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Comparative Assessment of Competency of Sewing and Food and Nutrition Teachers in Junior High Schools in the Ashanti Region of Ghana

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Abstract:

In Ghana, Home Economics Teachers prefer to Food and Nutrition than Sewing at the Junior High Schools level. This has made many stakeholders to question the competency of the teachers. In view of this, this study assessed the competency of Home Economics Teachers for Sewing and food and Nutrition. The study gathered data from 377 Home Economics Teachers from selected Junior High Schools that offer Home Economics in the Ashanti Region, Ghana. The study used Mean, Standard Deviation and Independence Samples t Test for the analysis. The study adapted Shulman's (1987) Pedagogical Content Knowledge to assess the competency of the teachers. The respondents had higher mean scores for all the competency constructs for Food and Nutrition than Sewing. The respondents had moderate competency in Sewing but high competency in Food and Nutrition. Teachers should be given periodic in-service training on the practical aspect of sewing to enable them improve upon their instructional presentation and strategies during Sewing lessons. The Teachers should be encouraged to develop the interest in reading the syllabus and the current textbooks for sewing to improve their content knowledge in the subject.

Keywords: Competency, sewing and food and nutrition

1. Introduction

Formal education is the process of acquiring knowledge and skills in a well-structured environment. In Ghana, formal education is categorized into Basic Education, which is made up of Kindergarten, Primary School and Junior High Schools; Second Cycle Education, which constitutes Senior High Schools, Technical and Vocational Schools; and Tertiary Education, which comprises Universities, Colleges (such as Colleges of Education and Nursing, etc.) and Polytechnics (Ministry of Education, 2013).

Basic education takes about eleven years from 4 years to 11 years in the life of a child in Ghana. Basic education is the minimum period of schooling needed for a Ghanaian child to acquire basic knowledge and skills in literacy, numeracy and creativity to solve basic life problems, ranging from health to social issues (Ministry of Education, 2013). It has, therefore, been acknowledged as a very important stage of schooling in every individual's life and for national development (Atuahene, 2014). Generally, education equips the individual with knowledge and skills for self and societal development.

One of the courses designed for Basic Schools, particularly Junior High Schools in Ghana is Basic Design and Technology (BDT). Basic Design Technology comprises of Home Economic, Pre-technical Skills and Visual Arts. Home Economics comprises of sewing and food and nutrition at the basic level. A student in Junior High School has the liberty to choose between Home Economics and Pre-technical Skills. The main goal for introducing BDT is to help students acquire vocational skills through formal education, to pave way for self-employment and hired employment.

However, relative to other subjects, the interest in Home Economics, particularly sewing (which was previously referred as clothing and textile) is low (Kudonoo, 2018). One of the ways to revive the interest of students in Home Economics is to relook at the teaching of the subject. Teaching is an attempt to bring about desirable changes in human learning, abilities and behavior in order to contribute to better living. Teaching helps people to gain the knowledge, skills and attitudes needed to be responsible citizens. It is also a means of passing knowledge to the next generation (Lado, 2014). Awotua-Efebo (2015) sees teaching as an interaction between a teacher and a student under the teacher's

responsibility, in order to bring about the expected change in the students behaviour. According to Gagne and Briggs (2018), the purpose of teaching is to help students to acquire, retain and to use knowledge to understand, analyze, syntheses and evaluate skills, establish habits and develop attitudes. Carkhuff (2015) noted that teaching is the opportunity to help others to live their lives fully, which means giving learners' lives through their physical, emotional, intellectual and social growth.

Chiappetta and Koballa (2017) have noted that teachers' competency is critical to teaching. According to Shulman's (1987) Pedagogical Content Knowledge, teacher competency comprises of level of teacher's knowledge on instructional objective and context, subject-matter, instructional presentation and strategies and students' understanding. In the view of Felder, Woods, Stice and Rugarcia (2016), competent teacher's exhibit ten powerful instructional principles and these are: meaningfulness, prerequisites, open communication, organized essential ideas, learning aids, novelty, modeling, active appropriate practice, pleasant conditions and consequences, and consistency. Phipps (2014) added that competent teachers exhibit democratic behavior, have good and requisite knowledge and skills, involve students in teaching and adopt learning by doing approach, motivate students learn more about a given topic, are well organized during lessons and give feedback to students on their performance.

In Ashanti region, Ghana, Alkali (2017) bemoaned that only 3% of those who were trained in Colleges of Education teach clothing and textile (now called sewing under the new syllabus). He attributes this to ill preparation of the graduates whose training does not equip them with the requisite knowledge and practical skills in clothing and textile. In Ghana, Ashanti Region for example, almost all Junior High Schools have only one teacher teaching Home Economics (Ashanti Region Educational Directorate, January, 2020). It is also reported that almost all teachers handling Homes Economics in Junior High Schools are bias towards food and nutrition at the expense of sewing, even sewing constitutes greater proportion of Home Economics Basic Education Certificate Examination (BECE) (Ministry of Education, 2019). Obrifor (1993) and Aiyede (1995) found that 55% and 70% respectively preferred to teach food and nutrition. These concerns have raised the issue of competency of teachers in Home Economics as a subject in Ghana.

This study therefore assessed the competency of Home Economics Teachers through comparative analysis. This study is imperative in that it would help stakeholders in Ghanaian education to be aware of areas where Homes Economics Teachers are weak for quick interventions to equip the teachers with regards to their competencies. The next sections of the paper focused on literature review, methods and materials, results and discussions and conclusions and recommendation.

2. Literature Review

The literature in this study is grouped under theoretical review, conceptual review and empirical review as follows;

2.1. Theoretical Review

This section provides a review of the theory underlying this research. The main theory underlying this study is the self-efficacy theory. Based on this theory, the main arguments of the study are advanced. Bandura's theory of self-efficacy derives from social cognitive theory (Bandura, 1977). The theory arose when Bandura became aware that the theory of social learning had a missing aspect. According to Bandura (1977), beliefs in self-efficacy are central to human functioning. Artino (2006) argues that, under any given circumstances, a person must possess the requisite knowledge and skills, as well as the motivation and perception needed to exhibit the required actions successfully. In addition, his theory notes that self-efficacy is based on one's assessment of one's ability to carry out a given duty (Skaalvik&Skaalvik, 2007).

It is important to remember that the opinions of people regarding their effectiveness may have different impacts. In the relationship where one's effectiveness values dictate success and performance dictates the outcome; many educational researches have examined these facts (Johnson, 2010). Johnson (2010) further argues that these beliefs influence the courses of action people choose to pursue, how much effort they put forth in a given endeavor, how long they will persevere in the face of obstacles and failures, their resilience to adversity, whether their thought patterns are self-hindering or self-aiding. Self-efficacy, according to Bandura (1997), is the confidence in one's ability to coordinate and implement the action courses required to handle prospective circumstances. Such convictions influence attitudes and inevitably performance outcomes (Bandura, 1977). As a consequence, individuals who witness others conducting intimidating responses without adverse effects are more likely to assume that their attempts at the same action will be successful.

The key explanation why the self-efficacy theory of Bandura (1977) was important to this study was that the attitudes (commitment), the affective (emotional and psychological elements, satisfaction) as well as overall competence of teachers are aggregately barometric methods for deciding the results of learners.

2.1.1. Teachers' Competency

Teacher's competency has four components and these are instructional presentation and strategies, subject matter, instructional objective and knowledge of students' understanding.

2.2. Instructional Presentation and Strategies

Instructional presentation and strategies are the ways the teacher plans and leads a class. An effective teacher often becomes a professional leader who thinks, reflects and implements (Wong & Wong, 2019). This leadership role has several qualities that will help to oversee the running of a classroom. Some of these qualities might include having plans, goals and vision, motivating and inspiring others, working well with others and being passionate about what they are

doing and focused. Many teachers have different management styles that they prefer to use on a day-to-day basis. This will be due to individual preference, personality and values of the teacher.

Levin and Nolan (2010) suggested that there are many different teaching strategies and management styles that teachers can use to promote good classroom management. These include student directed management, collaborative management and teacher directed management. The purpose of the student directed approach is to build and create a community of learners in which they work productively together and care for one another. This would mean that in a collaborative classroom, the learning process is joint with student and teacher. Similar to the student directed approach; students are given a chance to control their own behaviour. This gives students a chance to be responsible for their own learning process and behaviour.

One of the most important factors in a well-run classroom is the use of encouragement and positive reinforcement. This strategy links in with the teacher's behaviour and beliefs. If a teacher has high expectations for all of their student's then positive encouragement, feedback and praise will come naturally and part of teacher's attitudes. Teachers serves as a powerful model in providing examples of ways for students to support each other with words of encouragement, questions for clarification and entry for collaboration. From this, teachers are powerful agent of creating a positive and comfortable environment for the children to learn (Hardin, 2012). Through the use of positive feedback and encouragement the students could start to model the practices of the teacher and may apply this to their own relationships with peers and others. This effective strategy is one that is crucial to students who need reassurance. If the teacher is constantly providing feedback and encouragement to all then an inclusive classroom will be built which will have many advantages for the future.

2.3. Subject Matter Knowledge

Subject-matter knowledge is a component of content knowledge. Ball et al. (2018) interpreted content knowledge as knowledge of the subject and its organizing structure, implying that content knowledge is an overarching category which includes subject-matter knowledge. Shulman (1987, p.9) talks of three kinds of content knowledge – 'subject-matter content knowledge, pedagogical content knowledge and curricular knowledge'.

There is a saying that primary teachers know how to teach children - secondary teachers know how to teach subjects. The sentiments embodied in the statement are exemplified by the world wide distinction between primary and secondary school teacher education (Evagorou et al., 2015). In most countries, primary school teachers tend to teach across more disciplines so their subject matter preparation is spread across different disciplines and also receives lower emphasis on the subject-matter knowledge preparation in terms of both level and proportion of time allocated (Evagorou et al., 2015).

2.4. Instructional Objectives

Instructional objectives are descriptions of an outcome of action. Instructional objectives are statements that describe what a learner must be able to do after completing a unit of instruction (Edinyang, 2016). It is normally expressed in behavioral terms using action verbs including write, draw, paint, describe, explain, applying, enumerate, discuss, analyse, comment, argue, determine among others (Edinyang, 2016). This is to say that whereas aims do tend to describe a philosophy of education, objectives specify what is intended as observable and measurable, action-oriented statement of intention of an educational programme.

Because instructional objectives specify exactly what is supposed to be learned, they are helpful to both the learner and the teacher throughout the learning process as they help to clarify instruction and assessment of the lesson and the teacher.

2.5. Knowledge of Student Understands

This is the ability of clothing and textile teachers to know the knowledge of their students on clothing and textile. Knowledge of students ranks high among the teacher capabilities identified by both professional standards documents (Council of Chief School Officers, 2011). Such knowledge is taught to enable a variety of effective classroom strategies, including adjusting the pacing of instruction based on student need, forming appropriate instructional groups, facilely assessing student understanding and misunderstanding in the moment (Johnson & Larsen, 2012), designing instruction to address common student misconceptions (Stein, Engle, Smith, & Hughes, 2008), and designing tasks and questions to further student understanding.

3. Empirical Review

This section provides a review on empirical literature on the theme of the competence of home economics teachers in Ghana. Based on the key gaps identified in this section, key arguments concerning the study are advanced.

Pioneers of educational research such as Walter and Fanslow,(1980) in their work, which examined 'The Professional Competence of Home Economics Teachers in Middle School' sought to identify the skills that are distinctive to middle school instructors in general, and especially to middle school home economics teachers. The researchers used structured questionnaires to collect information from 139 Illinois instructors. To determine the competence of home economics instructors in diverse Illinois middle schools, the researcher used quantitative approaches such as sample means, standard deviation, and correlation matrices. Home economics and general subject matter teachers are both regarded to combine comprehension of the transescent with all other teaching behaviours, according to the authors. The comparability of the MID and NEC Management of Teaching clusters revealed that the home economics teacher in the middle school was thought to require many of the same skills as other subject area instructors.

The pioneering work of Walter and Fanslow serves as a ground breaking empirical analysis into the level of competence of home economics teachers. However, the time of conduct of their research which is in the 1980s limits the applicability of their findings in the modern era where teaching and learning has evolved. Also, the use of indicators such as the MID and NEC are outdated in terms of measuring teaching competencies of home economics teachers. Finally, the geographical scope of the study which is Illinois State, USA, raises concerns as to the applicability of their findings to the Ghanaian teaching industry, given that, both Ghanaian and American teachers undergo distinct training and have differing characteristics.

Okai-Mensah, (2016) in her work, 'Professional Competence of Home Economics Teachers in Ghana'. sought to investigate the content of the SHS Textiles syllabus, the methods used by Textiles teachers to teach the various components of the subject, the learning strategies used by Textiles students in various aspects of the subject, the strategies used by Textiles teachers to assess the effect of their efforts on student learning, and how the students perform in the external WASSCE in their exit year. The researcher used a combination of qualitative and quantitative research approaches to gather information from 186 respondents using questionnaires, interviews, and observations. Teaching and learning tools and supplies, such as GES authorized textbooks and standard textbooks on Textiles to guide teaching and learning in the SHS, studios, chemicals, yarns, textiles, dark rooms, development tables, and printing tables are also not accessible, affecting teacher competency. The vast majority of the broadlooms and indigenous looms found were not being utilized for their original uses. The looms discovered were dirty, untidy, and very ancient, with damaged pieces; teaching and learning weaving was thus difficult with such looms. As a result of the lack of such resources and tools, the pupils become crippled in their ability to put what they have learned into practice. As a result, insufficient TLMs and underutilization of instructional resources contributed to the ineptitude of home economics teachers. However, the author discovered that at one of the schools she investigated, the instructor was ineffective and lacked understanding and control over the teaching process. The work of Okai-Mensah is limited in terms of its contextual scope as it sought to limit its analysis on the textiles and clothing teachers alone. Also, the use of qualitative research as part of the analysis raises issues of researcher biases and endogeneity, which are common setbacks in any qualitative analysis.

Hudson (2011) in his work, 'Evaluation of Home Economics Competencies Achieved by Graduates of Spearman High School' aimed to discover deficiencies in the home economics programme at Spearman High School, as well as to determine the skills of instructors that former students found valuable in analysing the skills of graduate teachers entering the field. The study used a quantitative research methodology, collecting data from 30 people utilizing sample averages, percentages, and spearman correlation. The questionnaire was based on five-year overviews of the local curriculum, which included themes from the Texas Conceptual Framework for Homemaking Education. Most graduate instructors, especially married ones, were found to be more proficient in teaching apparel and textiles than other home economics topics, according to the author. The number of replies from graduates in the last three years, as well as those in four and five years, about the lack of opportunities to obtain particular abilities, has decreased significantly. Although robust, the work of Hudson depended on a comparison between number of years after graduation and competencies which is not a core for determining the overall competencies of teachers in the profession. Also, the study failed to determine the extent to which curriculum affect the competencies of these teachers as was the primary goal of the study. Finally, the geographical scope of the study which is Spearman High School, Texas, raises concerns on how applicable these findings are to other states and Ghana as these teachers and the curriculum they follow are distinctively different.

Mcsweeney (2014) in her work, 'Assessment practices and their impact on home economics education in Ireland' 'was driven by a need to know how well the national assessment serves the goals of home economics education in Ireland. Interviews with teachers and other relevant stakeholders such as students, teacher educators, and professional home economists were used to collect data, as well as a supplementary examination of the curriculum and design of Junior and Leaving Certificate home economics assessments from 2005 to 2014. The goal was to determine the competency of instructors in the sector in terms of assessment abilities. Profiling, identification, and teacher agency difficulties all have an influence on the home economics profession, according to the research. While not instantaneously generalizable to all home economics teachers or school settings, the findings suggest that if the respondents' views and practices were replicated across the entire home economics education community, national assessment results would not be a reliable indicator of learning and achievement standards in the subject. This paper provides evidence that present curriculum, pedagogy, and assessment procedures do not serve the subject's values and goals. Although insightful, the limitation of the measurement of the competence of home economics teachers to their assessment technique is insufficient. Assessment practices serve as a small part of teacher competencies and thus the judgement criteria could have been expanded. Also, the study was conducted in Ireland which makes the recommendations and findings only relevant to that geographical region.

4. Methods and Materials

The research methods and materials are grouped under research design, target population and sample size, sampling technique, research instrument and data analysis as follows;

4.1. Research Design

This study used quantitative research approach where descriptive research design was specifically employed. This is because descriptive research design helps to reveal the reality of a phenomenon, thereby helping to answer questions relating what was the competency level of Home Economics teachers in junior high schools in the Ashanti Region.

5. Target Population and Sample Size

The target population is the total number of home economics teachers in public basic schools in the Ashanti Region of Ghana. Ashanti Region has 2,416 public basic schools offering Home Economics with each school having one teacher for Home Economics. This study determined the sample size for the entire accessible public basic schools using Yamane (1984) for sample size determination as shown in equation 1.

$$n = \frac{N}{[1 + Ne^2]} \dots \dots \dots 1$$

Where, n= sample size; N= population for Home Economics teachers (2416); and e= error margin (5%).

Based on the formulae, the sample size is calculated as below;

$$n = \frac{2416}{[1 + 2416(0.05)^2]} = 343.18182 = 343$$

After determining the sample size, this study allowed for 10% non-response rate (10%*343=34.3). Therefore, the total number of questionnaires administered was 377 (343+34).

6. Sampling Technique

The study applied two methods of sampling which are purposive sampling and convenience sampling. In Ghana, junior high schools have one of the subjects to be BDT which comprises of Home Economics pre-technical skills and Visual art. The junior high schools have the liberty to select one course from the options under. Thus, not all junior high schools offer Home Economic; hence sewing and food and nutrition. This study thus purposively selected junior high schools that offer Home Economics and used those schools as target population. After the identification of the schools, this study applied simple random sampling without replacement. The study obtained the list of all junior high schools that offer Home Economics and put them into a container, shake the container severally and picked the schools one after the other without replacement. The teachers in the schools that were picked, automatically became the respondents in this study.

7. Data Collection Instrument

The study used structured questionnaire to collect data from Home Economics teachers in selected junior high schools in the Ashanti Region of Ghana. This is because; this type of questionnaire helped to collect standardized data which facilitated data entry into statistical software and which aided quantitative analysis. The questionnaire contained two (2) sections. The first section gathered data on teachers' characteristics and the second focused on teachers' competence in sewing and food and nutrition as subjects. The sample respondents responded to both competency questions under both sewing and food and nutrition.

The questionnaire was piloted before the actual data collection. The pre-tested was done on 20 Home Economic Teachers in Central Region of Ghana. The pre-test data was subjected to reliability test using Cronbach's Alpha. The Cronbach's Alpha test yielded a score of 0.891, indicating that the instrument was reliability. Furthermore, content validity was carried out to test the extent to which the instrument provided adequate coverage of the topic under study.

8. Data Analysis

The data collected were edited, coded and entered into Statistical Package for Social Scientists (SPSS), version 21.0 for analysis. The study analyzed the data descriptively, using mean and standard deviation. Since the responses were in the form of five-point liker scale (ranging from strongly disagree to strongly agree) the computed mean scores were interpreted as; mean range 1.00-1.49; 1.50-2.49; 2.50-3.49; 3.50-4.49; and 4.50-5.00 indicating strongly disagree, disagree, neutral, agree and strongly agree respectively. The study further employed Independence Samples t test to compare the competency of Home Economics teachers between teaching sewing and food and nutrition. Only the p-values of Independence Sample t tests results are reported in this study and significance level was set at 5%.

The study adequately measured teachers' competency using Shulman's (1987) pedagogical knowledge. Shulman's (1987) pedagogical knowledge comprises of instructional objectives and context, subject matter knowledge, instructional presentation and strategy, and knowledge of students' understanding. The study assessed each construct by using 5-point Likert scale ranging from 'Strongly Disagree' (1) to 'Strongly Agree' (5). Instructional objective was measured using seven items, subject matter knowledge was measured using 6 items, instructional presentation and strategy was measured using 7 items and knowledge of students' understanding was measured using 7 items.

9. Results and Discussions

The results are presented and discussed under two sub-headings as personal information of respondents and competency of the respondents.

10. Personal Information of Respondents

The personal information of the respondents comprised of sex, age, educational level and years of service and they are shown in Table 1.

Personal Information	Categories	Frequency	Percentage (%)
Sex	Male	41	10.9
	Female	336	89.1
Age	20-24 years	15	3.9
	25-29years	56	14.8
	30-34years	100	26.5
	35-39 years	75	19.9
	40-44years	68	18.0
	45-49 years	38	10.1
	50 years and above	25	6.6
Educational Level	Diploma	76	19.9
	First Degree	301	79.8
Years of Service	1-5 years	81	21.5
	6-10 years	198	52.5
	11-15 years	98	25.9

Table 1: Personal Information of Respondents (N=377)

Source: Field Data (2021)

According to Table 1, females dominated with 336 (89.1%) of the respondents whilst the remaining 41 (10.9) were males. From Table 1, 15 (3.9%) of the respondents are between the ages of 20-24 years, 56(14.8%) are between 25-29 years, 100 (26.5%) are between 30-34 years, 75 (19.9%) are between 35-39 years, 68 (18.0%) are between 40-44 years, 38 (10.1%) are between 45-49 years and the remaining 25 (6.6%) are above 50 years. Table 1 further shows that most of the respondents 301 (79.8%) are degree holders whilst the remaining 76 (19.9%) are diploma holders. Also, Table 1, 81 (21.5%) of the respondents have 1-5 years working experience, 198 (52.5%) have 6-10 years working experience and the remaining 98 (25.9%) have 11-15 years working experience.

11. Competency of Respondents

The competency of sewing teachers in the selected junior high schools in the Ashanti Region is shown in Table 1. The responses were in the form of five point-Likert scale (ranging from strongly disagree to strongly agree). The study computed mean and standard deviation of the responses for each item under the competency construct as shown in Table 2.

Competency Indicators	Statements	Sewing		Food and Nutrition		P-value
		Mean	Standard Deviation	Mean	Standard Deviation	
Instructional objective and context	I understand clearly the objective of this course	3.9612	1.0436	4.0031	0.4351	0.716
	I provide appropriate interaction and good atmosphere during teaching.	3.8942	1.7325	3.9012	0.3112	1.048
	I pay attention to students' reaction during class and adjust my attitude towards the students.	4.1278	0.2387	4.1294	0.4157	1.519
	I create classroom circumstances to promote my students' interest for learning	3.8101	1.0034	3.9112	0.1533	1.708
	I prepare some additional teaching materials	3.1892	1.1263	3.9395	0.8893	0.011
	I cope with classroom context appropriately	4.0453	0.1275	4.1009	0.1113	0.693
	Subject-matter knowledge	I am well vest in the content relating to clothing and textile.	3.2318	1.1135	4.1001	0.3324
I explain clearly the content of the subject matter.		3.4219	1.1279	4.1068	0.4466	0.000
I have knowledge in the theories or principles of the subject.		4.1186	0.3166	4.5128	0.7701	0.001
I select the appropriate content for students		3.1892	1.3265	3.8934	0.3342	0.000
I know the answers to questions my students ask relating to the subject matter.		3.4318	1.5481	3.7921	1.0322	0.000

Competency Indicators	Aspect of Teacher's Competency	Sewing		Food and Nutrition		P-value
		Mean	Standard Deviation	Mean	Standard Deviation	
	I explain the impact of subject matter on society	2.9810	1.9938	3.7110	0.1188	0.000
	I know the whole structure and direction of the subject-matter knowledge contained in the clothing and textiles syllabus.	3.4187	1.1045	3.9919	0.3255	0.000
Instructional presentation and strategies	I use appropriate examples to explain concepts related to subject matter	3.1771	1.1223	4.1004	0.1003	0.000
	I use familiar analogies to explain concepts of the subject matter to students.	3.4453	1.4211	4.1997	0.2301	0.000
	My teaching methods keep my students interested in this subject	4.3279	0.4532	4.4110	0.2013	1.891
	I provide opportunities for students to express their views during class	3.6423	1.0342	3.7346	0.3431	1.041
	I use demonstrations to help explain the main concept	2.9984	1.4361	4.1271	0.0574	0.000
	I use a varieties of teaching approaches to transform subject matter into comprehensible knowledge	3.1106	1.0006	4.1290	0.2157	0.000
	I use multimedia or technology (e.g. PowerPoint, videos on phones) to express the concept of the subject matter.	2.8203	1.8828	3.5954	0.4573	0.000
Knowledge of students' understanding	I realize students' prior knowledge (Relevance Previous Knowledge) before class.	3.8932	1.0324	3.9413	1.0425	1.318
	I know students' learning difficulty of the subject before class.	3.9923	0.2579	3.8932	0.9824	1.672
	My questions evaluate students' understanding on the topic.	3.74351	0.5638	3.8943	0.8732	0.982
	My assessment methods evaluate students' understanding of the subject	4.1165	0.0242	4.0673	0.8318	1.005
	I use different approaches (questions, discussion, group work, project, etc.) to find out whether students understand what is being taught.	2.0158	1.8328	3.7218	0.9221	0.000
	My assignment facilitates students understanding of the subject.	3.9919	0.3268	4.0041	0.1276	0.316
	My class tests and practical tests help students realize learning situation	4.1190	0.2138	4.1121	0.0435	1.541

Table 2: Comparison of Competency of Respondents between Sewing and Food and Nutrition

Source: Field Data (2021)

The results in Table 2 show that the respondents agreed to each item under instructional objective and context for sewing, except preparation some additional teaching materials. However, for food and nutrition, the respondents agreed to each item under instructional objective and context. Respondents significantly prepare additional teaching materials for teaching food and nutrition more than sewing ($p=0.011$). However, there is no significant statistical difference between remaining items under instructional objective and context.

Furtherance, the respondents were neutral to all the items under subject-matter knowledge for sewing, except having knowledge in the theories or principles in sewing. The respondents agreed they had knowledge in theories or

principles in sewing. However, the same respondents agreed to each item under subject-matter for food and nutrition except having knowledge in theories and principles in food and nutrition. The respondents strongly agreed that they had knowledge in theories and principles in food and nutrition. The mean score for each item under subject-matter for food and nutrition was significantly higher than that of sewing. This gives a clear indication that the respondents have significant higher subject-matter knowledge for food and nutrition than sewing.

From Table 2, the respondents were neutral all the items under instructional presentation and strategies for sewing except for some two items. The respondents agreed that their teaching methods keep their students interested in sewing and they provide opportunity for their students to express their views during class. However, the sample respondents agreed to all the items under instructional presentation and strategies for food and nutrition. The mean score for each item under instructional presentation and strategy for food and nutrition was significantly higher than for sewing except 'using teaching methods that keep students interested in a subject' ($p=1.891$) and 'providing opportunity for students to express their views during class' ($p=1.041$).

The results in Table 2 further show that the respondents agreed to each item under knowledge of students' understanding for sewing except 'using different approaches (questions, discussion, group work, project, etc.) to find out whether students understand what is being taught'. However, the respondents agree to each item under knowledge of students' understanding for food and nutrition. With exception of 'using different approaches (questions, discussion, group work, project, etc.) to find out whether students understand what is being taught' where the mean score was significantly higher for food and nutrition ($p=0.000$), there was not significant statistical difference for each of the items between sewing and food and nutrition.

The study ranked the construct of competency based on the aggregated mean score for construct and used to rank them. The ranking of competency constructs for the respondents for both Sewing and Food and Nutrition is shown in Table 3.

Competency construct	Sewing		Food and nutrition	
	Mean	Ranking	Mean	Ranking
Instructional objective and context	3.837967	1st	3.99755	4th
Subject-matter knowledge	3.39900	3rd	4.015443	2nd
Instructional presentation and strategies	3.360271	4th	4.042457	1st
Knowledge of students' understanding	3.69603	2nd	3.947729	3rd
Overall	3.573317		4.00054	

Table 3: Ranking of Teachers' Competency for Sewing, Food and Nutrition
Source: Field Data (2021)

From Table 3, the respondents who are Home Economics Teachers were much competent in instructional objective and context, followed by students' understanding, subject-matter and instructional presentation and strategies in Sewing. However, the respondents were much competent in instructional presentation and strategies, followed by subject matter, students' understanding and instructional objective and context. The respondents had higher competency at all levels of competencies in Food and Nutrition than Sewing, which was previously known as clothing and textile. This might explain why almost all the Home Economics Teachers prefer to teach Food and Nutrition than Sewing.

12. Conclusion and Recommendations

This study compared the competency of Home Economics Teachers between teaching Sewing and Food and Nutrition. Based on the findings, this study concludes that Teachers have moderate competency in Sewing but high competency in Food and Nutrition. Among the competency constructs, Teachers have moderate knowledge in subject-matter and instructional presentation and strategies in Sewing, thereby rendering teaching of Sewing as a subject less effective in most Junior high Schools in the study area and Ghana as a whole.

To improve the teaching of Sewing, Teachers should be given periodic in-service training on practical aspect of sewing to enable them improve upon their instructional presentation and strategies during Sewing lessons. The Teachers should be encouraged to develop the interest in reading the syllabus and the current textbooks for sewing to improve their content knowledge in the subject.

13. Competing Interests

The author declare that she has no competing interests

14. Future Research

The research will dive into improving BDT-sewing teaching at Basic Schools.

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