

The Quality of ICT Program Planning and its Effect on Students' Professional Development in Teacher Training Colleges in Cameroon

LULU John BILLA, AMOMBI DELPHINE AMANA

Ph.D. scholar: Department of Curriculum and Evaluation; Faculty of Education University of Yaounde 1

Ph.D. scholar: Department of Educational Management; Faculty of Education University of Yaounde 1

Abstract: *This work aimed at examining the effects of the quality of ICT program planning variables on students' professional development in selected teacher training colleges in Cameroon. ICT program planning variables used in this work are planning norms and planning process, while professional development variables are knowledge, skills, abilities, and competence. The study had 417 respondents, who were teachers in 15 primary teacher training colleges in 5 regions. Simple random sampling was used and descriptive analysis was employed. Data was collected using a questionnaire and Pearson correlation, mean and standard deviation were used in data analysis. The main purpose of the study was to investigate the extent to which ICT program planning affects students' professional development. The research design was quantitative (survey) as the respondents were administered questionnaires. The data was analysed using SPSS version 26 with Pearson correlation, mean and standard deviation as statistical tools. Furthermore, results obtained from the analysis showed that ICT program planning significantly influence students' professional development at a Correlation significant level of 0.01 (2-tailed). This indicates that ICT program planning variables have a significant effect on students' professional development.*

Key words: *Quality, ICT program planning, norms, process, and professional development.*

I. Introduction

For ICT program planning to have a professional development impact on student teachers in Cameroonian teacher training colleges, it has to be of good quality. Furthermore, the concept of quality in planning can be examined according to Scheerens (1989) as available international, national indicators, and measures put in place to produce good standards with respect to academics in an educational system. The recent ICT program for teacher training colleges in Cameroon was put in place in 2013 by the ministry of secondary education.

According to Akemche (2014) educational policy refers to educational plan, principles, course of action, guide lines, a statement of ideas or principles, and conduct of education adopted by a given country for the growth and development of the educational sector. This is done through the elaboration of aims, goals, and objectives which guide the functioning of the educational and school systems to be more and more effective and efficient. In the Cameroonian context educational policy refer to laid down principles, government policy making as well as the collection of all the rules and regulations, and laws that govern the educational sector in Cameroon (Akemche, 2014). The main law guiding education of primary and secondary education in Cameroon is Law No 98 of 4th April 1998 that laid guide lines or orientation for education in Cameroon. It was recommended by the 1995 national forum on education; deliberated, amended and adopted in parliament and promulgated into law by the head of state in 1998.

UNESCO (2010) consider planning as an intellectual anticipation in the direction of future situations, making a choice of desirable objectives to be attained and determining the relevant actions or activities that would be needed for application in order to attain the chosen objectives at a reasonable cost. On the other hand, Adam (2002) had earlier state that planning is important because major decisions on changes taken by international agencies are on education in general and educational governance in particular. It occurs in varying degrees and at different speed range, from increasing devolution of educational responsibilities to decision authority. These trends therefore require a lot of planning to be successively successful. That is why UNESCO

(2010) lays emphasis on planning as the process of thinking about future events and activities and taking measures to control them through the processes of organisation and management of available resources so as attain set objectives.

II. Review Of Literature

2.1. Conceptual Framework

Articles 43 and 45, of the revised 1996 constitution of the Republic of Cameroon states very clearly that the constitution is the main law from which legal instruments are made. It is the constitution that gives authority from which international instruments are ratified, planned and applied especially in the Cameroonian educational system (Nyansi, 2014). The main law that guides education at the elementary, secondary and teacher training level in Cameroon is law No 98/004 of 4th April 1998 (Akemche, 2014). This law also known as the law of orientation lays down the general framework of education in Cameroon. In section 5/1 one of the purpose of education in Cameroon is to train the learners to be deeply rooted in their culture but open to the world. In this technological age one cannot be open to the world else the person is technologically literate. That is why ICT became an integral subject in the teacher training colleges in 2007, and Educational technology to accompany the students with the didactics of ICT.

Planning process may differ from organisation to organisation depending on their aims, objectives, activities to be carried out and prevailing contextual situations. Puamau (2006) holds that there is neither a perfect plan nor a right or wrong process of developing a plan. What is most important in educational planning process is contextualising your planning stages, and taking into consideration the educational and societal needs, societal values and culture. Since process has to do with stages, the planning stages should be developed in a strategic manner taking into consideration the unique characteristics and priorities of the beneficiaries and the program or the project in question.

2.2. Theoretical Framework

Rationality planning approach

Akintson (2011) focuses the discussion of rationality planning on comprehensive rationality of which the 'centre' is so influential to cause a policy change through decision making of an individual, a core-executive, or a governing organisation. ICT program introduction in Cameroonian schools was the sole decision of the head of state. Therefore, Akintson (2011) ask if there is an ability for an individual actor at the 'top' to carryout research and inreturn articulate a number of consistent policy aims and supervise their execution; or an organisation acting in the same manner or direction as a rational decision maker. With respect this Mukhopadhly (2015) holds that rationality in the planning process consider that planners first develop alternatives before taking intelligent rational actions based on evaluation. A rational decision making process is considered to aprocess of empowering planners to evaluate policy alternatives scientifically when making decisions. In this process, there is public input motivated by contextual factors just like the putting in place of ICT as a subject in school in the technological age, the experts exploit modern economic and statisticalanalysis tools to reach at a decision.

Furthermore, John (1998) in Akintson (2011) holds that comprehensive rationality recommend that policymakers who are elected should work to translate their values into policy, and they should be aided or assisted by organisations operating in a more logical, reasoned as well as neutral manner. Akintson (2011) states that the comprehensive rationality model is constructed base on the followin assumptions: separation of values from facts when researchin policy by policymakers identifying their aims or goals and organisation assessing the best means to attain these aims or goals; there should be consistency in policy preferences ranking them to facilitate maximising social or educational gain; the linear nature of policy making should be respected by identifying policy aims fromvalue perspective (identification), means of achieving them (making decision), and selected the best means in achieving them(implementation); . Mukhopadhly (2015); and anaysis of decision making context should be done taking into consideration all relevant factors.

2.3. General Hypothesis

Educational policy planning of ICT program significantly influence students' professional development.

2.3.1. Research Hypothesis

1. ICT program planning norms significantly affects students' professional development in TTCs.
2. ICT program planning process significantly influence students' professional development in TTCs

III. Methodology Of The Study

The study exploited the survey design or the quantitative research design. The 417 respondents were selected using the simple random sampling technique. The researchers gave equal opportunity for all potential respondents to be part of the study. This was done by writing the names of the respective colleges, and participants in each region on slips of papers. The slips were grouped into two, 'YES' (417) and 'NO' (the rest). The slips were folded and placed in a bowl. The participants then wilfully came forward after the slips were thoroughly shuffled, and select one of the folded slip. 'YES' meant the participant will be a respondent and 'NO' meant the participant will not be a respondent.

The instrument used for data collection was a likert scale questionnaire. It was made up of two main parts, further divided into five (5) sections (section A, B, C, D, and E) according to the variables under study. The instrument was validated by 3 research and evaluation specialists. NRTVB was used in calculating construct validity from the data collected from the 38 teacher trainers. Indices, C'' of Cliff's Consistency Indices stood at 0.46, after analysis was done. In Indices, C' of Cliff's Consistency Indices consider any Indices from 0.32 as positive, making the instrument of data collection as good for use. Collected data was analysed using descriptive statistics method. The data obtained from the questionnaire answers were analysed using a statistical package (SPSS). Therefore, SPSS version 26 was the statistical package used for data analysis. The questionnaires were analysed using mean, standard deviation and Pearson correlation to appropriate the effect of ICT program planning on students' professional development.

IV. Presentation Of Findings

Table 1: The mean and standard deviation of the answers on research hypothesis 1

	Mean	Std. Deviation	N
Planning norms	16.59	.801	417
Students Professional development	15.61	1.282	417

Table 1 indicates that a mean 16.59 for of planning norms against 15.61 for students' professional development for 417 participants. The standard deviation for planning norms stands at of 0.80 and 1.28 for students' professional development.

Table 2: Bivariate correlation of planning norms and students' professional development

		Planning norms	SPD
Planning norms	Pearson Correlation	1	.127**
	Sig. (2-tailed)		.010
	N	417	417
Students Professional development (SPD)	Pearson Correlation	.127**	1
	Sig. (2-tailed)	.010	
	N	417	417

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 shows a 0.13 Pearson correlation coefficient for planning norms and students' professional development, with a level Significance of 0.02, projecting a correlation significance level of 0.02 (2-tailed) for 417 respondents (N). The coefficient of determination (r^2) stood at 0.02 (2%).

Table 3: The mean and standard deviation of the answers on research hypothesis 2

	Mean	Std. Deviation	N
Planning process	19.09	.831	417
Students Professional development	15.61	1.282	417

Table 3 indicates the mean of planning process at 19.09 and that of students' professional development at 15.61 for 417 participants. The standard deviation of planning process stood at 0.83 and that of students' professional development at 1.28 indicates that a majority of the scores were close to the mean.

Table 4: Bivariate correlation of planning process and students' professional development

		Planning process	SPD
Planning process	Pearson Correlation	1	.152**
	Sig. (2-tailed)		.002
	N	417	417
Students Professional development (SPD)	Pearson Correlation	.152**	1
	Sig. (2-tailed)	.002	
	N	417	417

** . Correlation is significant at the 0.01 level (2-tailed).

Table 4 shows a 0.15 Pearson correlation coefficient for planning norms and students' professional development, with a level Significance of 0.02, projecting a correlation significance level of 0.02 (2-tailed) for 417 respondents (N). The coefficient of determination (r^2) stood at 0.02 (2%). Therefore, 02% of the variance in students' professional development is explained by planning process.

Table 5: The summary of all means and standard deviations of responses

	Mean	Std. Deviation	N
Planning norms	16.59	.801	417
Planning process	19.09	.831	41
Students Professional development	15.61	1.282	417

Table 5 shows the summary of mean of planning norms stood at 16.59, and that of planning process at 19.09 against 15.61 for responses on students' professional development for 417 respondents. A summary standard deviation of 0.80 for planning norms and 0.83 for planning process, against 1.28 for students' professional development shows that a majority of the scores were close to the mean.

Table 6: Summary of all the correlations from respondents

		Planning norms	Planning process	SPD
Planning norms	Pearson Correlation	1	-.235**	.127**
	Sig. (2-tailed)		.000	.010
	N	417	417	417
Planning process	Pearson Correlation	-.235**	1	.152**
	Sig. (2-tailed)	.000		.002
	N	417	417	417
Students Professional development (SPD)	Pearson Correlation	.127**	.152**	1
	Sig. (2-tailed)	.010	.002	
	N	417	417	417

** . Correlation is significant at the 0.01 level (2-tailed).

Table 6 present a summary of Pearson correlation for planning norms and planning process, and students' professional development, with a coefficient of 0.13 and 0.15, significance levels of all 0.10 and 0.002, respectively. These let to a summary significance level of 0.01 (2-tailed) for planning norms and planning process (all the variables). Coefficient of determination (r^2) was calculated at 0.2 for planning norms and planning process The 02% variance value indicates that, 02% of the variance in the dependent variable (students' professional development) has as cause the independent variables of planning norms and planning process respectively.

V. Analysis and Discussions of Findings

5.1. Planning norms

The finding confirmed that planning norms significantly influences students' professional development. A mean of 16.59 for of planning norms against 15.61 for students' professional development for 417 participants, and a standard deviation for planning norms of 0.80 and 1.28 for students' professional development, meaning a majority of the scores were close to the mean. A 0.13 Pearson correlation coefficient for planning norms and students' professional development, with a level Significance of 0.02, projecting a

correlation significance level of 0.02 (2-tailed) for 417 respondents (N), a coefficient of determination (r^2) of 2%. This means that 02% of the variance in planning norms is effectively influenced by students' professional development. Therefore, characteristics of planning norms namely; national instruments, goals, assessment methods, and international instruments are influential on students' professional development elements of students' knowledge construction, skills development, academic performance, and competencies. This is in conformity with Nyansi (2014) who states that it is the constitution that gives authority from which international instruments are ratified, planned and applied especially in the Cameroonian educational system.

5.2. Planning process

The analysis in tables 3 and 4 confirms that planning process significantly influences students' professional development. With a mean of 19.09 for planning process and 15.61 for students' professional development, a standard deviation of 0.83 for planning process and 1.28 for students' professional development shows that most of the scores were closed to the mean, indicating a significant relationship. Pearson correlation coefficient for planning norms and students' professional development stood at a 0.15, with a level of Significance of 0.02 (2-tailed), the coefficient of determination (r^2) stood at 2%. Therefore, 02% of the variance in students' professional development is influenced by planning process. This is in accordance Puamau (2006) who affirm that there is neither a perfect plan nor a right or wrong process of developing a plan, what is of importance is the contextualising the planning stages taking into consideration the educational needs, societal values, social needs and culture.

VI. Conclusion and recommendation

Findings of this investigation revealed that ICT program planning influence students' professional development in Cameroonian teacher training colleges. The results further showed that planning norms and planning process as variables of ICT program planning influence students' professional development at varying levels. ICT program planning quality in teacher training colleges influences knowledge construction, skills development, ability cultivation, and competences reinforcement. This is affirmed by John (1998) in Akintson (2011) who states that the comprehensive rationality as elaborated in the rationality theory direct and commend policymakers to translate values into policy. In so doing they should be assisted by planning institutions and organisations which operate in an effective, efficient, logical, and neutral manner. Therefore, based on the findings obtained from this study ICT program planning can be of good quality and highly positively impact students professional development, if variables of planning norms and planning processes are properly exploited in the course of planning in cameroonian teacher training colleges.

From the findings of this investigation, recommendations are made to school policy makers, educational planners, and the state. Policy makers on ICT program for teacher training colleges should always take in the consideration national and international norms when making ICT policies. This will facilitate quality ICT program development and planning hence students' professional development. Educational planners should respect the due processes involved in program planning, so as to render the planning processes valid and reliable. Also, the government and its stake holders involved in the educational planning in general and ICT program planning in particular under the supervision of the ministry of secondary education should ensure the effective and efficient ICT program planning which will remarkably improve students' professional development, so as to set high quality standards for the educational system. Therefore, huge investments should be made in the educational planning department as well as processes.

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