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Teachers' Concerns on the Implementation of the Standards-Based Curriculum in Ghana: A Case of New Juaben North Municipal

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Abstract

The success of an educational innovation depends on the extent to which players embrace and implement it in the classroom. The study adopted the Concerns Based Adoption Model to assess the stages of concerns of pre-tertiary school teachers in the New Juaben North Municipality on the standards-based curriculum's adoption in Ghana. Framed in the transformative philosophical paradigm, the study draws on survey design with quantitative approaches. The stages of concerns questionnaire of the CBAM was administered to 186 teachers sampled by convenience and stratified sampling approaches. The study found that the stages of concerns of teachers are ranked as consequence, informational, collaboration, personal, refocusing, management, and unconcerned; the socio-demographic attributes of teachers are not good predictors of their stages of concerns; with the exception of gender and the category of school teachers teach, statistically significant differences exists between their stages of concerns. Teacher engagement with curriculum committees to help identify students' and teachers' needs with the standards-based curriculum is recommended. Also, teachers should be involved in the development of future curricula. Attention should not be given to teachers based on their gender and whether they teach in public or privates schools because based on these variables, teachers are indifferent.

Keywords

Concerns, Teachers, Standards-Based Curriculum, Innovation

1. Background

The roots of modern curriculum thinking are traced to the first half of the 20th century when two American writers, Franklin Bobbitt (1918) and Ralph Tyler (1949) published their works on curriculum (Sahlberg, n.d.). These were the dominant in area and laid the fundamentals for curriculum theory and practice (Sahlberg, n.d.). There is no single definition for curriculum that is universally accepted (Hamilton, 2014; Wiles, 2008). In the words of Wiles (2008) cited in Kelly (2009), curriculum may be defined as the total experiences that take place in educational settings. According to Ackerman (2003), curriculum is now viewed as being at the centre of our daily life. Curriculum development is a systematic and dynamic process which is time and place sensitive where its preparation, development, implementation and evaluation steps are all involved (Jadhav & Patankar, 2013).

Curriculum reforms are all about change (Sahlberg, n.d.). According to Wallace and Priestley (2011), change has become a common vocabulary of modern-day life, and education has not been immune to this tendency. In recent times, there have been many attempts to implement new ideas, methods and processes in educational institutions and structures. These are aimed at addressing the needs of learners, teachers and lecturers, as well as industry and national policy. These innovations principally consider new teaching methods which would modify a teacher to become a learning manager such that students themselves can acquire relevant knowledge and skills to improve their performances in the world of work and in their communities (Mitchel, 2003; cited in Boahin & Hofman, 2012).

The Ghanaian government has worked hard to make educational outcomes meaningful and to turn school graduates into productive citizens (Kuyini, Yeboah, Das, Alhassan, & Mangope, 2016); Ghana, like many other developing countries, from the early 1990s, has observed many and ongoing educational and curriculum reform processes (Kuyini, Yeboah, Das, Alhassan, & Mangope, 2016). In 2017, the Government of Ghana tasked NaCCA to review the pre-tertiary curriculum in Ghana to respond to international best practice. In February 2019, the President of Ghana announced in his State of the Nation Address that Standard-based Curriculum was to be rolled out soon, and in September 2019, the government of Ghana implemented a new curriculum.

The new curriculum was aimed at addressing the problems with the old objective-based curriculum. These problems included content overload, limitations of the objective-based curriculum, and the inability of the assessment system to provide enough data which could be used to effect changes in how teaching and learning is carried out (Aboagye & Yawson, 2020). According to Ministry of Education (2018), there was the need for a situational shift from the objective based-curriculum to the standards-based approach because the existing curriculum was fraught with problems such as preparation of students for examination at the expense of the acquisition of essential skills for human capital develop-

ment. The new curriculum was adopted purposely to enhance the acquisition of reading, writing, arithmetic and creativity skills, at the primary school level. Strengthening the teaching of Mathematics was another intention for adopting the standards-based curriculum. Further, the curriculum aimed to reinstate topics such as the History of Ghana, and Physical Education and Sports, and make them pivotal parts for balancing education and development of important basic and lifelong skills (Aboagye & Yawson, 2020). The new curriculum as well aims to enhance the teaching and learning of French, focusing on learning with a learner-centered pedagogy and improving the use of ICT as a teaching tool, while emphasizing a pedagogy with a focus on equity, equality and inclusion (Ghana Web, 2019).

2. Literature Review

Teachers and curriculum innovations

Good understanding of change and clear conception of curriculum are necessary conditions for improved implementation of a new curriculum rolled into practice (Sahlberg, n.d.). Teachers over the world are important as they contribute to the success of educational reforms (Spillane and Callahan, 2000). Teachers played strategic consulting responsibilities in the development, implementation, and management of the 2014 new British Columbia educational curriculum (Gacoin, 2018). The development and formulation of the 2016 curriculum for basic schools was a co-created document by teachers and experts in Education across Finland and Managed by the Finnish National Agency for Education-a group of experts made up of teachers drawn from various fields (Lähdemäki, 2019). The knowledge, beliefs and perception of teachers are very significant in understanding curriculum reforms (Haney et al., 2002).

Characteristically of curriculum change, work intensifies, paperwork and bureaucracy increase, and teachers are left to feel increasingly disempowered and professionally marginalized (Helsby, 1999; Hursh, 2007; Ball, 2008; Wallace & Priestley, 2011). Teachers are not likely to accept the educational curriculum without questions and criticisms when they are not part of the reform process (Aboagye & Yawson, 2020). In the light of issues as these, MacDonald and Healy (1999) has recommended need to seek teachers' views when conducting a curriculum reform as the level of satisfaction of teachers with the new curriculum is directly proportional to their motivational levels.

***Theoretical underpinning—the Concerns-Based Adoption Model* (Hall et al., 1979)**

The Concerns-Based Adoption Model (CBAM) evolved out of the work of Frances Fuller (1969) and others in response to the innovation focus approach to educational change. The CBAM is premised on the assumption that: 1) change is a process; 2) change is individual; 3) the perceptions and feelings of individuals are crucial to successful implementation; 4) individuals proceed through stages in their feelings about perceptions of, and level of skill in the use of an innova-

tion; and 5) change facilitators must proceed systematically, assess regularly, and provide support continually (Marsh & Willis, 2007). Anderson (1997) avers that CBAM is a theoretically established method for measurement, description and explanation of different aspects of the implementation of curricular and instructional innovation. He adds that the model is "the most robust and empirically grounded theoretical model for the implementation of educational innovations to come out of educational change research in the 1970s and 1980s" (p. 331). The stages of concern, as it evolved, became the hallmark of CBAM work, and it provided a framework for understanding the personal side of the change process. Subsequent elements of CBAM: levels of use, innovation configurations, and the work of change facilitators (Hall & Hord, 1987; Hord, Rutherford, Huling-Austin, & Hall, 1987) emerged developmentally from ongoing research which were conducted on the change and adoption process. This study is grounded in the stages of concern component of CBAM and it is ideal to assess the various concerns teachers express in the process of implementing curriculum. **Table 1** presents the seven different stages of concerns that the implementers of an educational innovation are likely to have (Van den Berg, Sleegers, Geijsel, & Vandenberghe, 2000).

Table 1. Concerns of teachers on curriculum innovation.

IMPACT	6	Refocusing	The teacher focuses on exploring ways to reap more universal benefits from the curriculum, including the possibility of making major changes to it or replacing it with a more powerful alternative.
	5	Collaboration	The teacher focuses on coordinating and cooperating with others regarding use of the curriculum.
	4	Consequence	The teacher focuses on the curriculum's impact on students in his or her immediate sphere of influence. Considerations include the relevance of the curriculum for students; the evaluation of student outcomes, including performance and competencies; and the changes needed to improve student outcomes.
TASK	3	Management	The teacher focuses on the processes and tasks of using the curriculum and the best use of information and resources. Issues related to efficiency, organizing, managing, and scheduling dominate.
SELF	2	Personal	The teacher is uncertain about the demands of the curriculum, his or her adequacy to meet those demands, and/or his or her role with the curriculum. The teacher is analyzing his or her relationship to the reward structure of the organization, determining his or her part in decision making, and considering potential conflicts with existing structures or personal commitment. Concerns also might involve the financial or status implications of the program for the teacher and his or her colleagues.
	1	Informational	The teacher indicates a general awareness of the curriculum and interest in learning more details about it. The teacher does not seem to be worried about himself or herself in relation to the curriculum. Any interest is in impersonal, substantive aspects of the curriculum, such as its general characteristics, effects, and requirements for use.
	0	Unconcern	The teacher indicates little concern about or involvement with the curriculum.

Source: Hall et al. (1979).

Empirical studies on concerns of teachers on curriculum changes

Research and studies on curriculum innovation in Ghana is limited. However, the stages of concern aspect of the concerns-based adoption model [CBAM] (Hall, Wallace, & Dossett, 1973), have been used by studies such as Ani-Boi (2009), Kwarteng (2009), Ankomah and Kwarteng (2010), Cobbold and Ani-Boi (2011), Acquah (2012), Donkoh (2016), Kwarteng (2016), and Agormedah, Ansah, Betakari and Parker (2019) to assess the concerns of teachers with the implementation of some innovations. A research study by Cobbold and Ani-Boi (2011) which adopted and used CBAM stages of concern questionnaires sought data from primary school teachers about their concerns on the 2007 educational reform in Ghana. This study found that teachers had high personal and management concerns with low informational concerns. Kwarteng (2009) assessed the concerns of accounting teachers about the state of the accounting curriculum implementation. Kwarteng (2009) found that accounting teachers at senior high schools had their first and second high concerns at awareness and personal stages respectively with low concern at refocusing stage. Also, despite the no application of the CBAM, Acquah (2012)'s research study examined the implementation of the ICT curriculum in Ghanaian basic schools and found that teachers have positive perceptions towards the teaching of ICT in primary schools.

3. Problem Statement and Research Questions

Kpedator (2019) avers that various unfortunate incidents characterized government's refusal to listen to the various complaints of the teachers during the workshop that was organized to train and prepare teachers following the adoption of the standards-based curriculum in Ghana. Principal of the teachers' complaints were related to lack of and or inadequate learning materials to support the implementation of the curriculum, and a congenial atmosphere that would enhance the successful implementation of the curriculum. Accounts of teachers demonstrate that the promise of the government to supply needed teaching and learning material to enhance the implementation of the standards-based curriculum has not been fulfilled. Relevant literature has it that the success of an educational innovation is dependent on the extent by which actors, in this case teachers, embrace and adopt it in the classroom (Adentwi & Sarfo, 2011). Teachers' significance in the curriculum reform process is often marginalized as the process is centralized in Ghana (Carl, 2005; Oloruntegbe, Duyilemi, Agbayewa, Oluwatelure, Dele, & Omoniyi, 2010; Sarfo, Amankwah, Baafi-Frimpong, & Asomani, 2017), and this often leads to the development and arousal of concerns (Kwarteng & Boateng, 2012). More pressing factors that might affect the implementation are the personal characteristics and the concerns of the actors involved in the implementation (Van den Berg & Ros, 1999). Various studies point to the fact that the concerns of the implementers of the innovation are critical to the success of the implementation process (Fuller, 1969; Richardson, 1990). After the introduction of the Standards-based Curriculum, few empirical

studies have been conducted to establish the concerns of basic school teachers in Ghana. There is a dearth in relevant studies in the New Juaben North Municipality of Ghana. The primary focus of the study is therefore to empirically establish the stages of concerns of pre-tertiary school teachers in the New Juaben North Municipality. As a result of the identified gap in knowledge and literature, this study has been conducted to assess the implementation of the standards-based curriculum by addressing the following research questions.

1) What are the stages of concern of teachers in New Juaben North Municipality on the standards-based curriculum?

2) What demographic attribute of teachers predict their concerns with the implementation of the standard-based curriculum?

3) What are the differences in stages of concerns of different teachers?

4. Research Design

The study is framed in the transformative philosophical worldview and adopts a quantitative design. Specifically, the study adopted the survey design. The choice of the survey design framed in the transformative philosophical paradigm was aligned with a justification by Creswell and Creswell (2018). According to them, the transformative philosophical paradigm places central importance on the study of lives and experiences of diverse groups that have traditionally been marginalized. Mertens (2010) posits that, the transformative worldview holds that research inquiry needs to be intertwined with politics and political change, to confront social oppression at whatever level it occurs. Creswell and Creswell (2018) views that, in the transformative worldview, specific issues such as empowerment, inequality, oppression, domination, suppression, and alienation need to be addressed. Integrating this into the context of this study, the issue with marginalization of teachers, the implementers of the curriculum in curriculum reforms which has called for problems with the implementation of the curriculum is the case. The survey design was adopted because the study's primary purpose was to ascertain the stages of concerns of teachers; this would be prohibitively difficult with other designs as the associations between variables were sought rather than the causes (Creswell & Creswell, 2018). Also, they contend that the survey design is ideal for generalizing from a sample to the entire population, as it offers a quantitative overview of patterns, behaviours or views of a population by studying a sample of that population (Fowler, 2008; Creswell & Creswell, 2018).

The study sought quantitative data by administering an electronic questionnaire of items of closed-ended forms to access teachers' bio-demographic characteristics, and items of Likert-scale forms based on the CBAM stages of concerns questionnaire (Hall et al., 1979), to 186 pre-tertiary school teachers in the New Juaben North Municipality. The 186 was arrived at following the formula for computing sample size by Krejcie and Morgan (1970). According to Krejcie and Morgan (1970); cited in Sarantakos (2012), for a population size of 350, a

sample size of 186 is ideal to be representative; given the formula as $s = \frac{X^2 NP(1-P)}{d^2(N-1)} + x^2 P(1-P)$, where x^2 is the table value of chi-square for 1 degree of freedom (3.841), N is the population size, P is the population proportion, and d is the degree of accuracy. The 186 pre-school teachers were sampled by convenience sampling. This technique was adopted because every single teacher in the population could give the data the study sought, and as well, the sample frame was readily available and easy to reach by the method adopted for the administration of the instrument. However, Neuman (2014) avers that when a study selects cases based on convenience, the sample can seriously misrepresent features in the entire population. To overcome this weakness of sampling by convenience, the stratified sampling was adopted where the stratification of the teachers was done for the levels they teach. In this, four strata were identified as pre-school teachers, primary school, junior high school, and senior high school teachers. Within every stratum was where the convenience sampling technique was employed to select at least 47 teachers. This was done by sending the URL of the electronic questionnaire to the social media platforms whose memberships are unique to the teachers in the strata identified. Teachers were requested to attend to the instrument at their willing, and on getting the 47th response for the first two strata, the study stopped receiving responses from such groups. The last two strata received up to the 46th response to achieve the required number of teachers' the study sought.

Data from the electronic questionnaire was exported as a CSV file readable in Microsoft Excel. The data was managed and organized in Excel and was imported into Statistical Package and Service Solutions (SPSS) version 20 to be analysed. The data was analysed in SPSS using descriptive and inferential statistics where means with standard deviations, linear multiple regression, independent sample t-test, and analysis of variance (ANOVA) were run. A Cronbach's Alpha value of .854 was found for the data. This suggests a very good internal consistency reliability for the scales with this sample.

5. Data Analysis and Discussions

Socio-demographic characteristics of respondents

The study sought information from 186 pre-tertiary school teachers in the New Juaben North Municipality. Of these 186 teachers, 127 were males. This is not a guarantee that there are more male teachers than female teachers. Despite other studies have expressed that the Ghanaian Educational System continues to show a bias in gender distribution in favour of males, the case found in study shows an extremely higher difference. Information obtained from available literature indicates that there are more male teachers than female teachers but the average ratio found is less than what is found in this study (**Table 2**).

With the ages of teachers, the study found that the teaching force at the pre-tertiary schools in the New Juaben North Municipality is a youthful one.

Table 2. Socio-demographic characteristics of teachers.

Variable	Response	Frequency	Percent
Gender	Male	127	68.3
	Female	59	31.7
Age	20 - 25 years	37	19.9
	26 - 30 years	67	36.0
	31 - 35 years	39	21.0
	36 - 40 years	29	15.6
	41 - 45 years	9	4.8
	46 years and above	5	2.7
Years in service as a teacher	Less than 1 year	28	15.1
	1 - 5 years	102	54.8
	6 - 10 years	18	9.7
	11 - 15 years	22	11.8
	16 - 20 years	13	7.0
	21 years and above	3	1.6
Certificate of highest level of education attained	Teachers' Cert A	6	3.2
	Diploma	98	52.7
	Bachelor's degree	74	39.8
	Master's degree	8	4.3
Level teacher teaches	Preschool	46	24.7
	Lower primary	24	12.9
	Upper primary	23	12.3
	Junior high school	47	25.3
	Senior high school	46	24.7
Type of teacher	Professional teacher	171	91.9
	Non-professional teacher	15	8.1
Type of school	Public school	175	94.1
	Private school	11	5.9
Total		**186**	**100.0**

Source: Field Data (2021).

The age proportion of the teaching workforce shows that about 86% of the teachers are up to 35 years or below, with only about 3% constituting teachers above 46 years. With this age structure, the study further found that about 55% of the population have been in service for 1 to 5 years. This is logical because considering the age structure above and the time teachers spend in college or

university to be trained as teachers, a youthful teacher population would mean fresher teachers in the schools' environments; 15% of the teachers have spent less than a year in service. A lot of the teachers (53%) have Diploma level qualifications from colleges of education. 3% however hold Teacher Certificate "A". this finding also integrates into and justifies the youthful teacher population structure. "Old teachers" are the holders of the teacher's certificate "A", so as youthful as the population is, it is expected that as a youthful population is observed, the more Diploma certificate holders would be found. A reasonable number of teachers also indicated that they hold Bachelor's degrees. Following the directive by the Ghanaian Educational Service to enforce the minimum of a bachelor's degree for the Ghanaian teacher, it was also expected that there would be a considerable number of teachers having up to the bachelor's degree level. Again, for the sampling approach adopted by the study, almost equal numbers of teachers from the 4 strata were found. The category of teachers reveals that about 92% of the teachers in the Municipality are professional teachers and about 94% are working in public schools.

Stages of concern of teachers in New Juaben North Municipality on the standards-based curriculum

Addressing the first research question, the study presents the stages of concerns of teachers in the New Juaben North Municipality, following the implementation of the Standard-based Curriculum. As shown in **Table 3**, the highest concern of the teachers in the municipality is at the consequence stage (M = 4.7, Std. D = 1.08). According to the CBAM, this is evidence that the pre-tertiary school teachers in the New Juaben North Municipality are focused on the impact the Standard-based Curriculum has on their students. According to Sarfo, Amankwah, Baafi-Frimpong, and Asomani (2017), particular attention is paid by teachers on how relevant the Standards-based Curriculum is for students' academic progress. With consequence being the highest ranking concern of the teachers in the municipality, it implies these teachers have less knowledge on the impact the Standards-based Curriculum has on learners. Caswell and Campbell (1935) recommended that teacher engagement with curriculum committees

Table 3. Teachers concerns on the standards-based curriculum.

Stages of concern		Mean	Std. Deviation	Rank
Stage 4	Consequence	4.7108	1.07733	1ST
Stage 1	Informational	4.7054	1.18754	2ND
Stage 5	Collaboration	4.6978	1.06161	3RD
Stage 2	Personal	4.6075	1.19844	4TH
Stage 6	Refocusing	3.8527	1.07835	5TH
Stage 3	Management	3.6183	1.14443	6TH
Stage 0	Unconcerned	2.4602	1.23053	7TH

Source: Field Data (2021).

would help teachers to match content with students' needs; this was in support of Rugg and Shumaker (1928) who pointed out that teachers' involvement in the curriculum development is critical and hence suggested that teachers should work with curriculum experts to organize content and materials.

The second highest concern of the teachers in the New Juaben North Municipality is at the informational stage. This is an expression that these pre-tertiary school teachers are aware about the Standard-based curriculum. Impliedly, teachers have assumed implementation of the Standards-based Curriculum and that, they seek information about the curriculum. Integrating this into the highest concern connotes that teachers' next concern is with seeking information about the Standards-based curriculum and its impact on their learners. The strong and statistically significant positive correlation (r = 0.618, *p*-value = 0.000) indicates that the more teachers become concerned about the impact the curriculum has on their students, the more they desire and worry about relevant information about the Standard-based Curriculum.

The next highest ranked concern of the teachers in the Municipality following the adoption of the new Standards-based Curriculum is at Stage 5; Collaboration. The collaboration stage has that teachers focus on and are concerned with how they can offer or be offered technical support with the implementation of the Standards-based Curriculum. Teachers therefore are concerned about how they would share lessons with other teachers about the standards-based curriculum. The statistically significant and moderate positive correlation (r = 0.441, *p*-value = 0.000) between Consequence (Stage 4) and Collaboration (Stage 5) expresses that teachers considered in the study rely on their colleague teachers in order to get answers to the problem with their concerns at Consequence.

The fourth highest rated stage of concern is at the personal stage. This expresses that after concerns at collaboration are addressed, teachers in the municipality become concerned about how the strategies adopted would affect them personally. Teachers become concerned about how their financial status would affect or be affected by the standard-based curriculum. They consider their remuneration and what the implementation of the standards-based curriculum would require of them.

After the personal stage comes the fifth, refocusing. The study revealed that after the personal concerns are expressed, pre-tertiary school teachers in the New Juaben North Municipal consider issues with refocusing. In this, teachers focus on exploring alternatives to the standards-based curriculum or some aspects of it. Over here, the teachers indicated that they become concerned about evaluating their personal concerns. When they are personally demotivated, the refocusing is subject to mar the effectiveness of the implementation of the curriculum and its intended objectives would not be achieved.

What demographic attribute of teachers predict their concerns with the implementation of the standards-based curriculum

A standard multiple regression was conducted to assess how the seven variables which make up the teachers' socio-demographic characteristics predicts

the stages of concerns of teachers and the results are presented in Table 4 and Table 5. The regression model found that the socio-demographic characteristics of teacher could only explain 8.9% of the variance in the stages of concerns of teachers. This connotes that the socio-demographic characteristics of teachers do not greatly influence their stages of concerns despite significance. Only 8.9 percent of the teachers' stages of concerns could be explained by their socio-demographic characteristics. This hints that there are other factors outside the scope of this study that influence the stages of concerns of teachers.

Attempts to find the unique contributions by the independent variables (socio-demographic attributes) to the explanation of the stages of concerns of teachers in the New Juaben North Municipal revealed that the number of years that teachers have spent in service makes the highest unique but statistically not significant contribution to the stages of concerns of the teachers (Beta = −0.183; p = 0.162). This is followed by the highest qualification attained by teachers (Beta = 0.142; p = 0.244). In respective order of decreasing magnitude of contribution, the school level teachers teach, the school category teachers teach, the age of teachers, and the type of teacher teachers are make no statistically significant contribution to explaining the variance in the stages of concerns of teachers.

Table 4. Model summary of demographic characteristics that predict teachers' stages of concerns.

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.298	0.089	0.053	0.75265	0.089	2.481	7	178	0.019

Source: Field Data (2021). Predictors: (Constant), school category, age, gender, teaching level, highest academic qualification, attained years spent in service, teacher professionalism. Dependent Variable: Stages of concern.

Table 5. Coefficients of demographic characteristics that predict the stages of concerns of teachers.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	4.862	0.537		9.049	0.000	3.802	5.923					
	Gender	−0.073	0.141	−0.044	−0.520	0.604	−0.352	0.205	−0.028	−0.039	−0.037	0.707	1.414
	Age	0.015	0.073	0.025	0.210	0.834	−0.129	0.159	−0.206	0.016	0.015	0.365	2.742
	Years in service	−0.120	0.085	−0.183	−1.404	0.162	−0.287	0.048	−0.252	−0.105	−0.100	0.301	3.326
	Highest qualification	−0.174	0.149	−0.142	−1.168	0.244	−0.467	0.120	−0.263	−0.087	−0.084	0.346	2.894
	Teaching level	−0.043	0.078	−0.056	−0.553	0.581	−0.196	0.110	−0.065	−0.041	−0.040	0.497	2.012
	Professionalism	0.050	0.407	0.017	0.122	0.903	−0.754	0.853	0.109	0.009	0.009	0.248	4.040
	School category	0.098	0.522	0.030	0.189	0.851	−0.931	10.128	0.120	0.014	0.013	0.201	4.974

Source: Field Data (2021). Dependent Variable: Stages of concern.

Differences in stages of concerns of different teachers

Independent sample t-test was conducted to compare the stages of concern scores for the gender of teachers, the type of teacher, and the school category of teachers. As shown on Table 6, the significance level of Levene's test for gender and type of teacher are all less than $p = 0.05$. These expresses that the variances for the two groups in either of gender and the type of teacher are not the same and hence violate the assumption of equal variances. Therefore, values for equal variances not assumed are used in assessing the differences in teachers' stages of concerns. For gender, the test revealed no statistically significant differences between the stages of concerns of male teachers (M = 4.108; SD = 0.666) and female teachers (M = 4.062; SD = 0.971) on the implementation of the standards-based curriculum (t (84.301) = 0.333; $p = 0.74$). The magnitude of the differences in the means (mean difference = 0.04649, 95% confidence interval: −0.23096 to 0.32393) was very small (eta squared = 0.0006). A t (41.680) = −3.332; $p = 0.002$ which expresses a statistically significant difference between the stages of concerns of professional teachers (M = 4.0683; SD = 0.79829) and non-professional teachers (M = 4.3771; SD = 0.27002) was found. The test also found that the differences in the means (mean difference = 0.30881, 95% confidence interval: −0.49586 to −0.12175) was moderate (eta squared = 0.0569). For the category of school where teachers teach, the independent sample t-test found

Table 6. Independent sample t-test comparing the means of socio-demographic characteristics of teachers on their stage of concerns on the standards-based curriculum.

			Levene's Test for Equality of Variances		t-test for Equality of Means						
			F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
										Lower	Upper
Concerns	Gender	Equal variances assumed	8.773	0.003	0.381	184	0.704	0.04649	0.12214	−0.19449	0.28746
		Equal variances not assumed			0.333	84.301	0.740	0.04649	0.13953	−0.23096	0.32393
	Professionalism	Equal variances assumed	4.455	0.036	−1.488	184	0.139	−0.30881	0.20760	−0.71839	0.10078
		Equal variances not assumed			−3.332	41.680	0.002	−0.30881	0.09267	−0.49586	−0.12175
	School category	Equal variances assumed	2.841	0.094	−1.639	184	0.103	−0.39230	0.23933	−0.86449	0.07989
		Equal variances not assumed			−3.900	23.402	0.001	−0.39230	0.10058	−0.60016	−0.18443

Source: Field Data (2021).

that the Levene's test for equality of variances does not violate the assumption of equal variances. Therefore, as shown on Table 6, a statistically not significant differences were found between public school teachers' (M = 4.07; SD = 0.78914) and private school teachers' (M = 4.4623; SD = 0.26858) stages of concerns, as a t (184) = −1.639; p = 0.103 was found. A very small effect size (eta squared = 0.014) was found for the magnitude between the differences between the means (mean differences = −0.39230, 95% confidence interval: −0.86449 to 0.07989).

A one-way between group analysis of variance was conducted to explore the differences in the stages of concerns of teachers based on ages of teachers, teachers' highest academic qualification attained, the school level teachers teach, and the number of years that teachers have spent in service. The one-way ANOVA found that there are statistically significant differences in the stages of concerns of teachers based on these socio-demographic variables. At p < 0.005, the one-way ANOVA found: F (5, 180) = 7.05, p = 0.000 for the differences in the stages of concerns of teachers based on their age; F (3, 182) = 11.927, p = 0.000 for teachers' highest qualification attained; F (4, 181) = 3.313, p = 0.012 for the school level teachers teach; and for the number of years that teachers have spent in service, F (5, 180) = 15.042, p = 0.000 was found. The eta squared statistics computed were 0.164 indicating a large effect size for the ages of teachers; 0.164 for the highest academic qualification teachers have attained which expresses a large effect size; 0.068 indicating a moderate effect size for the school teachers teach; and 0.295 for the number of years that teachers have spent in services, expressing a large effect size.

Post-hoc comparison using the Tukey HSD test indicated that for the mean scores for the pairs of ages of teachers which were found to be statistically different from each other were: 20 to 25 (M = 4.3243, SD = 0.36329) and 31 to 35 (M = 3.37575, SD = 0.76945); 20 to 25 (M = 4.3243, SD = 0.36329) and 36 to 40 (M = 3.6187, SD = 0.47591); 26 to 30 (M = 4.3207, SD = 0.92464) and 31 to 35 (M = 3.37575, SD = 0.76945); 26 to 30 (M = 4.3207, SD = 0.92464) and 36 to 40 (M = 4.3207, SD = 0.92464); 36 to 40 (M = 4.3207, SD = 0.92464) and 46 to 50 (M = 4.6857, SD = 0.000), for the highest qualification teachers have attained, the mean scores for diploma (M = 4.3469, SD = 0.54872) and bachelor's degree (M = 3.71, SD = 0.92455), and bachelor's degree (M = 3.71, SD = 0.92455) and master's degree (M = 4.4286, SD = 0.35489) were statistically significantly different from each other. Teachers certificate "A" (M = 4.2286, SD = 0.00) did not differ significantly from diploma (M = 4.3469, SD = 0.54872), bachelor's degree (M = 3.71, SD = 0.92455), and master's degree (M = 4.4286, SD = 0.35489). Also, diploma (M = 4.3469, SD = 0.54872) was found to be statistically not significantly different from master's degree (M = 4.4286, SD = 0.35489). Post-hoc comparison for the school level teachers teach reveals that only junior high school (M = 4.2996, SD = 0.50565) and senior high school (M = 3.7676, SD = 0.94674) were statistically significantly different from each other. Finally, on the number of years that teachers have spent in service, the post-hoc comparison

with Tukey HSD test revealed that there is a statistically significant difference in the stages of concerns between teachers who have spent less than one year in service (M = 4.5327, SD = 0.25475) and teachers who have spent 6 to 10 years in service (M = 3.8984, SD = 0.64948), and those who have spent 11 to 15 years in service (M = 3.074, SD = 0.73632). Also, statistically significance differences are found between teachers who have spent: 1 to 5 years in service (M = 4.1675, SD = 0.75298) and 11 to 15 years in service (M = 3.074, SD = 0.73632); 6 to 10 years in service (M = 3.8984, SD = 0.64948) and 11 to 15 years in service; and 11 to 15 years in service (M = 3.074, SD = 0.73632) and 16 to 20 years in service (M = 4.5802, SD = 0.20047) (Table 7).

Table 7. One-way ANOVA.

	Concerns	Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	18.124	5	3.625	7.050	0.000
	Within Groups	92.547	180	0.514		
	Total	110.671	185			
Highest qualification	Between Groups	18.183	3	6.061	11.927	0.000
	Within Groups	92.488	182	0.508		
	Total	110.671	185			
Teaching level	Between Groups	7.549	4	1.887	3.312	0.012
	Within Groups	103.122	181	0.570		
	Total	110.671	185			
Years spent in service	Between Groups	32.615	5	6.523	15.042	0.000
	Within Groups	78.056	180	0.434		
	Total	110.671	185			

Source: Field Data (2021).

6. Conclusions and Recommendations

As put forth by Adentwi and Sarfo (2011), the success of an educational innovation is dependent on the extent to which actors embrace and implement the innovation in the classroom. According to Fuller (1969) and Richardson (1990), various studies have it that the concerns of the implementers of the innovation are essential to the success of the implementation process. For this reason, this study found the need for and therefore assessed the concerns of teachers on the introduction of the standards-based curriculum. The study found that the highest concerns of pre-tertiary school teachers in the New Juaben North Municipality were at the consequence stage. The study therefore concluded that teachers in the Municipality have started with implementing the standards-based curriculum in their respective classes. However, the study identified that the teachers

are concerned by how their learners will be influenced by the standards-based curriculum. It is recommended that teachers should engage with curriculum committees to help teachers to identify students' needs and the impact the standards-based curriculum will have on students to be able to match content with students' needs. Also the study recommends that teachers should be involved in the curriculum development where teachers would work with curriculum experts in organizing content and materials. The study found that the socio-demographic characteristics of teachers significantly but only explain teachers' concerns to a small extent. Also, as the study found that no differences exist in the stages of concerns between male and female teachers, and public and private school teachers. The study therefore in this respect recommends that the curriculum review policies and processes should consider other attributes of teachers to be able to influence reviews in the use of the curriculum. Lastly, curriculum interventions to address differences in concerns of different teachers should not give attention to teachers based on differences in their gender or differences in whether they teach in public or private schools. This is because male and female teachers, as well as public and private school teachers are indifferent in terms of their stages of concerns on the new standards-based curriculum. It is suggested that qualitative approach and hypotheses be used in future research.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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