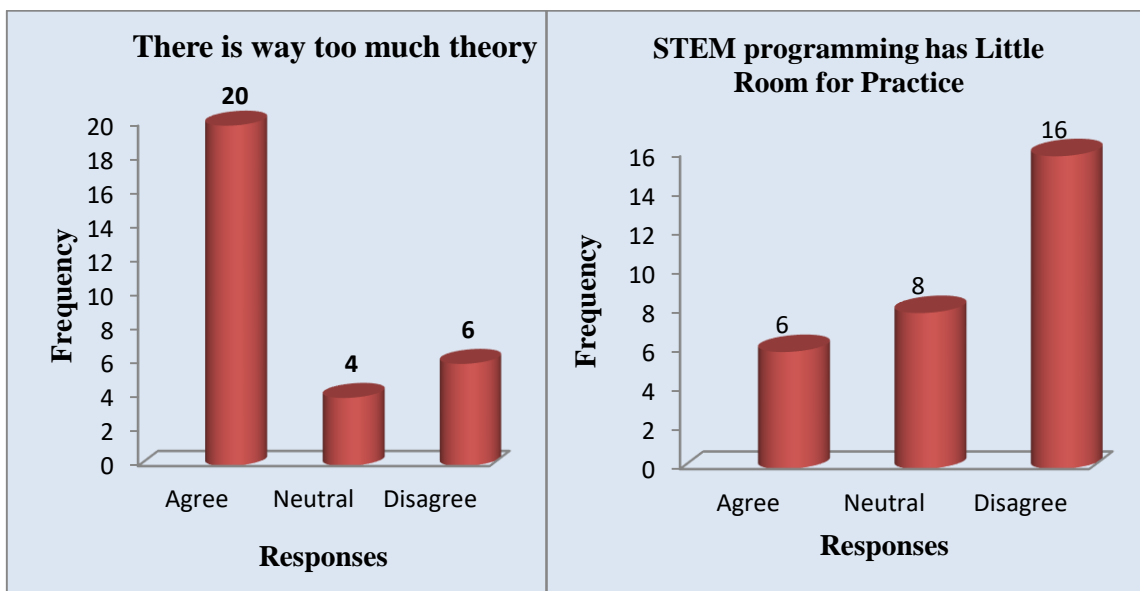


Figure 3: Student Involvement in Teaching and Learning, Source: Primary Data

The figure 3 above shows 67% of the respondents agreeing (20) there is way too much theory than practice among STEM institutions of higher learning in Zimbabwe. This is in sync with arguments by Anugwom (2009); Akubuilu (2013) who posit education acquired from IHL can only be relevant to the extent it makes notable impact in the lives of the individual and society, in this case students and societies they come from through their involvement. That an outright majority agreed there is too much theory in STEM programmes designed to improve graduate quality leaves a negligible four (4) neutral and the six (6) who disagreed, indicating the presence though inadequate STEM practical learning. These sentiments find expression in the Stakeholder theory wherein IHL managers should manage the universities for the benefit of its stakeholders (Harrison, Bosse & Phillips 2010, Maurício and Boaventura 2015, Friedman 2006, Fontaine, Haarman and Schmid 2006).

The study’s findings thus fall within the parameters set by the theory and arguments by proponents who note that Stakeholder Theory’s objective function is value maximization by students, society and industry alike (Jensen *et al.* 2002; Freeman, Harrison, Hicks, Parmar and de Colle 2010). The scholars’ further argument that ‘purposeful corporate behavior requires a single value objective function’ (Freeman *et al.* 2010:12) is identified as responsible for the non-involvement of students in crucial decisions and processes affecting them as tertiary learning institutions pursued churning out numbers and quality defined in other terms than satisfying stakeholder needs and interests. Figure 4 below presents data on mechanism IHLs use for practical learning.

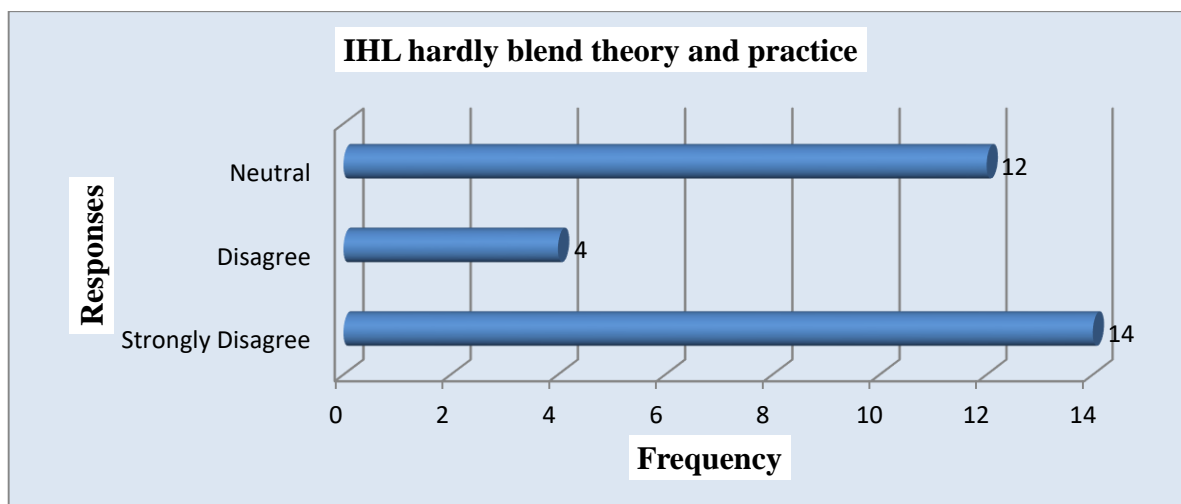


Figure 4: IHL hardly blend theory and practice, Source: Primary Data

Respondents were asked whether STEM institutions of higher learning blended theory and practice adequately, with responses tabulated in Figure 4 above. Fourteen (14) respondents ‘strongly disagreed’, reinforced by a four who ‘disagreed’ while twelve (12) chose to remain neutral and aloof to the question (see Figure 4 above). Failure to provide adequately for the students’ needs as stakeholders results in shortcomings in satisfying the stipulations of the theory that states all organisational stakeholders’ needs must

Student-Involvement Trends (SIT) For Quality-Assurance in Higher Education among STEM Institutions, Zimbabwe

be satisfied (Maurício and Boaventura 2015). To that end, the Stakeholder theory suggests ‘managing for stakeholders’, which involves attending to the interests and wellbeing of these stakeholders, at a minimum (Harrison, Bosse & Phillips 2010).

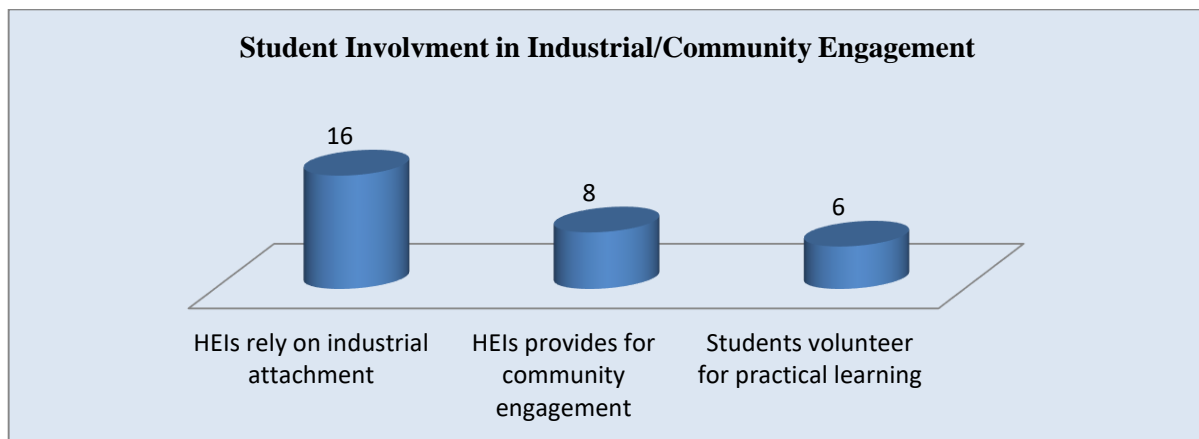


Figure 5: Student Involvement in Industrial/Community Engagement, Source: Primary Data

Respondents involved in quality assurance processes were asked whether students were involved in industrial and community engagement towards enhancing quality outcomes among higher education institutions. Responses are shown in the figure 5 above. The question, ‘how does IHL involve students in community engagement?’ generated sixteen (16) respondents who argued: ‘Universities facilitate for students with companies’, which was closely followed by eight (8) respondents who hold the view ‘universities arrange for student practice/learning’ while four (4) believed ‘lecturers arrange with companies of choice for best practice’ with two (2) arguing ‘students volunteer for practical learning outside university programming’. The lack of unison in the response indicates the opaque manner with which students’ needs and interests as primary stakeholders of IHL are handled or neglected (Freeman *et al.*, 2010; Maurício and Boaventura, 2015).

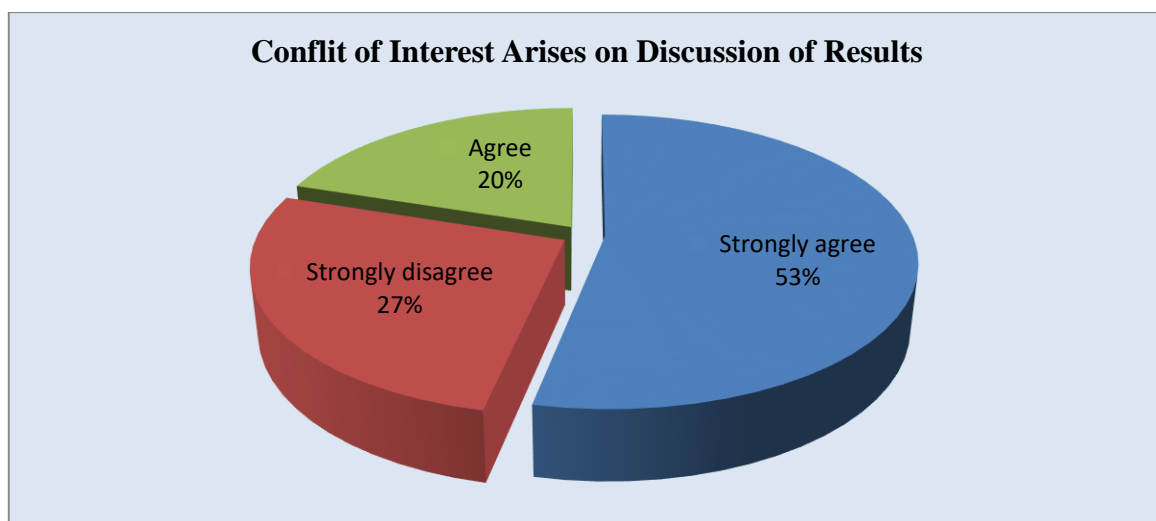


Figure 6: Challenges in Student Involvement/ Conflict of Interest in Discussion of Results

The study respondents were asked whether conflict of interest arises within platforms where students are involved when discussing their academic results. The study established that there is often selective involvement due to fear of conflict of interest in discussing examination outcomes with student, which is seen as potentially compromising quality. Thus, largely ‘strongly agree’ (53%); ‘agree’ (20%) account for majority views while 27% held the view that discussing examinations with students in attendance did not necessarily compromise any quality as long as professionalism and conflict of interest protocols were upheld where the affected students could be excused when their stream/class results are being discussed. Although appearing negligible, the 27% respondents who felt discussing results on platform where students were represented does not affect quality assurance processes in fact comprised senior administrators among IHLs and the regulatory Zimbabwe Council for Higher Education (ZimCHE) whose seemingly under-represented view that ‘student involvement does not in any way compromise quality’ weigh much against the cumulative 73% who feel student representation in such discussions compromised quality. Omission of higher education in application of stakeholder theory is vindicated by Freeman *et al.* (2010)’s study.

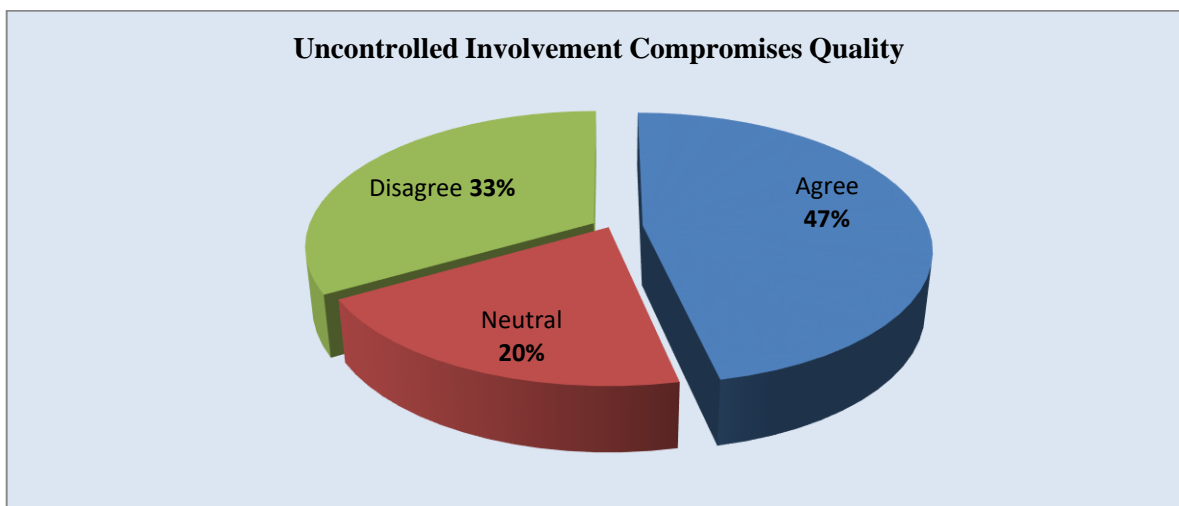


Figure 7: Uncontrolled Student Involvement Compromise Quality, Source: Primary Data

The figure 7 above highlights how unrestrained student involvement potentially compromises quality assurance processes through a pie-chart. Respondents who felt unrestrained student involvement compromises quality assurance processes accounted for 47% of the study where a significant proportion of 20% remained neutral or undecided on the question. Thirty-three (33%) of the study’s respondents however disagreed that uncontrolled student-involvement compromised quality in any way.

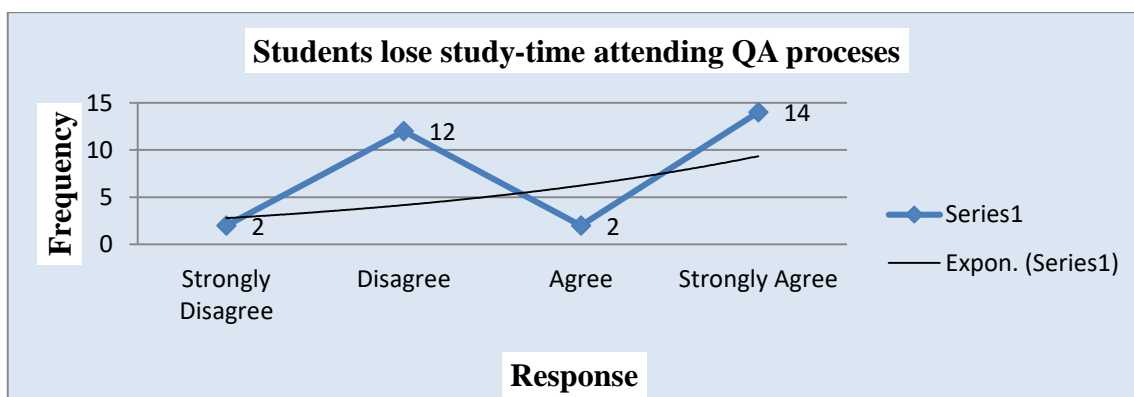


Figure 8: Student Lose Time attending Quality-Processes, Source: Primary Data

In then figure 8 above is shown how students lose study time attending quality assurance processes. Asked on their opinion regarding where IHLs should draw the line in student involvement in quality assurance processes shown in figure 8 above, Q-A officers and managers (47%) felt it was a necessary evil to limit students to various involvement platforms, which aptly resonates with tokenism while only 53% of the respondents regarded student involvement in quality assurance as a necessity to uphold such quality assurance processes among IHLs. These views result in student involvement becoming a paradox for higher education institutions and processes. This arises from the assessment that student involvement evokes fears of quality compromise while on the other hand, non-involvement also raises questions of compromised processes hence the argument on restraining student involvement to certain processes.

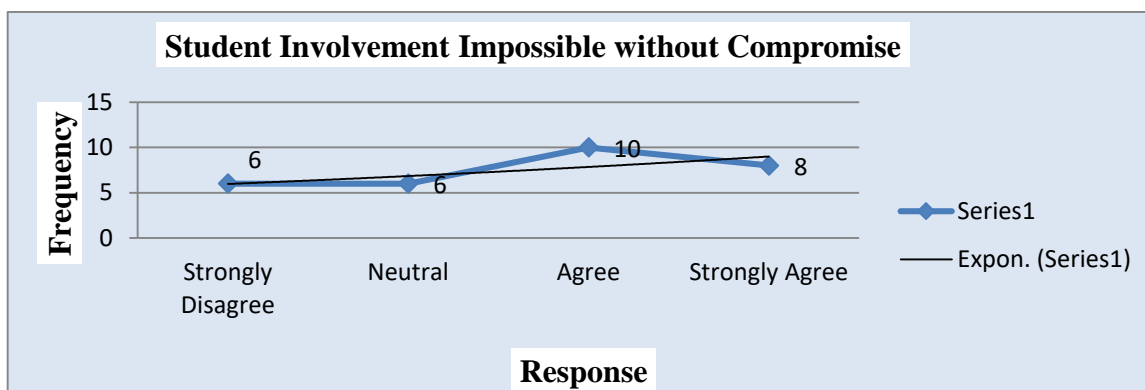


Figure 9: Student Involvement Impossible Without Compromise, Source: Primary Data

Student-Involvement Trends (SIT) For Quality-Assurance in Higher Education among STEM Institutions, Zimbabwe

The figure 9 above shows the responses to the question whether student involvement is impossible without some form of compromise or intrusion among higher education institutions quality assurance processes. Ten (10) respondents held the view that it does (agreed) while eight (8) strongly agreed with six (6) choosing to be neutral. The other six (6) strongly disagreed that student involvement is impossible without compromise. The trend however pointed to a general increase among those agreeing with the assertion.

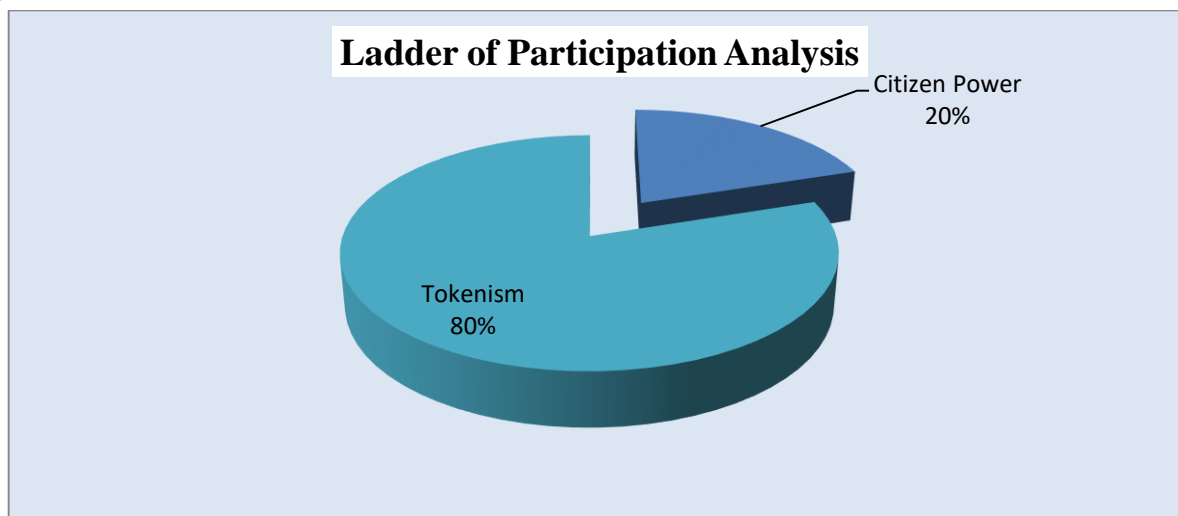


Figure 10: Ladder of Participation Analysis, Source: Primary Data

The study found that on a general scale measuring the overall participation of students in quality assurance processes was largely tokenistic in nature. Tokenism entails student involvement by informing, where higher education institutions provide students with quality assurance related information, often without details of the much needed quality assurance committee meetings and processes. Such involvement, in the absence of the actual engagement amounts to non-participation by extension. Additionally, tokenism is often seen as the first step to legitimate participation that however too frequently emphasizes on a one-way flow of information (downward communication) with no feedback channel. Tokenism also entails involvement through consultation, where students are merely consulted by higher education institutions' management and not given a channel for feedback. Consultation is another rung of participation that Arnstein felt is just a window dressing ritual without the desired consequence of affecting decision making and owning the outcomes thereof.



Fig. 11: Thematic Text Word-Cloud, Prominent thematic text from verbatim responses of participants highlighted: Practical University STEM research/learning affected by lack of funding, equipment, attachment

Text narratives gleaned from the participants highlighted key narrative themes. These were brought together and expressed in a sentence format. Figure 11 above shows the WordCloud graph derived from the text narrative views from various participants regarding how practical university STEM research/learning may be affected by lack of funding, equipment and attachment. Science, technology, engineering and mathematics (STEM) university students have industrial equipment constraints for practice and attachment.

CONCLUSION

How are student involvement trends in quality assurance structures of STEM IHL?

- ❑ IHL evaluation criteria shows students peripherally involved in quality assurance processes among STEM IHLs
- ❑ Student involvement trends in learning limited to lectures (**teaching & learning**); industrial attachment (**community engagement & innovation**); and dissertation research (**research**).
- ❑ Views from fewer students than are representative elicited at the invitation of quality assurance managers in IHL through Student Representative Council consultation, informing to 'tick-a-box-type' of student participation in processes without meaningful contribution therein.
- ❑ Student involvement trends show students operate at the bottom five rungs of the Ladder of Participation, within tokenism domains despite being primary stakeholders
- ❑ Senate and classroom related involvement remain the main forms of participation with barely no participation in research and related innovation until dissertation before graduation
- ❑ Student involvement limited to prescribed committees and structures stipulated at inception of the university i.e. University Senate, University Council clearly stipulated in University Acts of Parliament

What are the challenges faced in student involvement among STEM Institutions?

- ❑ University operations are governed and limited by a rigid prescriptive policy and template
- ❑ University governors (University Council) manned by personnel unfamiliar with higher education administration
- ❑ Student involvement biased toward students' activism through SRC than quality outcomes
- ❑ IHL lack flexibility to innovate new ideas because they are recycled from the same IHL they attended as students

RECOMMENDATIONS

For student involvement to bear fruit for each of the various higher education stakeholders there is need to reconfigure IHL methods of delivery to make STEM teaching and learning, research and innovation, commercialisation industry-led and university supervised.

Reduce irrelevant theoretical courses, adopt practical based teaching and learning like apprenticeship shared between university and specific industry, governed through a non-prescriptive policy crafted to give national direction on manpower development coupled with government funding.

Institutions of higher learning should be unfettered from prescriptive minimalist legislative clutches that are devoid of university and higher education administration knowledge and assign such roles to University Councils instead.

University Councils should only be manned by relevant skills-set balanced with university administration expertise through the concept of academic freedom to explore new and innovative ways of empowering students within the domain most relevant to their societies, industries, and individual aspirations unhinged from the prescriptive STEM and Doctrine Education 5.0.

Upon registration of companies, private sector must accept to be given mandates by the State to work with universities' students in areas crafted jointly by such industrial organisations and universities.

The extent of student involvement must be guided by student preferences, local community and industrial demands rather than prescribed routine activity.

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