INSTRUCTIONAL LEADERSHIP PRACTICES FOR DEVELOPING THE 21ST CENTURY COMPETENCIES OF UNDERGRADUATE STUDENTS AT PUBLIC UNIVERSITIES IN TANZANIA

Emmanuel Paul Mushi[1]
Yan Ye[2]

Received: *7th May 2020*
Revised: *25th October 2020*
Accepted: *8th January 2021*

Abstract: The purpose of this paper was to identify key instructional leadership (IL) practices and the 21st century competencies (TFCC) and relate the two using the context of Tanzanian public universities. The paper relied on literature review and content analysis to come with survey questionnaire. From literature review and content analysis, thirteen (13) instructional leadership practices and six (6) 21st century competencies were identified. These included leadership focus on improvement of teaching and learning, use of appropriate leadership styles and competencies, and setting vision, mission and goals. Further, the practices included use of social-constructivist instructional methods such as student-centered approach, collaborative learning and problem-based learning. Survey questionnaire formed from the identified IL practices and TFCC was used to collect data from 222 public university lecturers in Tanzania. Analysis of the data though Pearson Correlation r indicated that there is a strong positive relationship between the instructional leadership (IL) practices and the 21st century competencies (TFCC). The analysis found a Pearson Coefficient (r) of .654, with a *p*-value of .000. Moreover, all the sub-variables under the instructional leadership correlated positively with sub-variables under the 21st century competencies, and there was on average strong positive association of the sub-variables within the two main variables.

Keywords: instructional leadership; instructional approaches; 21st century competencies; Tanzania

[1] Lecturer at the Institute of Finance Management Dar es Salaam Tanzania, emmanuel.muships@gmail.com

[2] Assistant Professor, Ph. D, Lecturer, Graduate School of Human Sciences, Assumption University, Thailand. norayeyan723@hotmail.com

Introduction

Research on relationship between instructional leadership and student learning has been growing since 1970, indicating that leadership practices of schools and universities can have positive impact on student learning (Hallinger, 2011; Leithwood, Patten, & Jantzi, 2010). The main target of instructional leadership is to ensure that students acquire the competencies they need for life and for work (Pellegrino & Hilton, 2012), and more so in higher education where learning is supposed to be work or application oriented in respect to adult learning (Lee, Blackwell, Drake & Moran 2014). However, the graduates around the world have been found to have unsatisfactory level of competencies (Aring, 2012), and more so in African countries (Mohamedhai, 2014), and particularly Tanzania (Tan, Bashir & Tanaka, 2016).

This study aims at identifying the basic instructional leadership practices for developing the 21st century competencies of students in higher education. It further determines the nature of relationship that exists between the instructional leadership practices and student's 21st century competencies in Tanzanian university context. It employed quantitative survey research method.

In order to come up with survey questionnaire, the study relied on information from review of related literature and the content analysis. Content analysis was done according to procedure explained in Neuendorf (2012). Key themes from the content analysis were used as the sub-variables in the survey questionnaire and can be noted in the findings section. The questionnaire is used to collect data that are analyzed to further explaining the relationship found by content analysis.

Research Objectives

This research paper is envisioned towards determining the relationship between the instructional leadership practices and the 21st century competencies of undergraduate students at public universities in Tanzania.

Literature Review

Instructional Leadership (Planning for and Supervision of Instruction)

Instructional leadership model was developed by Hallinger & Murphy in 1980s. Since then, instructional leadership has attracted much attention (Hallinger, 2011), and has been confirmed by research that it has positive impact on instructor's motivation and self-efficacy (Blasé & Blasé, 2000) and on student achievement (Leithwood, Patten, & Jantzi, 2010). In Hellinger and Murphy (1986), instructional leadership stands as a two-dimensional notion. It encompasses leadership function and leadership process. As a leadership

function, it involves framing and sharing school goals, supervising and evaluating instruction, curriculum coordination, development of high academic standards and expectations, promoting professional development of instructors, monitoring student progress and designing incentives for instructors and learners. As a leadership process, instructional leadership involves communication, decision making, management of conflicts, group and change process and environmental interaction. Blasé & Blasé (2004) enlist similar functions or practices, and they found that these instructional leadership practices have positive and strong association with instructor commitment, professional commitment, and innovativeness.

The impact of instructional leadership on student learning is caused by how it is applied to shape learning environment and teacher practices. A recent study by (Bryk, 2010) found that instructional leadership is a drive for school change for improvement and student learning. Moreover, some research has discovered that transformational leadership becomes more successful in academic environment if complemented with instructional leadership practices (Cordeiro & Cunningham, 2013; Marks & Printy, 2004). Thus, instructional leadership, treated as independent or even mediating variable has positive direct or indirect impact on school improvement and student learning (Lee, Walker, & Chui, 2012).

Instructional Approaches in Higher Education

Student-centered approach (SCA) is probably one of the widely used approach (and has been confirmed to have positive impacts on student learning**.** Its basic practices include supporting the learner as they actively construct meaning through experiments (Driscoll, 2005), scaffolding participation in authentic tasks and social-cultural tasks **(**Land, Hananafin, & Oliver, 2012) using of prior and everyday experience in learning, and enriching learning via access to multiple perspectives, resources and representations (Dosch & Zidon, 2014). Moreover, the approach encourages the use of social-constructivist practices where the learner engages with peer in problem solving (Hallinger & Lu, 2013) and lecturer-student interaction (Tahir et al., 2017).

- *Problem based learning (PBL)* as an approach, enables student to learn while engaging actively with meaningful problems (Yew & Goh, 2016). Studies show that students in PBL assignment as they engage in self-directed study and problem analysis, they question, reason out, face conflict and therefore they make elaborations and constructions (Yew & Goh, 2016). PBL is positively associated with enhancement of problem-solving skills, critical thinking, self-directed learning habit, collaboration,

and collaborative learning (Winarno, Muthu & Ling 2018; Zhao).

- *Collaborative learning approach (CLA)* is a social learning process which is normally applied in higher education learning contexts through study groups, team projects, peer review and discussions (Rovio-Johansson & Lumsden, 2012). CLA is used as strategy to help university students learn form and with one another (Gillies, 2007; Rovio-Johansson & Lumsden, 2012; Strang, 2010a). Key specific methods involved in collaborative learning approach are team projects, peer review, debate teams, small group work and cooperative active scripting (Gillies, 2007, Salvin 2003)

Research by Gillies (2007) on collaborative learning showed that there were some quantifiable gains from having students work in groups. Moreover, research findings reviewed by Tiruneh, Verburgh & Elen (2014), shows that use of PBL in combination with collaborative learning approach is more effective than when PBL is used in a lecturer-led instruction. Other studies which tested use of CLA and got positive results include among others Dennen (2005) and Good & Goldwell (2008).

Assessment for learning (AL) is an approach to assessment which focusing on improving the learning of students. In the research literature, assessment for learning should be embedded in the curriculum. What is to be assessed becomes the learning outcomes of the learning (Norton, 2008, Sambell, 2011). In the case where learning outcomes and assessment match, the learning takes place in cause-and-effect system which can be easily manipulated in order to reach the intended outcomes. The instructor manipulates the process by clarifying what good competency is, facilitating reflection and self-assessment in learning, providing high-quality feedback that help learners self-correct, encouraging teacher-student and peer dialogue, providing opportunity to act on feedback, enhancing positive motivational belief and self-esteem and using feedback from learners to improve teaching (Nicol & MacFarlane-Dick, 2006).

However, assessment is also used as marking. Marking is the process of giving an interpretable mark to student performance that can stand to represent or sum up to the level of competence. According to Norton (2008) key basic principles of marking include consistency (meaning uniformity of marking and grading across the institution), reliability which is conceived confidence that the users of grades can have, and validity, meaning the extent to which the making is a measure of student's ability. Moreover, the marking has to be appropriate to a given level (Bachelors or Masters).

21st Century Competencies in the Literature

- *Critical thinking (CT) and problem solving (PS):* Although CT and PS are mentioned separately in many sources (Boyatzis, 2008; Rychen, 2004) few try to clarify the relationship between them that makes them go together. Some studies take critical thinking (CT) as including the personal attributes such as open mindedness, self-regulation (Zhao, Pandian & Singh, 2016), and abilities such as ability to identify central issue, ability to deduce correct inferences from data, ability to engage in deliberate enquiry and ability to evaluate, compare and contrast (Kanuka & Cowley, 2017). It can be noted that attitudes and abilities of CT are engaged in the process of PS (Tiruneh, Verburgh & Elen, 2014). Thus, critical thinking is considered as a useful personal attribute, since it solves problems in the society (Adair & Jaeger 2016; Murawaski, 2014). In addition, CT is the pivotal generic competence, that informs problem-solving, information analysis and synthesis and inter-personal communication (Richards C. , 2014). Critical thinking also relates to innovation, creativity, and lifelong learning (Richards, 2011).
- *Communication* in the list of 21st century competencies refer to the ability to express oneself effectively orally and in writing, ability to use and understand the non-verbal aspects of communication and ability to listen for the purpose of receiving information (Ahmadi & Besançon, 2017). This ability is congruent with the ability to handle personal problems such as frustrations, stress, alienation, and ability to communicate with people of different cultures (Zhang, 2010). Using more than one language is also considered as an ability facilitative to communication ability. Moreover, in the 21st century the competency is related to use of ICT tools to send, receive, and analyze information (Ananiadou & Claro, 2009).
- *Creativity and Innovation* are terms used to describe a process of bringing something novel into being and applying it to solve some problems in the society (Lile & Romero, 2017). Creativity and innovation are terms referring to two points in a process. While creativity refers to personal behavior (imagination, exploration of wide range of ideas, creation of new concepts and ideas) supported by attitude such as openness, curiosity, risk taking, tolerance of ambiguity, self-discipline (Kanuka & Cowley, 2017; Rampersad & Patel, 2014), innovation is "the entire process of converting an idea to a commercialized product or service" (Rampersad & Patel, 2014, p.3). It can be noted that the new idea (product of the attitude and behavior) needs to further be communicated and used for certain benefits.
- *Collaboration:* Markova and McArthur (2015) contend that people can

grow each other's capacity through renewal and inspiration that can only be brought by collaboration. According to them, the competence is important in the current century, and it enhances sharing of ideas (thinking together). The defining characteristics of collaboration include ability to work effectively and respectively with others and diverse teams, willingness to assume shared responsibility for collaborative work and ability to offer critical but constructive reflection on others' work. (Trilling & Fadel, 2009). The Ontario Public Service (2016) calls collaboration "a collective intelligence" (p. 13), that requires an ability to learn from and contribute to the learning of others.

- *Leadership and Ethics:* Leadership involves leading oneself and others. Key characteristics include thinking and acting decisively, influencing others to take appropriate course, motivating to empower others and inclination to meet excellent level of performance in area of specialization (Alimbekovaa, Asylbekovaa & Karimovab, 2016). Leadership draws from personal attributes such as flexibility and adoptability, productivity and accountability and sense of responsibility (Ongardwanich, Kanjanawasee & Tuipae, 2015) and adopting perspectives of moral principles.
- *Life-long Learning* is considered by UNESCO as one of the pillars of education in this century and in the next century. It refers to leaning to learn (Salas-Pilco, 2013). Key attributes of life-long learning include ability to plan and manage own learning, ability to evaluate learning success, and ability to self-regulate own performance. The competence is manifested by showing tendency to learn and share new ideas and practices, and more formally by exploring and doing scientific research (Abu-Zaid, 2014; Peneida, 2011).

Conceptual Framework

The conceptual framework was illustrated below, which showed the main variables and process of this study (See Figure 1).

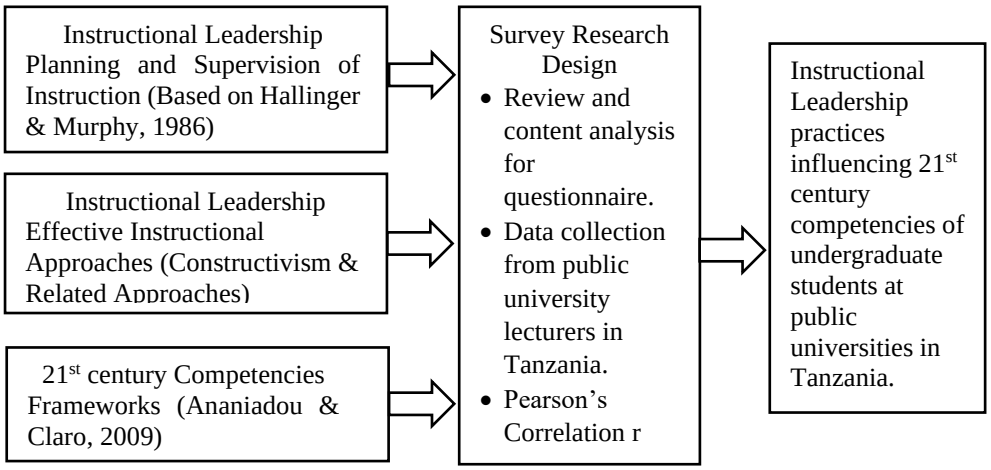

Figure 1. ***Conceptual Framework of This Study***

Research Methodology

Survey questionnaire was used as a tool for collecting data, which were used to confirm and explain the relationship identified in the literature (Creswell, 2012). The population of this study was composed of university instructors from five (5) public universities (out of the 11 public universities) in Tanzania Mainland. Proportional samples from each of the 5 public universities were drawn using procedure proposed by Krejcie & Morgan (1970). The total population was 3,375 lecturers, and the researcher estimated a total sample size of 292 participants.

Questionnaire was composed of item which measured level of performance on instructional leadership and student's level of performance on the 21st century competencies. The questionnaire was sent to five (5) experts to check its relevance given the intended research objective (Items Objective Congruence). The items which were not congruent to the objective were deleted or revised. Further, the questionnaire was pilot tested with 30 participants at the Moshi Cooperative University in Tanzania. The scores from the 30 participants were subjected to reliability analysis. The overall reliability coefficient was .977. This coefficient indicates that the questionnaire was on overall an excellent tool of measurement as per Gliem & Gliem (2003). Survey questionnaires were distributed to 305 lecturers. The total returned questionnaires were 222, equal to 76.02 of the estimated sample.

Findings

The relationship between the instructional leadership and the 21st century competencies was determined by computing the correlation coefficients on the

data of these two constructs. Table 1 below shows overall coefficients for correlation between the instructional leadership practices of the universities and the 21st century competencies of the students.

Table 1 *Coefficients for Correlation between Instructional Leadership (IL) and 21st Century Competencies (TFCC)*

	IL	TFCC
IL	1	.654**
		.000
TFCC	.654**	1
	.000	

**Correlation significant at 0.01 level (2-tailed)

Based on scales and interpretation in Evance (1996) and Dancey & Reidy (2017), the researcher interprets the coefficient in Table 1 as showing that there is a strong positive relationship between the instructional leadership and the 21st century competencies. The coefficients are significant at level .01 since the *p*-value is .000. The researcher investigated more details to find out the strength or magnitude of correlation that manifested between and within the sub-parts of IL and the TFCC. Table 2 below presents the coefficient correlation for PSI and EIA as being positive and moderate (r= .536). Further, the correlation coefficients between PSI, EIA and TFCC are also moderate (r= .581 and .566 respectively).

Table 2. *Coefficients of the correlation between PSI, EIA and TFCC*

	PSI	EIA	TFCC
PSI	1		
EIA	.536**	1	
TFCC	.581**	.566**	1

**Significant at .01 level (2-tailed)

Tables 3 and 4 below show that the strength or magnitude of the correlation between the sub-variables of the instructional leadership (IL) and the 21st century competencies (TFCC) ranges from weak to moderate. Weak (inter variable) correlation coefficient has been registered between the sub-variable's MFS and LL (r = .221) in Table 3. The largest coefficient has been noted in Table 4 between SCA and LEE (r =. 509). On a general note, the *p*-value for all the coefficient scores in the tables has p-value of .000 meaning that all the correlation figures are significant at .01 level (2-tailed). This shows positive association between and within the major variables, and the association is not a matter of chance.

Table 3. *Coefficients for Correlation between Sub-variables under PSI and TFCC*

	FITL	LSC	SVMG	PCA	PPD	MP	MFS	BC	CTPS	COM	CRI	COL	LEE	LL
FITL	1													
LSC	.523**	1												
SVMG	.495**	.685**	1											
PCA	.418**	.560**	.658**	1										
PPD	.389**	.448**	.569**	.584**	1									
MP	.532**	.620**	.680**	.669**	.566**	1								
MFS	.382**	.455**	.500**	.468**	.451**	.627**	1							
BC	.530**	.587**	.605**	.549**	.475**	.682**	.601**	1						
CPTS	.424**	.470**	.409**	.396**	.321**	.456**	.289**	.386**	1					
COM	.296**	.450**	.407**	.424**	.288**	.422**	.299**	.392**	.729**	1				
CRI	.333**	.440**	.462**	.472**	.310**	.467**	.375**	.466**	.702**	.710**	1			
COL	.358**	.398**	.414**	.457**	.273**	.465**	.354**	.408**	.634**	.668**	.729**	1		
LEE	.302**	**.504****	.473**	.442**	.302**	.424**	.251**	.380**	.611**	.679**	.701**	.761**	1	
LL	.312**	.463**	.428**	.484**	.312**	.465**	**.221****	.318**	.580**	.596**	.598**	.624**	.725**	1

**Significant at .01 level (2-tailed)

Table 4. *Coefficients for Correlation between Sub-variables under EIA and TFCC*

	SCA	CLA	PBL	AL	CDCA	CTPS	COM	CRI	COL	LEE	LL
SCA	1										
CLA	.639**	1									
PBL	.607**	.667**	1								
AL	.695**	.663**	.640**	1							
CDCA	.562**	.451**	.536**	.576**	1						
CTPS	.444**	.383**	.442**	.491**	.468**	1					
COM	.451**	.316**	.363**	.427**	.442**	.729**	1				
CRI	.446**	.246**	.324**	.371**	.366**	.702**	.710**	1			
COL	.496**	.348**	.342**	.437**	.395**	.634**	.668**	.729**	1		
LEE	**.509****	.339**	.357**	.427**	.492**	.611**	.679**	.701**	.761**	1	
LL	.402**	.271**	.315**	.352**	.419**	.580**	.596**	.598**	.624**	.725**	1

**Significant at .01 level (2-tailed)

Table 5. *Abbreviations Used in Tables 1-4*

Acronym – Long form	Acronym – Long form
AL–Assessment for Learning, BC – Building a Culture of academic excellence, CDCA–Curriculum Design with Constructive Alignment, CLA–Collaborative Learning Approach, COL–Collaboration, COM–Communication, CPTS–Critical Thinking and Problem Solving, CRI–Creativity and Innovation, EIA–Execution of Instructional Activities, FITL–Focusing on Improvement of Teaching/ Learning, IL–Instructional Leadership,	LEE–Leadership and Ethics, LL–Life-long Learning, LSC–Leadership Style and Competencies, MFS–Motivating Faculty and Students, MP–Monitoring Progress, PBL–Problem Based Learning, PCA–Promoting Collegiality and Autonomy, PPD–Promoting Professional Development, PSI–Planning and Supervision of Instruction, SCA–Student Centered Approach, SVMG–Setting Vision, Mission and Goals, TFCC–21st Century Competencies.

Conclusion

In conclusion, this study points out key instructional leadership practices for developing the 21st century competencies of students in higher education and shows how the practices are associated with the competencies. In the context of Tanzanian university training of undergraduate, there is a positive association between the IL practices and the TFCC, meaning that the carefully planning and supervising instruction, and applying effective instructional approaches would improve the TFCC of undergraduate students. Thus, the study calls for change in the way universities in Tanzania practice the instructional leadership. Its calls for effective planning and supervision of instruction, and promotion of effective instructional practices. It also calls for further research using other methods of data collection and analysis on the relationship between the IL and the 21st century competencies.

Discussion

The results of this study suggest that there is a possible impact of instructional leadership practices on the 21st century competencies of students. This impact is also suggested in the literature that was used for drafting the questionnaire. The review and content analysis for questionnaire drafting found 8 practices for planning and supervising for better execution of instructional tasks and subsequent development of student learning (21st century competencies). Second, through correlation analysis, the study found a strong and positive and strong association between the instructional leadership and 21st century competencies of students.

The instructional leadership practices related to planning and supervision of instruction have impact on university performance (and instructors). For example, the keywords for possible results of the planning and supervisory practices (as noted in information extracts from sources) are effectiveness in teaching (Leithwood & Jantuzi, 2008) university system performance, satisfaction and commitment of instructors, motivation of instructors (Leithwood & Jantuzi, 2008), school performance, better student outcomes, and a campus-wide culture of teaching and learning excellence. It can be inferred that these kinds of results create a condition where achievement or development of the 21st century competencies of undergraduate students by a higher education institution is possible. These conditions make it possible to implement best effective instructional approaches.

Instructional approaches or practices such as aligning graduate attributes with teaching and learning tasks and assessment criteria setting performance indicators, communicating the learning outcomes to students, constructively embedding learning in complex realistic and relevant environments (Driscoll, 2005) allowing learners to construct knowledge and understanding from what they already know (Land, Hannafin & Oliver, 2012) and using collaborative teaching and learning methods have been associate with key competencies such as life-long learning, critical thinking, creativity and innovation, communication and collaboration which were earlier reviewed in this paper.

The relationship between the instructional leadership practices and the 21st century competencies was denoted by the results of correlation analysis. The coefficients for correlation between the instructional leadership (IL) and the 21st century competencies (TFCC) were strong, positive, and significant ($r = .654$, p-value = .000). These results are supported by several studies. Lee, Walker & Chui (2012) had a study that aimed at finding out whether instructional leadership practices had positive influence of students learning. Other studies which found IL as having positive impact on student achievement include Blasé & Blasé (2000), Blasé & Blasé (2004), 2000 Bryk (2010) and Leithwood, Pattern & Juntzi (2010). Specific instructional approaches such as problem-based learning (PBL) and collaborative learning (CLA), student centered (SCA) were confirmed to have positive impact on student learning by Yew & Goh (2016), Gillies (2007) and Tahir et al. (2017) respectively.

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