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## Editorial

The Journal of Educational Development and Practice, (JED-P) is the relaunched Journal of the Institute of Education, University of Cape Coast, Ghana. The focus of JED-P is towards contemporary issues in educational development in Ghana and other countries, especially, in the developing world. It therefore publishes scholarly papers that make significant contributions to the understanding of educational policies and practices, particularly, in a developing world context. The Journal also seeks to stimulate extensive dialogue and discussion on educational policy and practice and welcomes articles that feature issues on the following: (a) Evaluation of educational policies, (b) Review of curriculum practice (c) Critique of basic, secondary and teacher education policies and practices, (d) Evaluation of various educational programmes such as interventions by NGOs and governmental agencies, and (e) studies examining alternative models of educational delivery.

The journal carries empirical and theoretical studies and targets local and international audience. Important criteria in the selection of articles for publication are quality of presentation, conviction in argument, clarity in presentation and educational significance. There will be one issue of the journal in a year. January to February is the period for receiving articles and December is the time for the publication of the journal. This maiden edition has very rich articles.

In the first article, pre-service teachers' status of training and their levels of knowledge in continuous assessment procedures are determined.

Investigations into concept mapping as a strategy for teaching and learning is the focus of the second paper.

Another article takes a look at how counselling provided by faculty members during out-of-college teaching practice is perceived by undergraduate teacher-trainees.

The fourth paper, like the first one, is based on continuous assessment. However, in this case the concern is about how it is practised in teacher training colleges in Ghana.

After an exhaustive examination of training practices and education in the tourism industry in Ghana, the author of the fifth article proposes a frame work that can address the weaknesses in the system.

The Japanese educational system thrives on a well-structured institutionalized school-based In-Service Education and Training (INSET). In this article, the author provides information on the Japanese INSET and how it can be applied in the Ghanaian situation.

What constitutes examination malpractices and the knowledge teachers should have about these practices for effective conduct of examinations form the basis for the seventh paper.

A critical view of gender policies in basic education reform in Ghana takes the center stage in this last article. Suggestions are made as to how to address these problems identified in the policies.

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# Pre-Service Teachers' Knowledge of Continuous Assessment Techniques in Ghana

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## Abstract

The study determined pre-service teachers' status of training and their levels of knowledge in continuous assessment procedures. Eight hundred and sixty-six second year pre-service teachers, made up of 329 females and 537 males, from 24 teacher-training colleges participated in the study. The study was a cross-sectional survey and data was collected using a questionnaire. An alpha level of 0.05 was used for all statistical tests. The results showed that the majority (60%) of the respondents had no training in continuous assessment. The majority (63%) of those who had had the training responded that it was adequate and that they had been well prepared. It was found that the techniques that were least taught were the personal observations and class projects. The study shows that pre-service teachers' level of knowledge in continuous assessment is low. It is recommended that the teacher education curriculum planners make courses in assessment a priority in the first two years during their pre-service training.

One of the earliest attempts to draw attention to teachers' knowledge and skill in classroom assessment was made by Noll (1955). In a survey of 108 experienced classroom teachers in the United States, he found that teachers demonstrated a serious lack of understanding of the basic concepts in classroom assessment. Further studies confirmed this finding. Mayo (1967), in a large scale national study in the United States of America, administered a Measurement Competency Test to 2,877 graduating seniors in 86 teacher training institutions. Mayo concluded from his study that beginning teachers did not possess adequate knowledge and skills to enable them to succeed in meeting classroom assessment responsibilities. He suggested that the lack of deep commitment to problems and practices in evaluation and a negative attitude toward statistics were two possible obstacles impeding the improvement of the measurement (and assessment) competency of teachers.

Recent studies in the USA have found that the trend of inadequate knowledge of classroom assessment principles and skills has not changed. Boothroyd, McMorris, and Pruzek (1992) studied 41 seventh and eighth grade science and mathematics teachers. These teachers represented 25 public and private school districts from many geographic regions in the state of New York. They examined a sample of approximately 350 multiple-choice and completion items submitted by the teachers. They found that teachers' knowledge of measurement was not adequate and attributed this deficiency to inadequate training in measurement given at the pre-service teacher education level. Plake, Impara, and Fager, (1993) also reported from a USA National Council on Measurement and Evaluation (NCME)-sponsored national survey of elementary, middle and secondary level teachers and administrators from 98 school systems that almost 30% of the teachers reported that they had no training at all in tests and measurement. They further observed that teachers who completed a course or in-service training programme in measurement had higher scores on a measurement competency test than did those without such background.

In Ghana, Amedahe (1989) in a study of the assessment practices of secondary school teachers in the Central Region found that teachers lacked the skills and principles of test construction. In a study of student assessment procedures in junior secondary schools in 11 districts in the country, it was also found that teachers did not have adequate training in continuous assessment procedures (CRDD, 1999). It was reported that 55% of the teachers interviewed felt they were not confident to practice continuous assessment in schools because they did not have any training.

Continuous assessment was introduced into the basic (primary and junior secondary) schools in Ghana in 1987 with the purpose of reducing the over reliance on summative evaluation where a pupil's attainment in a subject was measured by a single-shot examination. With continuous assessment, a pupil's performance in school is to be spread over various sources and procedures. The final grade given to a pupil is believed to be more representative of the pupil's overall performance than a single end-of-term examination.

As a matter of policy, the Ministry of Education in Ghana expects each teacher to (a) give class assignments/exercises fortnightly and record the scores of four of them with a maximum score of 10 each, (b) conduct three class tests in a term with a subtotal of 40, and (c) give pupils projects/homework in a term and record the scores of four of them with a subtotal of 20. The three assessments give a total score of 100, which is scaled down to 30% as the internal mark for each pupil. The end of term examination is given 70%. At the end of the junior and senior secondary schools, all the scores a pupil obtains are scaled to 30% and forwarded to the West African Examinations Council (WAEC) as the continuous assessment component of the final grade in each subject. WAEC provides 70% as the external assessment component of the final grade in each subject.

Evidence has been found that in-service teachers in Ghana have limited competency in assessment in general, and continuous assessment in particular (Amedahe, 1989; Curriculum Research Development Division, 1999). The lack of skills and knowledge is partly attributed to their inability to receive training in assessment procedures in the teacher training colleges as teacher trainees or pre-service teachers. These pre-service teachers teach in the basic schools in the country on the completion of their teacher education programme. Currently, no research has been identified in Ghana on pre-service teachers' knowledge of continuous assessment procedures.

The purpose of this study therefore was to determine the status of training and the level of knowledge in continuous assessment procedures of the pre-service teachers. Specifically, the study sought to answer the following questions: (a) What is the status of training in continuous assessment procedures for pre-service teachers? (b) How prepared are the pre-service teachers to undertake continuous assessment when posted to a new station? (c) How adequate was the training in continuous assessment for pre-service teachers who were trained? (d) Which continuous assessment techniques were pre-service teachers well trained in to be used at their stations as newly trained teachers? (e) What is the level of knowledge in continuous assessment for pre-service teachers? (f) What difference exists (if any) in the level of knowledge in continuous assessment between pre-service teachers who received training and those not trained?

## Method

### Participants

Eight hundred and sixty-six second year (PS2) pre-service teachers participated in this study. There were 329 females and 537 males. The pre-service teachers were selected from 24 public teacher-training colleges out of the 38 public teacher-training colleges in the country. The selection of the pre-service teachers was done through two-stage sampling. The first stage involved randomly selecting two public teacher-training colleges in each of the ten regions. In regions where there were only two teacher training colleges, both of them were taken. However, in the Ashanti and Eastern Regions where there were more teacher training colleges, four colleges were randomly selected from both. The second stage involved randomly selecting one second-year (PS2) class out of the number of classes in each college. All the students in the selected classes constituted the sample.

### Research Design

This study was designed as a cross-sectional survey that collects information at just one point in time. Surveys enable an examination of "large and small populations (or universes) by selecting and studying samples chosen from the populations to discover the relative incidence, distribution, and interrelations of sociological and psychological variables" (Kerlinger, 1986, p. 377). The major variables were the status of training, preparedness to practice continuous assessment, adequacy of training in continuous assessment and the level of knowledge in continuous assessment. To accomplish the objectives of the study, a questionnaire was used to collect the data in February and March 2002.

Instrument

A three-section questionnaire was developed for the study. Section A requested information on training in continuous assessment procedures, Section B dealt with the level of knowledge of continuous assessment, and Section C was on the perceptions of continuous assessment. The "level of knowledge" section consisted of a twenty-item multiple-choice knowledge test on continuous assessment. The instrument had a Cronbach's alpha of 0.82 as the estimate of its reliability. Content validity was achieved through reviews and revisions of the draft questionnaire before and after a pilot study. Final year students and a lecturer in educational measurement did this from the Department of Educational Foundations, University of Cape Coast.

The items on the knowledge test included items on policy on continuous assessment in Ghana, characteristics of continuous assessment, weaknesses and strengths, and the practice of continuous assessment. The first seven items were multiple-choice items. The second set of 13 items requested participants to indicate their level of knowledge (very high, high, moderate, low, no knowledge) concerning specified areas of continuous assessment. In scoring the responses, one point was given to each correct option selected on items 1 to 7. For items 8 to 20, one point was given to the 'very high' and 'high' options, one-half point to 'moderate' option and no point to 'low' and 'no knowledge' options. A total score out of a maximum of 20 was obtained for each participant by summing up all the scores of that participant.

In the development of the questionnaire, literature on continuous assessment was first reviewed. A list of items were produced and given to a group of 48 final year (Level 400) students in the Department of Educational Foundations to study and comment on. On the basis of their comments, the statements were reviewed and a second list comprising multiple-choice items as well as likert-scale statements were produced and developed into the questionnaire. The questionnaire was administered to the second-year (PS2) pre-service teachers at OLA teacher training college in Cape Coast as a pilot study. The responses to the items were analysed and the final instrument made.

Procedure

Data collection was done in February and March 2002. Twenty-four teams consisting of two trained research assistants each were sent to the teacher training colleges after permission had been obtained from the principals of the training colleges. The questionnaire was completed at one sitting and under testing conditions. Instructions were read to the participants and they were given 30 minutes to complete the test and the questionnaire. The participants were assured of the confidentiality of the results. For the sake of anonymity, participants were told not to write their names on the questionnaire. It was stressed to them that no one known to them would have access to the results of the study, and that their names would not be associated with the results. All the 866 participants returned their questionnaires. After the data had been coded and cleaned, 843 participants' responses were valid for analysis giving a 97% response rate.

## Results

1. What is the status of training in continuous assessment procedures for pre-service teachers?

Eight-hundred and eighteen second-year pre-service teachers responded to the item on the status of training. About 40% of the pre-service teachers reported that they had training in continuous assessment procedures and about 60% responded that they had no training in continuous assessment procedures. The result is presented in Table 1.

It could be said that the majority of the teacher-trainees reported that they had no training in continuous assessment procedures. For the 40% that had training, almost 81% reported that they had the training between 1 and 3 times and a further 94% reported that the training lasted between 1 and 4 weeks.

Table 1
Training in continuous assessment procedures

| Response | Frequency | % |
|---|---|---|
| Yes | 330 | 40.3 |
| No | 508 | 59.7 |
| Total | 818 | 100 |

From the teacher-trainees' reports, most (18 out of 24 or 75%) teacher -training institutions had not provided training in continuous assessment techniques to their students by the middle of the second year. This is considered serious because the students would be going out on teaching practice by the beginning of the third year on the IN-IN-OUT programme. The third term of the second year may not provide adequate time to cover theory and practice in assessment techniques. Pre-service teachers would therefore go out into the practice teaching with very little or no knowledge of continuous assessment techniques and procedures.

2. How prepared are the pre-service teachers to undertake continuous assessment when posted to a new station?

Pre-service teachers were also asked to indicate how prepared they were to practice continuous assessment when posted to a new station. Seven hundred and forty-six participants responded to the item. The result is presented in Table 2.

Table 2
Preparedness of pre-service teachers to practice continuous assessment

| Level of Preparedness | Frequency | % |
|---|---|---|
| Not prepared | 212 | 28.4 |
| Quite prepared | 216 | 29.0 |
| Well prepared | 170 | 22.8 |
| Very well prepared | 148 | 19.8 |
| Total | 746 | 100.0 |

About 43% reported that they were either well prepared or very well prepared to practice continuous assessment procedures when posted to a new station. About 57% felt they were not well prepared to practice continuous assessment procedures. This report confirms the status of training where about 40% of the pre-service teachers reported that they had training in continuous assessment procedures. The small difference (3%) could be attributed to the effect of self-reporting.

3. How adequate was the training in continuous assessment for pre-service teachers?

The three hundred and thirty participants who had training in continuous assessment procedures were further requested to indicate how adequate the training was in preparing them to practice continuous assessment as newly trained teachers. Three hundred and ten participants out of the 330 responded to the item. The result is presented in Table 3. Thirty-seven percent felt that the training was either fairly adequate or not adequate. On the other hand, 63% responded that the training was adequate and very adequate.

Table 3
Adequacy of training in continuous assessment procedures

| Level of Adequacy | Frequency | % |
|---|---|---|
| Not adequate | 42 | 13.5 |
| Fairly adequate | 72 | 23.2 |
| Adequate | 127 | 41.0 |
| Very adequate | 69 | 22.3 |
| Total | 310 | 100.0 |

Since about 60% agreed that the training was adequate, it means that it is possible to provide the training to the pre-service teachers by the end of the second term of the second year. What is needed is for the training colleges to re-prioritise their activities and programmes to provide time for training in assessment techniques and procedures during the first and second years when the teacher-trainees are in college, before they go out.

4. Which continuous assessment techniques were pre-service teachers well trained in to be used at their stations as newly trained teachers?

Teacher-trainees who went through training were asked to indicate which assessment techniques they were well trained in as beginning teachers. The percentage responses are presented in Table 4.

Table 4
Percentage responses on level of training in continuous assessment techniques

| | Level of Training | | | | |
|---|---|---|---|---|---|
| Type of technique | Very well | Well | Quite well | None | Total |
| Essay tests | 36.5% | 29.4% | 22.3% | 11.8% | 100% (296) |
| Multiple-choice tests | 38.6% | 29.5% | 25.1% | 6.8% | 100% (295) |
| Short-answer tests | 37.2% | 33.7% | 24.2% | 4.9% | 100% (285) |
| True-false tests | 49.7% | 21.6% | 21.2% | 7.5% | 100% (292) |
| Matching-type tests | 34.8% | 29.0% | 25.7% | 10.5% | 100% (276) |
| Personal Observations | 25.9% | 25.5% | 31.5% | 17.0% | 100% (270) |
| Class Projects | 17.9% | 23.0% | 25.5% | 22.4% | 100% (285) |

From the pre-service teachers' responses, it could be observed that more than 60% reported that they were well trained or very well trained in the use of essay tests, multiple-choice tests, short-answer tests, true-false tests, and matching-type tests. On the other hand, about 51% reported that they were well trained or very well trained in personal observations,

and about 41% reported that they were well trained or very well trained in the use of class projects. It could therefore be reported that on the basis of pre-service teachers' self reports, the techniques they were not well trained in were personal observations and class projects.

5. What is the level of knowledge in continuous assessment for pre-service teachers?

Eight-hundred and forty-three pre-service teachers responded to the test items. The result is presented in Figure 1 and Table 5. The overall mean for the knowledge test was 51.7% (10.3 out of 20.0) with a standard deviation of 21.2. A one-sample t-test was conducted to test the statistical significance of the overall mean. A test value of the expected mean of 50.0% for the combined group of 24 colleges as well as for the individual colleges was used.

The overall result was significant, $t(842) = 2.72$, $p < 0.05$ implying that performance was just above the expected mean of 50.0. However the difference of 1.7% (i.e., 51.7% – 50.0%) is too small to be of practical significance. The effect size is 0.08 and this is considered negligible. An effect size of 0.5 and above is often considered to be of practical significance. It can, therefore, be argued that pre-service teachers' level of knowledge in continuous assessment, on the basis of pooled results from all the 24 colleges, is just average.

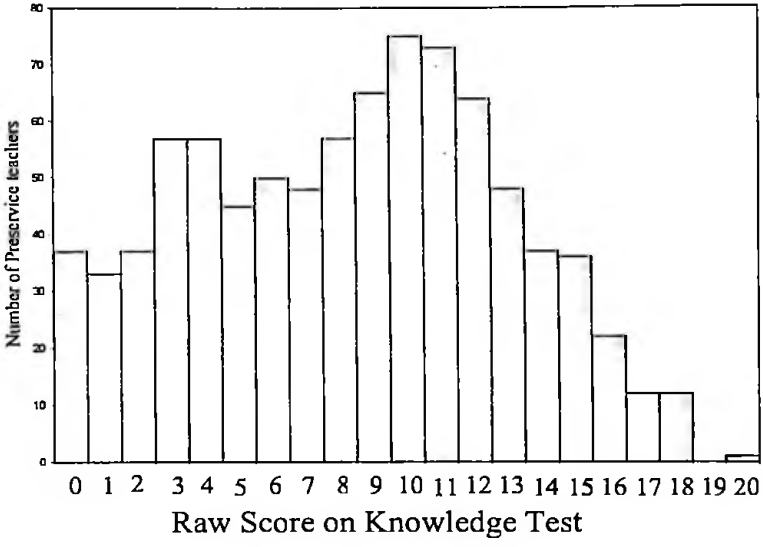


Figure 1. Performance of pre-service teachers on continuous assessment knowledge test

The distribution of the histogram (Figure 1) is skewed to the right, showing that the majority of the teacher-trainees tended to obtain low scores. In fact about 61% of them had scores at 12 (out of 20) or below.

For the individual training colleges, only 7 out of the 24 colleges had significant positive results (see Table 5). However, considering the effect sizes, a value of 0.5 and above can be considered to be of practical significance. Thus only students of 4 of the 24 colleges could be said to have an appreciable knowledge in continuous assessment techniques and procedures. The performance of the students from the 4 training colleges caused the overall mean to show that the general performance was average. On the whole, however, it could be stated that pre-service teachers' level of knowledge in continuous assessment was low.

Table 5
Results of the pre-service teachers performance on continuous assessment knowledge test

| Serial No. of College | N | Mean | SD | t-value | p-value | Effect size |
|---|---|---|---|---|---|---|
| College 1 | 29 | 46.29 | 22.62 | -0.882 | 0.385 | -0.16 |
| College 2 | 43 | 48.31 | 21.37 | -0.517 | 0.608 | -0.08 |
| **College 3*** | **36** | **67.08** | **13.29** | **7.713** | **0.00** | **1.29** |
| College 4 | 34 | 40.96 | 21.34 | -2.471 | 0.019 | -0.42 |
| College 5 | 31 | 49.03 | 20.6 | -0.262 | 0.795 | -0.05 |
| College 6 | 47 | 42.13 | 23.64 | -2.283 | 0.027 | -0.33 |
| **College 7** | **44** | **58.07** | **19.92** | **2.687** | **0.01** | 0.41 |
| **College 8*** | **29** | **71.55** | **13.05** | **8.894** | **0.00** | **1.65** |
| **College 9*** | **35** | **61.21** | **13.59** | **4.882** | **0.00** | **0.82** |
| College 10 | 36 | 57.92 | 16.12 | 2.947 | 0.006 | 0.49 |
| College 11 | 39 | 54.42 | 20.09 | 1.375 | 0.177 | 0.22 |
| College 12 | 28 | 47.14 | 24.6 | -0.615 | 0.544 | -0.12 |
| College 13 | 32 | 55.55 | 18.76 | 1.673 | 0.104 | 0.30 |
| College 14 | 41 | 42.5 | 22.6 | -2.125 | 0.04 | -0.33 |
| College 15 | 24 | 52.08 | 17.63 | 0.579 | 0.568 | 0.12 |
| College 16 | 31 | 57.5 | 18.04 | 2.315 | 0.028 | 0.42 |
| College 17 | 37 | 55.07 | 16.5 | 1.868 | 0.07 | 0.31 |
| College 18 | 23 | 46.2 | 17.29 | -1.056 | 0.303 | -0.22 |
| College 19 | 38 | 47.5 | 20.29 | -0.759 | 0.452 | -0.12 |
| College 20 | 39 | 51.73 | 24.56 | 0.44 | 0.662 | 0.07 |
| College 21 | 40 | 46.13 | 20.19 | -1.214 | 0.232 | -0.19 |
| College 22 | 42 | 41.01 | 21.13 | -2.757 | 0.009 | -0.43 |
| **College 23*** | **40** | **62.69** | **16.3** | **4.922** | **0.000** | **0.78** |
| College 24 | 25 | 38.9 | 21.08 | -2.633 | 0.015 | -0.53 |
| Total | 843 | 51.66 | 21.21 | 2.273 | 0.023 | 0.08 |

Note. Colleges in bold have significant positive results.
Colleges with asterisks (*) have acceptable significant effect sizes.

6. What difference exists (if any) in the level of knowledge in continuous assessment between pre-service teachers who received training and those not trained?

Eight hundred and eighteen pre-service teachers provided information for the question. The result is presented in Table 6. The independent t-test for equality of means shows a significant result, $t(783) = 6.942$, $p<0.05$. This implies that those who had training performed better than those who did not have training in continuous assessment procedures. The training can be said to be valuable as a preparation for using assessment procedures after training.

Table 6
Test of equality of means for trained and untrained pre-service teachers

| Status | N | Mean | SD | t | df[a] | p-value |
|---|---|---|---|---|---|---|
| Trained | 330 | 57.8 | 18.2 | 6.942 | 783 | 0.000 |
| Not trained | 488 | 48.0 | 22.0 | | | |

[a]Degrees of freedom reduced because Levene's test shows violation of homogeneity of variance assumption.

## Discussion

The results of the study have shown that the current status of training in continuous assessment procedures is low. The results have further shown that pre-service teachers are generally not prepared to undertake continuous assessment as beginning teachers. The results have therefore confirmed fears that training in assessment procedures, especially continuous assessment is limited for the pre-service teachers. This is contrary to what Etsey (1992) emphasised:

> The teacher needs to be knowledgeable about continuous assessment. He must know the characteristics of continuous assessment, the strengths and weaknesses of the system as a procedure for assessing students' knowledge, attitude and manipulative skills. He must clearly understand and accept his roles and responsibilities as outlined by the programme, and be willing to contribute to its successful implementation. (p. 85)

The results of the study showed that about 60% of the pre-service teachers had had no training in continuous assessment procedures by the middle of the second year in the three years they spent in the training colleges. A further 57% reported that they were not well-prepared to practice continuous assessment procedures when posted to a new station. They therefore lacked the knowledge about continuous assessment to be able to contribute to its successful implementation in Ghana. What makes the matter more serious is the fact that the IN-IN-OUT policy implies that they may not have the opportunity to study the content of continuous assessment in their final year. The students are however expected to practice the continuous assessment procedures when they are out on the practice teaching.

As Borg, Worthen, and Valcarce (1986) stated, studies in continuous assessment courses are to prepare the future basic school classroom teachers to construct and use appropriate assessment techniques for their instructional purposes and to understand how to interpret and communicate student performance on the assessments. It is quite disturbing then that though classroom assessment has been found to be a necessary part of the teaching and learning process, very little or no effort has been put into giving courses in continuous assessment a priority at the teacher training institutions to enable pre-service teachers acquire adequate skills in assessment before they go out to teach. From the pre-service teachers' reports, it is sad to know that 75% of them had not even been shown the Termly Assessment Plan being used by teachers for continuous assessment in the basic schools.

It is heart-warming to find that for the small percentage that had training in continuous assessment procedures, the majority (63%) felt that the training was adequate. Sixty-one percent also reported that they were in a position to successfully practice continuous assessment as newly trained teachers. On the basis of the comments from the trainees, the lessons in continuous assessment were effective. This implies that it is probably not the lack of expertise on the part of the teacher training staff that little attention is given to assessment issues in the teacher training colleges but possibly misplaced priorities.

The teacher-trainees, who had training in continuous assessment, reported that they were well trained in the construction and use of essay-type tests, multiple-choice tests, short-answer tests, true and false tests and matching-type tests as continuous assessment techniques.

They were however not trained in the use of personal observations and class projects. It appeared that the teacher training college tutors avoided teaching the use of personal observations and class projects perhaps due to lack of expertise in those areas. In-service training in continuous assessment procedures are therefore necessary for the tutors. Class projects particularly are important because they are required by the Ghana Government policy on continuous assessment in the basic schools. For each term, teachers are expected to record four scores for project work for each pupil. It is therefore expedient for pre-service teachers to have knowledge on the construction and use of class projects.

The study found that the level of knowledge in continuous assessment for pre-service teachers was low. It was further found that the level of knowledge was higher for those who had training than those who did not have training. The low level of performance on the knowledge test is evidence of the lack of training in continuous assessment procedures. This situation, which was also found in the United States (Plake, et al., 1993), created a growing concern among assessment professionals and educators. This concern essentially led to the development of the Standards for Teacher Competence in Educational Assessment of Students by the American Federation of Teachers (AFT), the National Council on Measurement in Education (NCME), and the National Education Association (NEA) in 1991 in the United States. The standards are as follows:

1. Teachers should be skilled in choosing assessment methods appropriate for instructional decisions.
2. Teachers should be skilled in developing assessment methods appropriate for instructional decisions.
3. Teachers should be skilled in administering, scoring, and interpreting the results of both externally-produced and teacher-produced assessment methods.
4. Teachers should be skilled in using assessment results when making decisions about individual students, planning teaching, developing curriculum, and school improvement.
5. Teachers should be skilled in developing valid pupil grading procedures which use pupil assessment.
6. Teachers should be skilled in communicating assessment results to students, parents, other lay audiences, and other educators.

7. Teachers should be skilled in recognizing unethical, illegal, and otherwise inappropriate assessment methods and uses of assessment information. (American Federation of Teachers, National Council on Measurement in Education and National Education Association, 1991, pp. 30-32)

These standards have addressed the basic knowledge and skills that teachers need to function effectively in the classroom. Teacher training institutions are expected to provide the basic foundation in the acquisition of these skills. It is important that Ghanaian teachers acquire a high level of competence in each of the standards. This competence can be achieved if priority is given to the teaching of continuous assessment techniques and procedures at the teacher training colleges.

This issue is very important considering the role of assessment in teaching and learning. Classroom teachers need assessment information to make far-reaching decisions. These decisions include, (a) providing knowledge about the readiness of individuals (pupils, students) to learn a new set of curricular content, (b) setting realistic instructional goals and objectives for the class as well as individual pupils (c) discovering the learning difficulties of the pupils and providing remedial action, (d) selecting the best instructional technique to adopt for the class and for each course, (e) evaluating the degree to which objectives in the classroom are being achieved, (f) determining the progress made by each individual student in learning, (g) serving as a source of motivation and directing and facilitating students' learning, (h) providing feedback or knowledge of results to the students to enable them identify their own strengths and weaknesses as well as progress, and (i) assigning grades to students, which provide a record of achievement.

These decisions have far-reaching consequences, not only on the teacher but the students as well as the manpower needs of the country. The failure of the teacher education unit to provide guidance in providing pre-service teachers with skills in assessment techniques is inexcusable. Assessment courses must be given proper attention in the curricula of the teacher training institutions.

Evidence from the responses showed that the content of the training differed from college to college. Principals of the teacher-training colleges need to get copies of the continuous assessment manual from the Ministry of Education for their tutors to use it for teaching. In the training, emphasis needs to be placed on the use of personal observations and class projects since these techniques seem to be neglected.

In addition, it is suggested that in the final teacher-training college external examinations, a complete section be set aside in one of the Education papers for the assessment of the students' knowledge in assessment techniques and procedures. Presently, knowledge in continuous assessment does not feature in the teacher education certifying examination. In the Ghanaian educational system, students do not treat non-external examinable subjects with seriousness of purpose. Since continuous assessment procedures deserve important attention, making it a subject for external examination will make the students study it seriously.

## Conclusion

It is evident from the study that, on the whole, pre-service teachers have little or no training in assessment procedures by the end of their second year of the three-year IN-IN-OUT programme. It is also evident from the reports of the trainees that the teachers are competent to teach courses in assessment techniques. What is lacking is the mandate from the teacher education division of the Ministry of Education to enable curriculum planners incorporate assessment techniques as a course in the first and second year curriculum.

I do agree with Plake, et al. (1993) that, "perhaps part of the lack of more universal training in assessing student performance is the general absence of any mandate for such training. Teacher education programmes must take the initiative to provide the students with skills and knowledge in assessing student performance" (p. 117). The teacher education division in Ghana must mandate the teacher education curriculum planners to make courses in assessment a priority in the first-two years. This is currently lacking. The curriculum planners must ensure that the assessment courses have a practical focus in order to reveal to pre-service teachers the need for assessment competencies and to increase the commitment to attaining these competencies.

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# Concept Mapping as a Teaching and Learning Technique with Senior Secondary School Science Students in Ghana

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## Abstract

Concept mapping as a strategy for teaching and learning was explored to ascertain its effectiveness on students' understanding in chemistry as studies done so far in Ghana have concentrated on only biology. The sample consists of 60 chemistry students with an average age of 16 years from a girls' school in the Greater Accra Region. A pretest-posttest quasi-experimental design with random assignment of classes to experimental and control groups were employed to examine possible treatment effects due to exposure to the concept mapping strategy. Achievements were higher for the experimental group on questions, which demanded understanding, explanation and application of concepts but not on questions that demanded recall of facts using a Chemistry Achievement Test. Both groups failed to answer calculation questions satisfactorily. This implies that it is inappropriate for teachers to use the concept mapping technique only in teaching science. Teachers must have a repertoire of teaching skills.

The teaching and learning of science consist of learning of facts and figures, rules, laws, formulae, problem - solving (which includes calculations), understanding of basic scientific concepts, and explanations of concepts and observed phenomena (Ampiah, 2002). It is of utmost significance to understand that the learning of facts and figures, rules, laws, and formulae definitely require some memorization if one has to be able to recall them for use. The total rejection of memorization per se, in the learning of science is therefore unacceptable. However, it must be pointed out that the other aspects of science like problem solving, understanding of basic scientific concepts and explanations based on observed phenomena require understanding as well as explanatory and problem solving power on the part of the student. Unfortunately, the sole use of memorization by students even in the areas of problem - solving, explanation of observed phenomena, and understanding of basic concepts seems to be encouraged by the traditional/expository approach

to teaching. Students' role has been the "reception and storing of the deposited knowledge as well as retrieving it when demanded to do so" (Tabulawa, 1997, p.189). This strategy, which is excessively teacher-dominated does not task the student to organise and restructure what he/she has learned (Tabulawa, 1997). Students are not likely to learn in a way that helps them see how knowledge is organized, and to file it in their mental filing cabinets in a way that they can remember and access later (Capper, 1996). In fact Capper asserts that:

> Numerous studies have shown that much of the learning that occur in the classrooms around the world is superficial. Facts, rules, laws, formulas are memorized, but often this information is not connected in a coherent frame work that would allow students to make sense of it and to see it in new situations. (p. 4)

No wonder research has shown that few students at secondary school level have had any formal instruction in learning how to learn (Novak, 1988). Capper (1996) posited that "one powerful way of organizing knowledge is through the use of concepts" (p 17). She defined a concept as "a collection of facts, principles and ideas that are related to one another in specific ways and that have more explanatory power than do isolated facts" (p. 17). The use of concept mapping as a teaching strategy is one possible way of teaching concepts. A number of researches on concept mapping have been carried out for purposes of learning, teaching, curriculum development, evaluation and research (Anamuah-Mensah, Otuka & Ngaman-Wara, 1995; Jegede, Alaiyemola, Okebukola, 1990; Novak and Gowin, 1984; Roth and Roychoudhury, 1993). Roth and Roychoudhury (1993) reported that in the past concept maps helped students in the meaningful learning of science concepts. A research carried out by Anamuah-Mensah, Otuka and Ngaman-Wara (1996) concluded that concept mapping could be used as a pre-instructional and post-instructional strategy in biology. In another study using junior secondary school students. Anamuah-Mensah, et al. (1995) stated that "...the present state of science instruction in Ghanaian schools, especially at the basic education level, calls for an introduction of more innovative and effective teaching and learning techniques" (p. 67). Basically, concept maps

are expected to enhance meaningful rather than rote learning. According to Tamir (1991), that could be accomplished by:

1. forcing students to think and engage in active learning as they try to construct the most plausible relationships.
2. helping students develop new relationships among concepts in a particular domain, thereby creating new meanings.
3. making students aware of the explicit role language plays in the exchange of information.
4. allowing learners to exchange views, thereby achieving shared meaning, which is possible because concept maps are explicit, overt representation of the concepts and propositions a person holds.

In spite of the many claims by researchers of higher achievement by students, Rogan cited in Tamir (1991) observed that "so far no significant differences could be detected on the average, and the expectation that concept mapping can improve learning directly remains an intriguing possibility"(p. 335). This claim by Tamir needs to be further investigated using a wider variety of questions. This study attempted to compare the achievement of two groups of students on a wide range of questions after they had been instructed using different approaches. One group was instructed using the concept mapping strategy, and were encouraged to use it to study for the achievement test whilst the other group was instructed using the expository strategy and studied for the achievement test using strategies they had been used to. The purpose was to find out if there would be any differences in the achievement of the students with respect to definition, understanding, explanations, and problem - solving, which constitute the normal kind of chemistry questions expected at the Senior Secondary School (SSS).

## Method

### Participants

The Senior Secondary School used was a girls' school and was chosen by convenience. The target population of the study was students of a girls' SSS in the Greater Accra Region of Ghana. The two intact classes were randomly sampled (out of three) and assigned to become the two groups-experimental (30 students) and control (30 students). The average age of the subjects was 16 years. Students in the second year were used for the study because as at the time of the study SS1 students had just been admitted and had not had much exposure to senior secondary school chemistry while SS3 students were getting themselves ready for their final examinations. All the students were offering elective chemistry, which they had studied for 20 months at the time of the study. However, none of the students had used concept mapping as a study technique.

### Design and Procedure

A pretest-posttest quasi-experimental design with random assignment of classes to experimental and control groups was employed to examine any possible treatment effect due to exposure to the concept mapping (metacognitive) strategy. The experimental group became familiar with concept mapping strategy over a two-week period. The familiarization programme consisted of discussions on concept mapping and practice sessions on how concept maps are constructed. The students were required to use the major concepts of a lesson on *changes of states of matter,* which they had already treated, by using concept maps. They were expected to list the key subordinate concepts, words and phrases that were used during the lesson on *changes of states of matter.* The prime descriptors (or concepts) were generated through a revision session with the students. After this they practised linking related concepts by means of arrows and explanatory notes until a concept map was produced. The students worked individually, and later in groups of five. The whole class discussed each group's work. After the two-week period (14 periods of 40 minutes' duration for each period) the researchers were satisfied that the students had had a fair grasp of concept

mapping based on their presentations and the discussions that emerged among the groups.

After the two-week period of familiarisation, both experimental and control groups were administered the pretest in achievement (Chemistry Achievement Test) to ascertain their performance on *Acids, Bases and Salts*. The students responded to the pen-and-paper test in the presence of one of the researchers. The test covered the following areas of the science syllabus: (a) Arrhenius and Bronsted-Lowry concepts of acids and bases, (b) Sources of acids and bases, (c) Types of acids and bases, (d) pH, (e) Properties of acids and bases.

The pretest was followed immediately by four weeks of the treatment. The experimental group was exposed to teaching that required each student to construct concept maps during each lesson. The concept map class was encouraged to use the concept mapping technique in learning for any test that would be given on the topic. The control group did not carry out concept mapping but was taught using the traditional/expository approach. The second investigator (who was the regular chemistry teacher for both groups) named in this study taught both the experimental and control groups. During the four-week treatment, each group was exposed to 7 periods of 40 minutes' duration each per week for four weeks.

The treatment consisted of teaching the students the concepts from the unit on *Acids, Bases and Salts* in the chemistry syllabus and covered the five areas, which constituted the pre-test. This topic was selected because it was the next to be taught by the regular chemistry teacher at the time of the study. One week after instructions had been completed, the two groups were given the posttest on chemistry achievement, in the same manner as the pretest was administered. The answers were scored by the second investigator and cross-checked by the first investigator. The two researchers reached an agreement on the score to be given to each student. The posttest was made up of the same questions as the pretest but the questions did not require the drawing of concept maps.

In undertaking the data analysis the mean ($\bar{x}$) and standard deviation (SD) of the scores on the posttest of the two groups were computed. Detailed qualitative analysis of the answers to the posttest questions provided by five students with the highest scores from both the concept map and the control groups were discussed question by question.

## Results and Discussion

The mean score of the test scores of the students in the experimental and control groups were calculated and compared to see if there had been any differences in performance between students in the two groups.

Table 1
Means and standard deviations of the chemistry achievement pretest and posttest scores for groups

| | Control (n=30) | | Experimental (n=30) | |
|---|---|---|---|---|
| | ($\bar{x}$) | SD | ($\bar{x}$) | SD |
| Pretest | 15.9 | 6.9 | 16.3 | 7.3 |
| Posttest | 24.7 | 7.1 | 30.9 | 8.5 |

Maximum scores on pretest and posttest = 60

Table 1 reveals that there was very little difference (0.4) between the concept map group and the control group with respect to their initial understanding of *Acids, Bases and Salts*. The posttest shows an improvement in achievement of both groups with the mean of the experimental group being higher than that of the control group by 6.2 . Since the entire group of students in each class was used for the study, this difference represents a real difference between the two groups. The result therefore showed that students in the experimental group achieved far better on *Acids, Basis and Salts* than their counterparts in the control group after the treatment. The performances of the five students with the highest scores from each group are analysed in detail. The students have been designated A to E as follows:

Students $A_1, B_1, C_1, D_1$ and $E_1$ (Experimental group)
Students $A_2, B_2, C_2, D_2$ and $E_2$ (Control group)

Only students' responses which differ are reproduced here and discussed.

Question 1: Explain why ashes from burnt plantain peels dissolved in water give the solution a bitter taste. In answer to this item the student is expected to know that for a solution to taste bitter, it must contain an alkali. The alkali should therefore come from the mixture of the ashes and water. An equation showing how the alkali is produced from the potassium in the ash and the water to give potassium hydroxide solution was expected.

Three students $A_1$, $B_1$ and $C_1$ from the experimental group wrote:
*The ashes contain potassium. It dissolves in the water to give potassium hydroxide solution, which is an alkaline solution and has a bitter taste*
Students $D_1$ and $E_1$ from the experimental group gave the following response:
*Potassium or sodium is present in the ashes from the burnt plantain peel. On dissolving in water potassium or sodium hydroxide is produced which are bases and one property of a base is that they have a bitter taste.*

Four of the students $A_2$, $B_2$, $C_2$ and $D_2$ from the control group wrote that
*ashes from burnt plantain peels contain potassium hydroxide, which tastes bitter.*

Student $E_2$ from the control group wrote:
*The solution obtained when the ashes from the plantain peels dissolved in water, produces potassium hydroxide, which is an alkaline solution.*

The question demands the application of knowledge and the responses from the sample of the experimental group satisfy this demand better than the control group. However, all the students in the two groups indicated directly or indirectly that the bitter taste of the solution was due to the presence of the potassium hydroxide. Apart from student $E_2$ in the control group, all the other students went a step further to indicate that the ashes contain potassium, which reacted with the water to produce the potassium hydroxide solution.

Question 2: Distinguish between a mineral acid and an organic acid either with respect to their sources or relative strengths. Name one example in each case. This question demands that the student states the sources of a mineral acid and an organic acid and then give one example in each case.

The following are responses of three students from the experimental group.

Student $A_1$
*A mineral acid is one, which is obtained from the earth, and an organic acid is one, which is obtained from organic matter*
*Mineral acid* - *Hydrochloric acid*
Organic acid - methanoic acid

Student $B_1$
*Mineral acids are usually made from inorganic substances while organic acids occur naturally in nature*
*Mineral acid* - *Nitric acid*
Organic acid - ethanoic acid

Student $C_1$
*Mineral acids are strong acids, which dissociate completely. Organic acids are weak acids, which dissociate partially.*
*Mineral acid* - *tetraoxosulphate (VI) acid*
*Organic acid* - *citric acid*
The following are responses of two students from the control group.
Student $A_2$
*Mineral acids are produced from mineral e.g. hydrochloric acid while organic acids are produced from living things" e.g. methanoic acid.*

Student $C_2$
*Mineral acids are prepared in industries from mineral from the earth like sulphur e.g. tetraoxosulphate(vi) acid. Organic acids are obtained from nature especially in plants. Example is palmitic acid.*
The question was very well attempted by students in both groups. Being a recall question, the students were able to recollect the sources/strengths of the two types of acids and gave an example of each type. There were no qualitative differences in the students' responses in both the experimental and control groups.

Question 3: Give the sources of each of the following substances in nature

(i) Ammonia
(ii) Calcium oxide
(iii) Potassium chloride
(iv) Calcium tetraoxosulphate (IV)

Even though the question simply demands recall of facts the students were expected to know that ammonia and calcium oxide could be obtained in nature from decomposition of organic matter and limestone respectively. Potassium chloride from brine (NaCl) and calcium tetraoxosulphate(VI) from gypsum. The responses to this question are drawn in Tables 2 and 3.

Table 2

Experimental group's responses to Question 3

| | Sources | | |
|---|---|---|---|
| | Students responses | | |
| Substances | $A_1$ | $B_1$ | $C_1$ |
| (i) Ammonia | Decomposition of organic matter | Rotten fishes | Urine |
| (ii) Calcium oxide | Heating limestone | Heating $CaCO_3$ | Decomposition of limestone |
| (iii) Potassium chloride | Rock salt | Ashes from plantain peels | Rock salt |
| (iv) Calcium tetraoxosulphate (IV) | Rock salt | Gypsum | Gypsum |

Table 3

Control group's responses to Question 3

| | Sources | | |
|---|---|---|---|
| | Students Responses | | |
| Substances | $A_2$ | $B_2$ | $C_2$ |
| (i) Ammonia | Urine | Swamp | Urea |
| (ii) Calcium oxide | Heating limestone | Limestone | Rocks |
| (iii)Potassium chloride | Brine | Salt petre | Sea water |
| (iv)Calcium tetraoxosulphate (IV) | Carbide | Gypsum | Gypsum |

Tables 2 and 3 show that both groups made a fair attempt in answering the question but the experimental group emphasized heating/decomposition of limestone whilst the other group did not.

Question 4: What is the Bronsted-Lowry theory of acids and bases? Give one example in each case: was the test for this question. Students were expected to give the definitions of acids and bases by the Bronsted Lowry concept and one example in each case. This question is knowledge based.

Bronsted-Lowry acid is a proton donor example, HCl. Bronsted-Lowry base is a proton acceptor example, $OH^-$. Almost all the students in both experimental and control groups answered this question very well. This question demanded a definition of the terms acid and base according to the Bronsted- Lowry concept. Students committed the definitions to memory irrespective of the method of teaching, and were able to recall them.

Students from both groups therefore gave good answers and there was no difference in their answers.

Question 5: Give the conjugate base of ethanoic acid and explain whether the conjugate base is a strong or weak one? Students were expected to give CH3COO- as the conjugate base of ethanoic acid and use the equilibrium dissociation of CH3COOH to explain the strength of the base. The following are responses of two students from the experimental group.

Student $A_1$

*The conjugate base is* $CH_3COO^-$

$CH_3COOH(aq) \longrightarrow CH_3COO^-(aq) + H^+(aq)$

*$CH_3COO^-$ is a strong base because it is a conjugate base of a weak acid and it accepts proton more readily making the equilibrium move to the left.*

Student $B_1$

*The conjugate base of ethanoic acid is $CH_3COO^-$. It is a strong base because the strength of a base depends on its ability to accept a proton. Since $CH_3COOH$ cannot ionize fully in solution because it is a weak acid, its conjugate base readily accepts a proton.*

The following are responses of two students from the control group.

Student $A_2$

*The conjugate base of ethanoic acid is $CH_3COO^-$. It is a strong base because conjugate base of a weak acid is a strong base.*

Student $B_2$

$CH_3COOH(aq) \longrightarrow CH_3COO^-(aq) + H^+(aq)$

*$CH_3COO^-$ is the conjugate base of $CH_3COOH$.*

*It is a strong base because $CH_3COOH$ is a weak acid.*

The responses provided by the experimental group were closer to the expected answer than those given by the control group. At least the students from the experimental group attempted to construct knowledge by first stating the conjugate base and then systematically using the extent of the dissociation of the acid to determine the strength of the conjugate base. They therefore gave a more meaningful and concise explanation compared to the answers provided by students from the control group who gave answers which, were more factual or statement of facts and lacked the systematic explanation required to arrive at the correct answer. Many of the students in this group wrote that "conjugate base of a weak acid is a strong base" without giving the reason for that fact.

Question 6: Explain the term amphoteric oxide using aluminium oxide as an example. For an oxide to be amphoteric it must react with both an acid and a base. Secondly, the students must write two equations involving a reaction between Aluminium Oxide and an acid and a base for the explanation of the concept to be complete. A specific acid or base could be used for the reactions.

The following are responses of four students from the experimental group.

Student $A_1$

*An amphoteric oxide is one, which reacts, in both an acidic and basic medium*

$$Al_2O_3 + 6HCl \longrightarrow 2AlCl_3 + 3H_2O \text{ (acidic medium)}$$

$$Al_2O_3 + 2NaOH \longrightarrow Na_2(Al_2O_2) + H_2O + O_2 \text{ (basic medium)}$$

Student $B_1$

*Aluminium oxide is Amphoteric because it has the ability to react with both bases and acids.*

$$Al_2O_3(s) + 6H^+(aq) \longrightarrow 2Al^{3+}(aq) + 3H_2O(l)$$

$$Al_2O_3 + 3OH^-(aq) \longrightarrow Al(OH)_6^{2-}$$

Student $C_1$

*Amphoteric are oxides that has the ability to react with both acid and base*

$$Al_2O_3 + HCl \longrightarrow 2AlCl_3 + H_2O$$

$$Al_2O_3 + NaOH \longrightarrow NaAl(OH)_4(aq)$$

Student $D_1$

*Amphoteric oxide is an oxide of a substance, which can act as both acid and base*

$$Al_2O_3(S) + 6H^+(aq) \longrightarrow 2Al^{3+}(aq) + 3H_2O(l)$$

$$Al_2O_3(s) + 2OH^-(aq) + 3H_2O(l) \longrightarrow 2Al(OH)^-_4(aq)$$

The following are responses of four students from the control group.

Student $A_2$

*Amphoteric oxides are oxides whose behaviour show both acidic and basic characters*

$$Al_2O_3 + 6HCl \longrightarrow AlCl_3 + 3H_2O$$

$$Al_2O_3 + NaOH \longrightarrow Al(OH)_3 + NaO + H_2O$$

Student $B_2$

*An oxide is amphoteric if it produces both OH- ions and H+ ions when in solution or behaves as a base and an acid.*

$$Al_2O_3(s) + 3H_2O \longrightarrow Al(OH)_3(aq) + H_3O^+(aq)$$

Student $C_2$

*Amphoteric oxide is an oxide which behaves as both acid and a base.*

$$Al_2O_3(s) + 6HCl(aq) \longrightarrow 2AlCl_3 + 3H_2O(l)$$

$$Al_2O_3(s) + NaOH(aq) \longrightarrow NaAl(OH)_4(aq)$$

Student $D_2$

*An oxide which has both basic and acidic properties is said to be amphoteric. Aluminium oxide can be neutralized by an acid.*

The control group gave a better explanation than the experimental group. However, the idea of using equations to show the amphoteric nature of aluminium oxide was better done by the experimental group even though some of the equations were not balanced. The writing of the equations was virtually a recall exercise and the experimental group did better.

Question 7: (a) Distinguish between pH and pH scale

(b) $50cm^3$ of sodium hydroxide was added to $50cm^3$ of 0.50M HCl. If the concentration of sodium hydroxide is 0.05M. Calculate the pH of the mixture.

The student must know that both terms are measurements but while pH measures the hydrogen ion concentration, the pH scale measures the acidity or the alkalinity of the solution. In the calculation aspect the amount of substance in each solution must first be worked out. Using the mole ratio of the neutralization reaction, the concentration of the substance in excess amount, that is, NaOH, should be calculated. From this value the pH of the mixture could then be obtained.

The following are responses of three students from the experimental group.

Student $A_1$

*(a) pH is the negative logarithm of the concentration of hydroxonium ions in solution and pH scale is used to measure the acidity or alkalinity of a medium*

*(b)* $NaOH + HCl \rightarrow NaCl + H_2O$

$n(HCl) = c(HCl) \times V(HCl)$

$= 0.05 \times 0.05$

$= 2.5 \times 10^{-3}$ *mole*

$$\frac{n(NaOH)}{n(HCl)} = \frac{1}{1}$$

*Total volume of solution* $= (0.05 + 0.05)\ dm^3$

$= 0.1\ dm^3$

$$[H_3O^+] = \frac{2.5 \times 10^{-3}}{0.5} = 0.025\ m$$

$pH = -\log [H_3O^+] = -\log 0.025 = 1.60$

Student $B_1$

*(a) pH is a measure of the hydroxonium ions in a solution while the pH scale is a measure of the acidity or the alkalinity of a medium.*

*(b)* $NaOH + HCl \longrightarrow NaOH + H_2O$

| $n(NaOH)$ | $n(HCl)$ |
|---|---|
| $=(0.05 \times 0.5)$ | $=(0.05 \times 0.05)$ |
| $= 0.025mol$ | $= 0.0025mol$ |

*From the reaction mole ratio 1:1 the base will be present in excess and hence the medium is basic*

$n(NaOH)$ *excess* $= 0.0225\ mol$

$NaOH\ (aq) \longrightarrow Na^+(aq) + OH^-(aq)$

*Since it is a strong base it dissociates completely*

*Therefore* $OH^- = 0.0225$

$pH = -\log OH^-$

$$C(OH^-) = \frac{n}{v} = \frac{0.0225}{0.1} = 0.225\ mol/dm^3$$

$pOH = -\log 0.225$

$= 0.65$

2.0 $= pH + pOH$

$pH = 13.35$

Student $C_1$

*(a) pH is the negative log of the concentration of $H^+$ ions but pH scale is a scale used to grade the level of acidity or the alkalinity of a substance usually graduated from O to 14*

*(b)* $NaOH + HCl \longrightarrow NaCl + H_2O$

$50cm^3$ $50cm^3$

$0.5m$ $0.05m$

$n(NaOH) = 0.5mol$ $n(HCl) = 0.5mol$

$conc. = n \times v$ $conc = n \times$

$= \frac{0.5 \times 50}{1000}$ $\frac{0.05 \times 50}{1000}$

$= 0.025$ $= 0.0025$

$pH = -\log 0.0025 = 2.6$

$pH = -\log 0.025 = 1.6$

$pH + pOH = 2.6 + 1.6 = 4.2$

The following are responses of three students from the control group.

Student $A_2$

*(a) pH is used to measure the hydrogen ions concentration of solution while pH scale is the measure of the acidity or alkalinity of a substance.*

*(b)* $NaOH + HCl \longrightarrow NaCl + H_2O$

*No. of moles of* $NaOH = 0.5 \times 50 \times 10^{-3} = 0.025$ *moles*

*No. of moles of* $HCl = 50 \times 10^{-3} \times 0.05 = 0.0025$ *moles*

*Mole ratio* $\frac{n(NaOH)}{n(HCl)} = \frac{1}{1}$

*Therefore no. of moles which reacted = 0.0025 moles*

*Total volume = 100 cm³*

*Therefore final concentration* = $\frac{0.0025}{100 \times 10^{-3}} = 0.025m$

*pH = - log (0.025) = 1.6*

Student $B_2$

*(a) pH is the negative logarithm of the concentration of hydroxonium ion.*

*pH = - log [$H_3O^+$] while pH scale is used in measuring the acidity or alkalinity of a substance.*

*(b)* $HCl + NaOH \rightarrow NaCl + H_2O$

*0.05M* *0.5M*

*50cm³* *50cm³*

*Total volume = 100cm³*

*Amount of substance of HCl* = $0.05 \times 0.05$

= $2.5 \times 10^{-3}$

*Amount of substance of NaOH* = $0.5 \times 0.05$

= 0.025

*Total amount of substance* = 0.0275

*Concentration* = $\frac{0.0275}{0.1} = 0.275\ moldm^{-3}$

*pH = -log [$H_3O^+$]*

*= -log [0.275] = 0.56*

Student $C_2$

*(a) pH of a solution is the measure of the hydroxonium ion concentration.*

*pH scale is used to determine the acidity and alkalinity of a substance.*

(b) $NaOH + HCl \rightarrow NaOH + H_2O$

$n\ (NaOH) = 0.05 \times 0.5 = 0.025\ mol$

$n\ (HCl) = 0.05 \times 0.05 = 0.005\ mol$

$Total\ number\ of\ moles = 0.025 + 0.0025 = 0.0275\ mol$

$Total\ volume = 100cm^3$

$$Concentration = \frac{0.0275}{0.1} = 0.275\ mol/dm^3$$

$pOH = -log\ (0.275) = 0.56$

$pH = 14 - 0.56 = \underline{13.44}$

Part (a) of the question was well attempted by students in both groups. It is a recall question and even though the students from the two groups did not quote the definitions verbatim, almost all of them came up with the correct ideas.The calculation of the pH of the mixture of HCl and NaOH requires understanding of what takes place after the reaction especially using the mole ratio to determine which of the solutions would be in excess. This fact eluded students in the control group as well as students in the experimental group. However, one student in the experimental group gave a good account of herself in the calculation to display a better understanding and her application of the mole concept. Almost all the students, irrespective of the mode of instruction did not see that they needed to subtract in order to obtain the excess amount of substance of NaOH. With the exception of one student, students in both groups performed very poorly in this question.

Question 8: State two chemical properties each of acids and bases. Give equations to support your answers. Students must know which of the properties of acids and bases are chemical, that is those properties, which involve chemical changes, and be able to represent the changes with chemical equations.

The following are responses of two students from the experimental group.

Student $A_1$

*i* *Acids react with metals to produce hydrogen gas*

$2HCl + Mg \longrightarrow MgCl_2 + H_{2(g)}$

*ii.* *Acids react with trioxocarbonates or $HCO_3$ to release carbon dioxide gas and water* $2HCl + CaCO_3 \longrightarrow CaCl_2 + CO_2 + H_2O$

*iii* *Bases react with acids to produce salt and water*

$NaOH + HCl \longrightarrow NaCl + H_2O$

*iv* *Base react with ammonium compounds to give ammonia gas*

$NaOH + NH_4Cl \longrightarrow NaCl + H_2O + NH_{3(g)}$

Student $B_1$

*i* *Acids react with bases to form salt and water*

$HCl + KOH \longrightarrow KCl + H_2O$

*ii* *Acids react with metal to produce hydrogen gas*

$Zn(s) + 2HCl \longrightarrow ZnCl_2(aq) + HCl$

*iii* *Bases undergo neutralization with acids*

$NaOH + HNO_3 \longrightarrow NaNO_3 + H_2O$

*iv* *Bases heated with ammonium salts produce ammonia gas*

$CaO + 2NH_4Cl \longrightarrow CaCl + H_2O + 2NH_{3(g)}$

The following are responses of three students from the control group.

Student $A_2$

i *Acids react with trioxocarbonates or hydrogen trioxocarbonates to produce $CO_2(g)$*

$Na_2CO_3(aq) + 2HCl(aq) \longrightarrow 2NaCl(aq) + H_2O(l) + CO_2(g)$

ii *metals react with acids to release hydrogen gas*

$Zn(s) + 2HCl(aq) \longrightarrow ZnCl_2(aq) + H_2(g)$

iii *Bases undergo neutralization reaction with acids*

$NaOH(aq) + HCl(aq) \longrightarrow NaCl(aq) + H_2O_{(l)}$

iv *Bases react with ammonium compounds to give ammonia gas*

$NH_4Cl + NaOH \longrightarrow NaCl + H_2O + NH_3$

Student $B_2$

i *Acids are neutralized by bases to form salt and* $H_2O$

$HCl + NaOH \longrightarrow NaCl + H_2O$

ii *Acids react with carbonates to give* $CO_2$ $2HCl_{(aq)} + H_2O_{(l)} + CO_{2(g)}$

iii. *Bases turn red litmus blue* $NH_3 + H_2O \longrightarrow NH_4^+{}_{(aq)} + OH^-{}_{(aq)}$

iv. *Bases react with compounds of ammonia to release ammonia gas.*

$NaOH + NH_4Cl \longrightarrow NaCl + H_2O + NH_{3(g)}$

Student $C_3$

i. *Metals react with acids to give hydrogen gas*

$Mg + 2HCl \longrightarrow MgCl_2 + H_{2(g)}$

ii. *Carbonates heated with acid produce carbon dioxide.*

$CaCO_3 + 2HCl \longrightarrow CaCl_2 + H_2O + CO_2$

iii. *Bases are neutralized by acids*

$KOH + HNO_3 \longrightarrow KNO_3 + H_2O$

iv. *Red litmus paper changes to blue in alkaline solution.*

The question was a straight forward one and once the students knew what chemical changes are, they were able to give the correct responses. This was virtually a recall question and many of the students from both groups gave a good account of themselves.

Question 9: Underline the reactants, which are Arrhenius acids or bases if any in the following reactions.

(i) $NH_3 + H_2O_{(l)} \longrightarrow NH_4^+{}_{(aq)} + OH^-{}_{(aq)}$

(ii) $NH_4Cl_{(aq)} + AgNO_{3(aq)} \longrightarrow NH_4NO_{3(aq)} + AgCl_{(s)}$

(iii) $HCl + H_2O_{(l)} \longrightarrow H_3O^+{}_{(aq)} + Cl^-{}_{(aq)}$

(iv) $NH_4^+{}_{(aq)} + NaOH_{(aq)} \longrightarrow NH_{3(aq)} + Na^+{}_{(aq)} + H_2O_{(l)}$

Students were expected to know that an Arrhenius acid must be a compound that produces hydrogen ions or hydroxonium ions in aqueous solution and not necessarily any compound that contains hydrogen atom, and the base produces hydroxide ions in aqueous solution. In reaction (i) $NH_3$ is the base since it reacts with water to produce $OH^-$ ions. In (ii) there is neither acid nor base. In reaction (iii), HCl is the acid since it reacts with $H_2O$ to produce $H_3O^+$ (iv) NaOH is the base. It ionizes to produce $OH^-$ ions, which reacts with $NH_4^+{}_{(aq)}$ to give the ammonia gas.

Tables 4 and 5 show that almost all the students in both groups gave a good account of themselves but the control group gave many species, which were not acids or bases according to the definition, compared to the experimental group. In question 9(i) the experimental group did better than the control group. The question demands understanding of the reaction and not just recall. Comparing question 9(i) to 9(iv), the NaOH contains $OH^-$ ion and that is easy to be classified as the base but the $NH_3$ only produces the $OH^-$ ions after reacting with $H_2O$ and this was what some students in both groups failed to realize.

Table 4
Experimental group's identification of Arrhenius acids and bases

| | Students' Responses | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $A_1$ | | $B_1$ | | $C_1$ | | $D_1$ | |
| Reaction | Acid | Base | Acid | Base | Acid | Base | Acid | Base |
| i. | - | $NH_3$ | - | $NH_3$ | - | $NH_3$ | - | $NH_3$ |
| ii. | - | - | - | - | - | - | - | - |
| iii. | HCl | - | HCl | - | HCl | - | HCl | - |
| iv | - | NaOH | - | NaOH | - | - | $NH_4^+$ | NaOH |

Table 5
Control group's identification of Arrhenius acids and bases

| | Students' Responses | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | $A_2$ | | $B_2$ | | $C_2$ | | $D_2$ | |
| Reaction | Acid | Base | Acid | Base | Acid | Base | Acid | Base |
| i. | - | $NH_3$ | $H_2O$ | $NH_3$ | - | - | - | - |
| ii. | - | - | - | - | - | - | - | - |
| iii. | HCl | - | HCl | $H_2O$ | HCl | $H_2O$ | HCl | - |
| iv | - | NaOH | $NH_4^+$ | NaOH | - | NaOH | - | NaOH |

## Conclusion

Looking critically at the general performance of the students and th responses provided by the ten students from the experimental and the contro

groups, it can be concluded that in this study there was very little difference between the two groups in questions that demanded recall of facts.

However, in all questions that involved understanding, explanation and application, the experimental group performed better than the control group. On such questions, students from the experimental group made attempts to construct knowledge from the facts and thus in some cases gave more meaningful and concise explanations to the questions. Students in the control group provided answers that were mere statements of facts and lacked the systematic explanations to arrive at the correct answers in some questions that required some reflective thinking. It can be said that in this study, the use of concept mapping as a teaching and study strategy enhanced students' understanding of the topic on *Acids, Bases and Salts*, which led to both quantitative and qualitative differences in achievement between the two groups.

However, students in both groups irrespective of the mode of instruction and study, performed very poorly on the problem-solving question. In this study therefore, both the expository and concept mapping approaches seemed to have failed as strategies for teaching problem-solving skills to the students. However, since there was only one question on problem-solving (involving calculations), this assertion is inconclusive even in this study and needs to be further investigated.

Concept mapping demands group work and co-operative learning. It must however, be pointed out that the duration of this study was short because it had to be worked into the time constraints of the researcher's plan of work in the school term. The students therefore did not have enough exposure to appreciate the concept mapping technique to the extent that it would affect their study habits.

In a system where rote learning had been the practice, the students found it very uncomfortable to accept innovations into their traditional way of learning. Since the problem is also attitudinal, a longer period of exposure of students to this new technique is very necessary in order to make any meaningful impact.

## Implication

The findings of this investigation have the following important implications and recommendations:

1. Since the teaching and learning of science consist of facts and figures rules, laws, formulas, calculations, understanding of basic scientific concepts and explanations, science teachers must have a repertoire of teaching skills to deal with these different aspects. Resorting to only one method of teaching students is therefore highly inappropriate.
2. Even though it appears concept mapping offers a better understanding in teaching areas that require understanding and explanation of concepts than the use of the traditional/expository approach, it must be complemented with other effective strategies of teaching since the concept mapping technique may not always be appropriate.
3. Science teachers at the senior secondary school level must be introduced to concept mapping and other cooperative learning techniques. This would help them acquire more teaching strategies to help students with the various aspects of science learning.

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# Counselling During Off-Campus Teaching Practice in Ghana: Deficiencies and Implications

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## Abstract

The study investigated the frequency and perceived quality of counselling services provided by faculty supervisors to undergraduate teacher-trainees in the Faculty of Education at the University of Cape Coast during off-campus teaching practice. It also examined trainees' feelings and reactions to the counselling services offered them. The sample comprised 480 male and 170 female undergraduate teacher-trainees who had returned from off-campus teaching practice. Data was collected with questionnaire and analyzed with percentages and chi – square ($x^2$) at the 0.05 level of significance. The results revealed that while the majority (66%) of trainees received and benefited from post-lesson presentation counselling, a significant proportion( 34% ) of the trainees neither received nor benefited from the experience. Pre-lesson presentation counselling was scarcely offered. Findings also indicated that most ( 86% ) trainees felt anxious, scared or nervous during supervision and showed resistance in the counselling sessions with their supervisors. Implications of the findings for improvement of the counselling component of the teaching practice experience, including the need to equip supervisors with basic counselling skills are examined.

Teaching practice is an experience of guided teaching in which the student-teacher assumes increasing responsibility for directing the learning of a group of pupils/students over a specified period of time. It is that phase of the pre-service education of teachers in which the student-teacher brings together educational theory and actual teaching practices and procedures under competent supervision (Olaitan & Agusiobo, 1981). The essence of the teaching practice exercise is to provide opportunities and guidance in a school setting for a student-teacher to develop in himself/herself professional competencies, and the personal characteristics, understanding, knowledge, and skills of a teacher. In this regard the supervisor's guidance role is of paramount importance.

Although the goal of helping the supervisee develop into an effective teacher may appear simple, it can be an anxiety-provoking experience. Supervision-induced anxiety causes the supervisee to respond in a variety of ways, with some of the responses being defensive (Bradley & Gould, 1994). Such resistance could either discourage supervisors from holding counselling sessions (Tamakloe, 1988) or guidance conferences (Olaitan & Agusiobo, 1981) with supervisees during teaching practice, or make them develop hostile or lukewarm attitude towards the supervisees.

The Faculty of Education at University of Cape Coast, Ghana turns out large numbers of professional graduate teachers into the Ghana Education Service (GES) each year. As part of the training of the teachers, they are exposed to between 12 to 14 weeks of intensive on-campus teaching practice (six credit hours a week) before they are sent out to the first and second cycle schools for off-campus teaching practice, which often lasts for five weeks. During both the on-campus and off-campus teaching practice sessions, faculty lecturers and other senior members are assigned to supervise the teacher trainees. One of the important components of the work of the supervisors is the implicit requirement for them to hold pre-and post-lesson presentation guidance/counselling sessions with each trainee when it gets to their turn for teaching. This is to strengthen and boost the confidence of the nervous student as well as to calm and reduce the anxiety level in the over-anxious student.

Olaitan and Agusiobo (1981) observe that if the experiences in student teaching are to have maximum effect, the student must be guided by one who is competent in teaching. They point out that it is important, then, that teacher-trainers should not only be able to demonstrate what should be done, but they should also be able to discuss with the students specific learning situations in which the students find themselves. This requires that teacher-trainers should be able to analyze student-teachers' teaching activities as they relate to actual teaching situations.

In spite of the crucial role counselling plays in the success of the supervisee's acquisition of professional role identity (Bernard & Goodyear, 1992; Bradley, 1989), observation seems to show that it is played down by both supervisors and supervisees. Review of literature reveals the dearth of well-researched information on the provision and

management of counselling/guidance during teaching practice in Ghana, particularly at the University of Cape Coast to enable one draw any meaningful conclusions. Baah (1987) made an effort to evaluate the teaching practice programme at the University of Cape Coast in his undergraduate project work. Pecku (1976) also tried to examine the problems of the supervisor as he tried to reach out to the student-teacher while Brew-Riverson (1972) discussed the principles of teaching practice supervision in Ghana.

To date, however, no empirical studies have been published that more formally evaluates the counselling component of the practical training of undergraduate teacher- trainees.

Thus, the purpose of this study was to examine the provision of counselling services during off-campus teaching practice and to determine its deficiencies, if any, and thereby make recommendations for its improvement. To this end the following research questions were posed to guide the study.

1. Do supervisees receive pre-lesson presentation counselling from their supervisors?
2. Do supervisees receive post-lesson presentation counselling from their supervisors?
3. How do supervisees rate the value of counselling, if any, offered by their supervisors?
4. How do supervisees perceive the attitudes of their supervisors towards them?
5. Do supervisees show resistance during pre- and post-lesson presentation counselling?
6. What form of resistance, if any, do supervisees demonstrate?

## Method

### Participants

Participants comprised 480 male and 170 female (N=650) undergraduate final year students in the Faculty of Education, University of Cape Coast who had just returned from Off-Campus Teaching Practice. Ages of the participants ranged from 22 to 51 years (M=29.4 years, SD=6.9). They were enrolled in the following undergraduate Bachelor of

Education (B.Ed) programmes: Psychology (117), Foundations (113), Arts (66), Social Science (123), Social Studies (40), Home Economics (17), Physical Education (12), Population and Family Life Education (45), Science (29), Maths (20) and Primary Education (68). Participants were distributed throughout the country for the teaching practice as follows: Central Region ( 197 ), Greater Accra Region ( 93), Eastern Region ( 56), Western Region ( 70), Ashanti Region (162), Brong-Ahafo Region ( 40) and Northern Region (32).

Instrument

The measuring instrument was a 20-item questionnaire designed by the researcher for the study. The instrument was validated through extensive use of the relevant literature and expert advice of three specialists in the fields of Assessment, Teaching Practice Supervision and Counsellor Education Supervision. The instrument yielded a test-re-test (two weeks interval) reliability of $r=0.82$.

Procedure

The list of names of 1,200 students who had just returned from teaching practice was obtained from the Teaching Practice Unit. A sample of 700 students were selected through multi-stage stratified sampling. They were first stratified according to the regions where they had their teaching practice, then again stratified into their academic programmes and then further stratified according to their sex. The individual respondents were eventually selected through the simple random sampling (Table of random numbers) method. The researcher personally administered the questionnaire to the participants during their lecture periods. Six hundred and seventy-four of the questionnaires were retrieved giving it a 96.3% return rate.

The returned questionnaires were first of all edited and 24 of them were rejected because the respondents indicated that they did not receive any external supervision during the off-campus teaching practice. Thus 650 of the returned questionnaires were used for the analysis. Percentages and the chi-square of controversial opinion were the main statistical tools used.

## Results

Information was elicited from respondents to determine whether they received pre-lesson presentation counselling or not and the perceived impact of such counselling, if any, on respondents. Table 1 presents the results.

Table 1
Supervisees' exposure to and evaluation of pre-lesson presentation counselling

| Exposure | No. | % | $X^2$ | Decision |
|---|---|---|---|---|
| Received counselling | 63 | 10.0 | | |
| Did not receive counselling | 587 | 90.0 | 422.4 | Significant |
| Total | 650 | 100 | | |
| | | | | |
| Evaluation | | | | |
| Extremely beneficial | 13 | 20.1 | | |
| Beneficial | 38 | 60.0 | | |
| Not beneficial | 6 | 9.5 | 70.3 | Significant |
| Not at all beneficial | 2 | 3.2 | | |
| Don't know | 4 | 6.0 | | |
| Total | 63 | 100 | | |

$X^2$ at 0.05

Table 1 indicates that only 10% of the respondents obtained pre-lesson presentation counselling during the off-campus teaching practice. Of the number that received counselling 80.1% felt that it was helpful to them in their teaching. Only 13% did not find counselling beneficial. The differences in the exposure of supervisees to counselling and the differences in the evaluation of their experiences were all significant.

Respondents were further asked to report on whether they received post-lesson presentation counselling or not, and their evaluation of such counselling. Table 2 shows that 66.3% had some form of counselling and the majority (68.9%) of them felt that it was beneficial.

It is however significant that 36.9% of the supervisees did not find the counselling they received from their supervisors beneficial.

Table 2
Supervisees' exposure to and evaluation of post-lesson presentation counselling

| Exposure | No. | % | $X^2$ | Decision |
|---|---|---|---|---|
| Received counselling | 431 | 66.3 | | |
| Did not receive counselling | 219 | 33.7 | 69.1 | Significant |
| Total | 650 | 100 | | |
| Evaluation | | | | |
| Extremely beneficial | 45 | 10.4 | | |
| Beneficial | 209 | 48.5 | | |
| Not beneficial | 107 | 24.8 | | |
| Not at all beneficial | 52 | 12.1 | 267.2 | Significant |
| Don't know | 18 | 4.2 | | |
| Total | 431 | 100 | | |

$X^2$ at 0.05

Table 3 presents data on how supervisees perceived the attitudes of their supervisors towards them during the practice teaching. While 56.5% saw the supervisors as friendly the rest (43.5%) perceived them as indifferent, lukewarm or hostile. Also while 9.2% of the supervisees perceived their supervisors presenting themselves as helpers, the majority (90.8%) of the supervisors were perceived as having presented themselves as superiors or as people who knew everything.

Table 3
Supervisees' perceptions of their supervisor's attitude towards them and relationship with them

| Attitude of Supervisors | No. | % | $X^2$ | Decision |
|---|---|---|---|---|
| Cordial | 367 | 56.5 | | |
| Indifferent | 164 | 25.2 | | |
| Lukewarm | 83 | 12.8 | 394.7 | Significant |
| Hostile | 36 | 5.5 | | |
| Total | 650 | 100 | | |
| Relationship with Supervisors | | | | |
| Superior-subordinate | 315 | 48.5 | | |
| Helper-helpee | 60 | 9.2 | | |
| Knower-knowee | 254 | 39.1 | | |
| Learner-learnee | 21 | 3.2 | 382.5 | Significant |
| Total | 650 | 100 | | |

$X^2$ at 0.05

The study also sought to find out how supervisees felt when faculty supervisors visited and counselled them during the practice teaching exercise. This was to determine whether supervisees showed any resistance during their encounter with their supervisors. Table 4 shows that 56.2% of supervisees experienced anxiety while almost 30% felt nervous or were scared when supervisors visited them. A small proportion (10.2%) of the supervisees however felt happy about the visit of their supervisors.

Table 4 also indicates that the majority (52.9%) of the supervisees felt inadequate as teachers during counselling sessions with their supervisors when their performances were discussed. This confirms the assertion by Fuller cited by Arends (1991) that, when people first begin thinking about teaching, and when they have their first classroom encounters with children, they wonder and worry about their interpersonal adequacy, and whether or not their students and their supervisors are going to like them.

A significant proportion (17.9%) of supervisees also had the premonition that they were going to be given low marks by their supervisors and were, therefore, afraid during discussion with them.

Table 4
Supervisees' feelings during teaching practice

| Feelings when Faculty Supervisor visited | No. | % | $X^2$ | Decision |
|---|---|---|---|---|
| Happy | 66 | 10.2 | | |
| Nervous | 108 | 16.6 | | |
| Scared | 86 | 13.2 | 539.7 | Significant |
| Anxious | 365 | 56.2 | | |
| Indifferent | 25 | 3.8 | | |
| Total | 650 | 100 | | |
| Feelings During Post-Lesson Presentation Counselling | | | | |
| Feeling of inadequacy | 228 | 52.9 | | |
| Feeling of equality with the supervisor in teaching skills | 38 | 8.8 | | |
| Feeling of superiority to the supervisor in teaching skills | 19 | 4.3 | | |
| Feeling of fear of receiving negative evaluation | 77 | 17.9 | 656.5 | Significant |
| Feeling of flattery from supervisor (s) | 28 | 6.6 | | |
| Other feelings | 41 | 9.5 | | |
| Total | 431 | 100 | | |

$X^2$ at 0.05

Supervisees' resistant attitudes and the frequency of their occurrences are presented in Table 5. The table reveals that the most frequently occurring resistant attitudes of supervisees were 'submitting to supervisor(s)' and 'display of helplessness or dependency' which recorded 82.6% and 84.3% respectively. It is also significant that as high as 27.4% and 22.0% of supervisees resorted to projection tactics of either blaming some external factors or their supervisors as means of resisting supervisor's authority. It is also noteworthy that over 15% of supervisees reported that they were at certain times defensive during discussions with their supervisors.

Table 5
Supervisees' attitudes of resistance during post-lesson presentation counselling (N=431)

| Attitude of Resistance | F | % |
|---|---|---|
| Defensive in discussions with supervisor(s) | 65 | 15.1 |
| Saying something nice about the supervisor(s) (ie. Use flattery to inhibit supervisor(s) evaluative focus) | 55 | 12.8 |
| Submitting to supervisor(s) (ie. Behave as though the supervisor(s) has/have all the answers to the issues raised) | 356 | 82.6 |
| Turning the table (ie. Direct the focus of the discussion away from your skills to prevent the supervisor focusing on painful issues) | 32 | 7.5 |
| Pleading fragility and appearing brittle by accepting that you are not good | 47 | 10.9 |
| Helplessness or dependency (absorb all information provided by the supervisor) | 363 | 84.3 |
| Self-protection or projection tactics (ie. blame external problems for your ineffectiveness) | 118 | 27.4 |
| Tried to prove that the supervisor "is not so smart" | 17 | 4.0 |
| Controlling the situation by asking the supervisor(s) questions on the lesson presented and your performance | 87 | 20.1 |
| Asking others for help to plead with the supervisor(s) on your behalf | 22 | 5.2 |
| Selectively sharing information about your performance to obtain positive evaluation from the supervisor(s) | 46 | 10.6 |
| Blaming the supervisor for your poor performance. | 95 | 22.0 |

## Discussion

Majority (90%) of the supervisees never had any pre-lesson presentation counselling. This confirms the findings of Baah (1987) which indicated that majority (74%) of supervisors never had any discussion with student-teachers before they presented their lessons. This reveals a deficiency in the counselling component of the professional training of graduate teachers. When supervisees were asked to assign reasons for their supervisors failure or inability to provide them with pre-lesson presentation counselling, the most frequently supplied reason was that supervisors did not seem to see pre-lesson presentation counselling as

a necessary part of their work. Others also reported that, preliminary counselling could not be provided because supervisors often came to their classrooms when they had already started their lesson presentation. Follow-up interviews conducted with some faculty supervisors confirmed the speculations and observations of the supervisees. It would seem then that supervisors do not place much importance on pre-lesson presentation counselling for their trainees. Needless to say, such perceptions ought to be re-examined. Supervisees need the pre-lesson presentation counselling to calm their anxiety, nervousness and the tension in them so as to give them confidence to teach (Shertzer & Stone, 1976 ). It must be recognized that the presence of the lecturer-supervisor in the classroom of the teacher-trainee has intimidating effect on the latter. Pre-lesson presentation counselling could provide a feeling of relief and freedom to the teacher-trainee. It is worthy of note that most (60%) of the supervisees who benefited from pre-lesson presentation counselling reported that it was helpful to them.

The study revealed that majority (66.3%) of the supervisees were exposed to post-lesson presentation counselling. Interestingly, this finding tallied with what Baah (1987) found. This was quite encouraging. However, a significant proportion (33.7%) of supervisees did not receive post-lesson presentation counselling during the teaching practice period. As reported by the supervisees, their supervisors often left their written comments in the lesson plan notebook or gave the reports to them and rushed out to other classrooms or schools to supervise other students. The students believe that their supervisors were always hard pressed for time. This view was also corroborated by the supervisors who were interviewed. Thus, time constraint is here identified as vital to the provision of effective counselling to supervisees. Notwithstanding this excuse, the attitude of the supervisors towards post-lesson presentation discussion with their students further highlights the lack of emphasis they place on the counselling component of the teaching practice supervision exercise.

Post-lesson presentation counselling provided to trainees were generally beneficial to them. This implies that supervisors' promptings and information given to supervisees assisted them to improve on their professional competency. This underscores the relevance of counselling in the training of professional teachers. What is disturbing, however, is the

finding that 36.9% of supervisees who received post-lesson presentation counselling did not find it beneficial.

Majority (56.5%) of the supervisees perceived the attitude of their supervisors to be cordial. This is good since such attitude of supervisors is necessary to facilitate effective transmission of professional teaching skills. It is significant to observe, however, that 43.5% of the supervisees perceived the attitude of their supervisors towards them to be indifferent, lukewarm or hostile. These rather negative perceptions (of supervisees towards their supervisors) are further reflected in supervisees' evaluation of their relationship with their supervisors of which 48.5% and 39.1% described it as 'superior-subordinate' and 'knower-knowee' relationships respectively. These may only be mere perceptions of the supervisees but they are nonetheless not helpful in effective training of professionals.

Supervisees generally, felt anxious, nervous or scared on the visit of Faculty supervisors. This confirms the observation by Olaitan and Agusiobo (1981) that, many student-teachers are emotion-laden. Such feelings do not promote effective performance by the supervisees. What is more, such feelings could impede any counselling process initiated by the supervisors, no matter how well-intentioned it may be. The few trainees who felt happy were probably those who had a good interpersonal relationship with the lecturers on campus.

The study revealed that, students had resistant feelings during discussion with their supervisors; the most frequently occurring one being the feeling of inadequacy. This is followed by the feeling of fear of receiving negative evaluation from their supervisors. Strangely enough, some (13.1%) of the supervisees reported that, they felt equal or even superior to their supervisors in teaching skills during discussion with them. These feelings, which are usually not expressed verbally, could have profound negative impact on the success of counselling sessions supervisors hold with their supervisees.

The range of resistant attitudes supervisees reported to have been demonstrated are quite interesting. The study revealed that the resistant attitude displayed by supervisees ranged from extreme submissiveness through subtle manipulations to extreme hostility.

Majority (82.6%) of the supervisees revealed that they sometimes behaved submissively before their supervisors while an equally large proportion (84.3%) of supervisees also played 'helplessness'. It must be

noted that these were role plays. The supervisees merely made those pretences, or put up façade.

The attitudes displayed were not genuine or authentic expressions of the supervisees' feelings and thinking about their encounters with their supervisors. They put up those pretences just to win the sympathy of their supervisors with the hope of obtaining good marks. The manipulative resistant attitude supervisees employed included the use of flattery on their supervisors, pleading frigidity, controlling the situation by asking their supervisors questions orchestrated to cause them to doubt their own competencies, directing the focus of their discussions with their supervisors and getting people to influence the supervisors on their behalf.

In a significant number of cases (49.4%) the supervisees reported having used hostile resistance including blaming the supervisors or other external problems (e.g., academically weak students, large class size, inadequate instructional materials) for their poor performance. Olaitan and Agusiobo (1981) have observed that some student-teachers are very aggressive and some are easily frustrated. These behaviours tend to hinder the student-teacher from respecting and coping with the feelings and views of others. Counselling thrives on genuineness and to the extent that these resistant attitudes are based on pretences, they are bound to frustrate the counselling process.

## Counselling Implications

Doubtlessly, the counselling component of the off-campus teaching practice supervision in Ghana needs to be strengthened to play a more positive role in the training of professional teachers. Time constraint which appears to be one of the major impediments to effective discussion between supervisors and supervisees ought to be closely looked at. Appropriate advance planning needs to be put in place by the Teaching Practice Unit and the supervisors to overcome the time constraint they face. Supervisors need to keep in mind that both the pre-lesson and post-lesson presentation counselling sessions are essential components of the teaching practice supervision exercise. Such a mental set would, hopefully, guide supervisors to make time available to counsel supervisees.

Supervisors need to understand that their guidance role is one essentially requiring skill and understanding in establishing good personal relationships between themselves and the student teachers. For effective counselling, supervisors will require student-teachers to discuss their problems and ideas freely with them. The realization by the students that the supervisors' are decision-makers on their success or failure in practice teaching may prevent them from doing so. Students might also fear any bias their confession to the supervisors might create on their assessment. In view of this, supervisors should endeavour to make the students feel that they come to help them but not to find faults with them.

In-service training on essential counsellor-attitudes and basic counselling skills need to be organized periodically for all faculty supervisors to equip them adequately for discussions with their supervisees during practice teaching. Supervisors need to learn and adopt appropriate counsellor attitudes including but not limited to friendliness, sympathy, pleasantness, broadmindedness, altruism, understanding, sense of humour, patience, objectivity, tact and fairness. They also need to be equipped with skills like rapport building, empathy and concretizing to facilitate their discussions.

Supervisors need to be prepared adequately to deal with supervisees' resistant attitude. Although resistance is a common occurrence in supervision, counteracting resistance is not simple. It has been observed that a positive supervisory relationship grounded by trust, respect, rapport, empathy is essential for counteracting resistance (Bradley, 1989; Mueller & Kell, 1972). Viewing resistance as a perceived threat, Liddle (1986) advocated that, the conflict be openly discussed and the focus should be on identifying the source of anxiety (or threat) so that it could be appropriately handled. Kadushin (1968) stated that, the simplest way to cope with supervisees' resistance exhibited in games is to refuse to play. He concluded that it is more effective to share awareness of game-playing with the supervisee and focus on the disadvantages inherent in game-playing rather than on the dynamics of the supervisee's behaviour. Bauman (1972) has recommended the use of interpretation or ignoring resistance exhibited by supervisees. Masters (1992) has suggested positive reframing for reducing resistance. This includes empowering the supervisees and increasing their self-esteem by

equipping them adequately to perform, or modelling effective methods of coping with thoughts, feelings, and behaviours.

It must be recognized that regardless of purpose, resistance in supervision is a common experience and will be encountered irrespective of the supervisors' skill level. The ability of the supervisor to take resistance and turn it into a supervisory advantage may be the hallmark for determining success or failure in supervision.

It is also crucial for the success of the teaching practice experience that the relationship between supervisors and supervisees be carefully and appropriately defined. The relationship must be viewed as helper-helpee relationship but not as a superior-inferior relationship. Both supervisors and supervisees need to have a positive attitude devoid of suspicion towards each other.

The supervisor needs to be aware that the purpose of student-teaching is to help the student-teacher grow, rather than frustrate his professional aspirations. He should realize that the student-teacher depends on him for some help in his professional training. He could help the student-teacher through constructive criticisms of his teaching. Competence is achieved through practice and experience, hence the student-teacher just entering the teaching profession should not be condemned for his ignorance, but he should be helped to find his faults and correct them through sympathetic criticisms (Olaitan & Agusiobo, 1981). It is only when this is recognized that, resistance, fear and anxiety among supervisees can be reduced to the barest minimum to ensure maximum level of success for the teaching practice exercise.

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# The Practice of Continuous Assessment in Teacher Training Colleges in Ghana

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## Abstract

The study examined whether the Continuous Assessment (CA) programme was being practised the way it was intended in the teacher training colleges in Ghana. A descriptive survey design was used with semi-structured questionnaires and classroom observations as the modes of data collection. Three colleges were randomly selected from among the 7 teacher training colleges in the Western and Central Regions of Ghana. Eighty tutors in the selected colleges and a stratified random sample of 450 students aged between 20 and 25years were used. The study showed that CA is not being properly practised in the teacher training colleges. The result of this was that CA marks were generated any how and were, therefore, unreliable. The participants doubted that the CA scores were being used by the examining body as a component of students' final grade. It is recommended that among others, in-service training on CA and item construction should be organized for all tutors of the colleges, and the system of external moderation should be introduced.

One of the challenges of Ghana's educational system since the 1980s has been the introduction of the educational reforms by the government of the erstwhile Provisional National Defence Council (PNDC) in 1987, which introduced Continuous Assessment as a component of students' final assessment at all levels of education. Continuous assessment has been hailed to de-emphasize the hitherto terminal assessment because of various advantages that it is said to have over terminal assessment. These advantages include: (a) obtaining comprehensive and more valid information on the student; (b) the identification of the weaknesses and strengths of students at an early stage of a programme and their subsequent remediation; (c) assessing the entire personality of the student; (d) providing adequate data for the guidance of students, and (e) the minimization of students' fears and anxieties

about failure because they no longer put all their eggs in one basket, among others. (Akplu, 1989; Etsey 1992 & Ipaye, 1982).

Despite its advantages CA is not without problems. For example, there are suspicions about the validity of teacher assessment. Other issues which also arise whenever CA is mentioned are whether it should: (a) replace the entire terminal assessment (b) operate in parallel with, but separate from, terminal assessment or (c) form a component of students' final grade together with terminal assessments.

Ghana, like many other developing countries in Africa, introduced the CA scheme in 1987, based upon a recommendation made by a team of educational experts from the International Monetary Fund and the World Bank, which conducted an evaluation study of the educational systems in some fourteen African states, including Ghana. The experts recommended a de-emphasis on external examinations and certification at particular points in the educational system (Kellaghan & Greaney, 1992). This recommendation for improving the deteriorating quality of assessment, especially at the pre-university level, was persuasive to the Ghana government. The government, therefore, introduced the national education reform programme at all levels of school education, with the continuous assessment scheme forming part of the reform package (Ministry of Education & Culture, 1987). It was hoped that this would reduce the burden formerly imposed by external examinations on the learner. A circular issued by the then Secretary for Education read: "Assessment ... shall be by continuous assessment; 40% of the overall marks shall be based on internal marks while the remaining 60% shall be by external examinations" (Ministry of Education & Culture 1987, p. 28). Internal marks were to be generated through assignments, tests (whether oral, written or practical work) and any other method of measuring learning outcomes in school.

Tamakloe (1997) reports that, earlier on in 1986, the Special Sub-Committee on Assessment of Trainees of Teacher Training Colleges had suggested that the assessment of teacher-trainees should be a combination of CA (40%) and the final external examinations (60%) conducted by the Institute of Education (IOE) of the University of Cape Coast (UCC).

In a way, the proportions adopted for combining CA scores with external examinations scores could suggest, to an extent, the degree of public

acceptance of teacher assessment. It was hoped that as teacher-assessment becomes more acceptable to the stakeholders (public), CA may be weighted against external examinations until teacher-assessment probably takes complete control of assessing and certifying students. Fifteen years after the introduction of CA in our educational system, the "hope" that the burden imposed by external examinations on students would be reduced seems to have been dashed as public confidence in teacher-assessment continues to decrease.

In fact, based on a study by the West African Examinations Council (WAEC), the Ministry of Education in 1994 reviewed the proportions for internal and external examinations for the first and second cycle institutions to 30% and 70% respectively. For the teacher training colleges, the Awards Committee, in three consecutive years: 1995, 1996 and 1997 asserted that scores obtained at the IOE's external examinations did not have any positive linear relationship with CA scores sent to the IOE from the colleges. Without any supporting study on the issue, the Professional Board of IOE accepted for implementation, with effect from 1998, the Award Committee's recommendation that:

> In view of the generally high unreliability of CA scores sent in by the colleges, the weighting of CA should be reduced from 40% to 30%. The weighting for the external examinations on the other hand, should be increased to 70%. It was also recommended that for a candidate to be deemed passed, he/she must obtain a minimum of 40% in the external examination; that is, 28 out of 70 (Institute of Education,1997, p. 2).

Mukhtar (1998), however, found out that in some selected teacher training colleges, CA scores in Basic Science and Basic Mathematics did not have any positive linear relationship with scores obtained on the IOE external examinations, and that the male students 'suffered' more than the females. In a particular instance, Mukhtar asserted that a male student who scored 15 out of 30 in CA in Basic Science obtained 62 out of 70 in the external examinations, whereas a female student who scored 25 out of 30 in the CA obtained 18 out of 70 in the external examinations. Something could have gone wrong anyway, but the study was certainly not conclusive enough.

Mukhtar merely tried to find out if there was any positive linear relationship between CA scores sent to the IOE and the external scores obtained by the students in only two out of the eighteen subjects offered at

the teacher training colleges at that time, without looking at how the scores were generated. Since then, the IOE continues to receive complaints from some of the trainees on how some tutors use the CA either to favour or victimise trainees, yet no study has so far been found to have been done on how CA is practised at the teacher training colleges in Ghana.

Since tutors and students of teacher training colleges are major players in the CA system, it is necessary to find out how CA is practised in the colleges and, in fact, any other problems that hinder the practice of CA in the colleges. Understanding the problems in the CA system in the colleges would enable appropriate measures to be taken to improve on the system. This study aimed at addressing issues using the following research questions: (a) Is the CA programme serving its intended purposes in the teacher training colleges? (b) How are CA scores generated in the colleges? (c) What are tutors and students' perceptions of what the IOE uses the CA scores for? (d) What are some of the operational problems of CA in the colleges?

## Method

### Participants

The target population in the study was the entire academic staff (1,835) and students (18,480) of all the 3-Year Post-Secondary Teacher Training Colleges in Ghana during the 2001/2002 academic year. It was decided, however, that first year students and academic staff who had joined the colleges during the 2000/2001 year be excluded from the study since they were relatively new in the colleges and might not be able to give the needed information. With the background information on the eligible population units, samples were selected from accessible population of students and staff of three of the colleges located in the Western and Central Regions of Ghana. The selected colleges for the study are referred to by letter codes, A, B, C in Table 1.

For the students, consideration for the gender and year groups called for stratification and so a stratified random sample of 450 representing 25% of the second and third year students of the three colleges was used. Proportional stratified random sampling was used so as to maintain the proportion of the composition of the accessible

population. The stratification enabled various analyses to be made separately for each of the colleges and also gender groups.

All the tutors of the three colleges who had joined the staff before the 2000/2001 academic year were used in the study because the size for the colleges was quite small. Table 2 shows the composition of the study sample.

Table 1
Composition of accessible population

| | Students | | | | | Tutors | | |
|---|---|---|---|---|---|---|---|---|
| | 2nd Year | | 3rd Year | | | | | |
| College | M | F | M | F | Total | M | F | Total |
| A | 270 | 100 | 210 | 120 | 700 | 15 | 10 | 25 |
| B | 0 | 280 | 0 | 250 | 530 | 5 | 25 | 30 |
| C | 200 | 100 | 170 | 100 | 570 | 20 | 5 | 25 |
| Total | 470 | 480 | 380 | 470 | 1800 | 40 | 40 | 80 |

Table 2
Composition of study sample

| | Students | | | | | Tutors | | |
|---|---|---|---|---|---|---|---|---|
| | 2nd Year | | 3rd Year | | | | | |
| College | M | F | M | F | Total | M | F | Total |
| A | 68 | 25 | 52 | 30 | 175 | 15 | 10 | 25 |
| B | 0 | 70 | 0 | 63 | 133 | 5 | 25 | 30 |
| C | 50 | 25 | 42 | 25 | 142 | 20 | 5 | 25 |
| Total | 118 | 120 | 94 | 118 | 450 | 40 | 40 | 80 |

Design

The study was essentially, a descriptive survey in which two semi-structured questionnaires were used to gather information on the practice of CA in the Teacher Training Colleges in Ghana. Judging from the main thrust of the study, this design was the most appropriate.

Apart from the questionnaires, observation of day-to-day classroom activities was used as one of the techniques for the data collection. Tutors' notebooks and students' exercise books were also inspected to reconcile some of the responses given on the questionnaires.

Questionnaires of (mainly) the Likert type in which respondents were requested to say whether they strongly agree (SA), agree (A), undecided (UD), disagree (DA) or strongly disagreed (SDA) scale were developed and used in the collection of data for the study by the researcher. Portions of the questionnaires contained open-ended items on issues, which required respondents to elaborate on. The instrument was first constructed with 45 items and pretested to improve its validity and reliability using 30 students and 10 tutors of a teacher training college in the Ashanti Region, Ghana. The responses were scored and the internal consistency reliability coefficient of each item was computed. Items with coefficient above 0.85 were selected for inclusion in the final questionnaire. The reliability coefficient of the final instrument was computed to be 0.92.

The final questionnaire was made up of 30 items. This was in two parts. Section one contained information on the demographic data of the subjects. These included items on the name of colleges, class of student, gender and for tutors, number of years taught in the college and subject taught. Section two of the questionnaire was made up of 25 items of the Likert type scale and some open-ended ones. Examples are: (a) Student-teacher relationship influences CA mark allocation (b) CA marks are used by the IOE to arrive at students' final grade (c) Write down any 3 major problems of CA in your college.

Procedure

The questionnaires were personally administered by six research assistants to the 450 students and 80 tutors after obtaining permission from the principals of the colleges. Two research assistants were assigned to each college and the questionnaires were administered at the colleges simultaneously, a day before the start of the monitoring of the 'Out Segment' of the IN-IN-OUT programme of the teacher training colleges. In fact, the period was chosen because the researcher wanted to do some observations at the colleges under the guise of supervising the monitoring of the 'Out Segment'. At each college, the students and tutors in the

study sample gathered at the Assembly Hall for the exercise, after which the questionnaires were immediately collected. All the questionnaires were completed and returned. Thus, the return rate was 100%.

After the administration of the questionnaires, the researcher under the guise of supervising the monitoring of the 'Out Segment' of the IN-IN-OUT programme, visited each of the three colleges in turn, spending one week at each college to observe the day-to-day classroom situations. Tutors' notebooks and students' exercise books were also inspected, and notes were taken and converted into a more organised form afterwards for analyses.

Data collected were analysed using proportions (percentages). For each item the proportion of subjects who responded in one direction was converted to a percentage. Thus, on the Likert scale SA and A were taken as one direction (i.e. agree) while UN, DA and SDA were also taken to be another direction (i.e. disagree). The analyses of the open-ended items consisted of grouping similar responses and computing the proportions (percentage) of subjects who gave those responses.

## Results

### Research Question 1

The study sought to find out whether the CA programme was serving its intended purposes in the teacher training colleges. A Majority of the tutors (85%) felt that the CA programme was not serving its intended purposes. From the observations, the evidence was that, on the average, tutors gave a maximum of two assignments per subject per term of twelve weeks. Precisely, the average number of assignments given per term in the colleges studied were 2, 2 and 3 for colleges A, B and C, respectively. In cases where some exercises had been done, they were hardly marked. In college A, for example, none of the exercises given in the five subjects, which were inspected, had been marked. In college B three exercises had been marked out of ten given in five subjects; and in college C three exercises had been given in the five subjects which were inspected but none had been marked.

There were teachers who were reluctant to change from the use of previous methods of assessment. In most of the classroom observations, the method used in teaching was the didactic model followed by an assignment, which was to be submitted to the tutor in two to four weeks' time. They felt that they could not assess on an 'adhoc' assessment

arrangement, hence they preferred the summative assessment taking the form of giving assignments at the end of the lesson, instead of the assessment being part of the teaching-learning process.

Planning based on diagnostic assessment was rarely evident in the sampled colleges throughout the study. Most teachers (88%) were more concerned with the external examination given by the Institute of Education (IOE) and were more interested in solving past IOE examination questions than 'wasting' their time on what they termed "non-sylla" (i.e. areas of syllabus which were unlikely to be examined by the IOE).

From the students' end it was evident that not more than 2% knew the purpose of CA. To the majority of them (college A, 88%; college B, 85%; college C, 64%), CA was "a sheer waste of precious time", and the most important thing was to learn to pass the IOE's examinations. Some of the students only attended classes when they felt that the topic to be treated could attract the IOE's attention. From these observations, it was clear that both tutors and students of the study sample did not know the purpose of CA, and were still "putting all their eggs in one basket". That is, they still relied on only the terminal assessment conducted by the IOE to go through the teacher training programme. Getting marks down for CA was just to satisfy the IOE.

Research Question 2

The study examined teachers' procedures for generating the CA marks, which were submitted to the IOE. It examined, particularly, the procedures or arrangements that had been put in place to ensure that marks obtained within the colleges were uniform, consistent and fair; and also that these marks obtained across departments were relatively comparable to other subject areas in the same college and also across the other colleges in the sample.

The observation was that none of the colleges followed any specific procedures or guidelines in assessing their subject areas and that in all colleges the frequency and type of questions for assessment were left entirely at the discretion of the subject teachers. Most of the teachers (95%, 92% and 45% for colleges A, B and C respectively) gave not more than two assignments in a term of 12 weeks, and managed to mark one when school was in session, and the other one during the vacation period.

Mock examinations given at the end of the second term were about the only 'serious' assessment done in the colleges. However, in all the colleges studied, all the test items were past questions of the IOE examinations, just to ensure that the marks that would be finally generated were relatively high and acceptable to the college administration. One tutor revealed: "If your marks are low, the administration will not be happy with you; this can even cause your release from the college".

Some students (60%, 30% and 52% for colleges A, B and C respectively) felt the tutors had total control over CA scores they submitted to the college administration and so they could do anything at all they liked with the scores. According to them, a tutor could decide to use the scores from assignments or the mock examinations, or a combination of these two tests as the CA score.

It was frequently (90%, 40% and 85% for colleges A, B and C respectively) alleged that "some of the female students were selling their bodies for marks, while some male students were also being used on tutors' farms for marks". One student reported thus:

> Favouritism and victimization are the order of the day; either you danced to the master's voice or you are condemned. We don't want continuous assessment.

Research Question 3

On the question of tutors' and students' perception of what IOE uses the CA scores for, it was evident that both tutors and students felt that the IOE just collected the CA scores and dumped them somewhere. They doubted that the IOE uses the CA scores as a component of students' final grade, and so they did not see the need to "waste their time on CA". One tutor responded thus:

> After all, the Institute passes students who have failed in the continuous assessment; so how do you convince anybody that they make use of continuous assessment marks we submit to them?

To the tutors (82%, 40% and 85% for colleges A, B and C respectively), they only submitted CA scores just to satisfy the IOE requirement and not that they believed that students would benefit from them. A majority of them (83%) challenged the IOE to produce results sheets which showed columns for CA scores, IOE examinations and then the total score to convince them that the Institute of Education really made use of the CA scores. Majority of students (78%, 60% and 82% for colleges A, B and C respectively) were not bothered at all with the CA scores. According to them, some students who were awarded high CA marks failed the final examinations while those with low CA marks passed the final examinations.

Research Question 4

The study also investigated possible problems that confront the operation of CA in the colleges. Tutors and students alike felt that the CA was too stressful to operate. The workload for both tutors and students had increased and there was virtually no time for other activities (social, religious) which were equally important. Tutors, for example, complained that with large class size (an average of 5 streams of 40 per class), marking of exercises was very burdensome and that one could spend his whole time on marking at the expense of church activities, responsibility to the family, and other social activities. Students (70%, 92% and 90% from colleges A, B, C respectively) also made similar complaints about their inability to involve themselves in social activities, sports and the like due to the increased workload.

Continuous assessment involves a lot of logistics, yet students were unwilling to part with their money. They were not prepared to spend any portion of the 'allowances' paid them to purchase the needed teaching and learning materials. Some of the students (20%, 5% and 30% from colleges A, B and C respectively) claimed that they themselves were parents whose families depended on the 'allowance' they received for survival.

## Discussion

The aforementioned findings show that the practice of CA in the teacher training colleges which were studied is nothing to write home about. All the sub-samples (i.e., Colleges) within the sample have problems with the practice of CA.

The evidence that assessment was not frequently done is at variance with the underlining philosophy of CA which requires that to obtain comprehensive and valid information on students, an observed score (x) be repeatedly measured to enable positive and negative errors of measurement to average out for the resulting aggregate score to be equal to the true score.

Again, since even the few exercises, which were given, were hardly marked, it was not possible to identify the weaknesses and strengths of students and tutors for subsequent remediation as required in a CA system.

That both tutors and students treated CA with disdain leaves much to be desired. The argument that some students with low CA marks rather than those with high CA marks passed the final examinations implying that the IOE did not use the CA marks, may not hold water. For, it is possible that those who scored high in CA might have relaxed in the final examination and therefore failed; and those who scored low in CA saw the final examination as their last chance to redeem themselves and so were motivated to learn more seriously to make up for the loss.

These revelations could be interpreted to mean that marks that were usually submitted to the IOE in CA did not represent the true achievement of the students. There was abundant evidence to support the present finding, particularly in most African countries, that examinations, to which high stakes are attached, exert considerable influence on what goes on in the schools/colleges. Indeed, similar observations were made in a government report in Lesotho, which pointed out, that many problems with curriculum and instruction stemmed from:

> ... the inordinate emphasis given to the preparation for terminal examinations, which undermines the attainment of certain objectives that are critical to the country's economic development. ... The Junior Certificate (JC ) exam heavily emphasizes the accumulation of factual knowledge and neglects general reasoning

skills and problem - solving activities (Kellaghan & Greaney, 1992, p. 15).

As to why tutors did not construct their own test items but preferred to use the IOE's past questions for their mock examinations and even for assignments, the general impression was that the students preferred the IOE items to teacher-made ones. According to the tutors, the students felt that the IOE items could be repeated in the IOE examinations. From the analyses, the CA scores so generated cannot be relied upon and so ways must be found to make them valid and reliable if the IOE wants to use them in the assessment of the students.

Another problem identified by the students was the large number of subjects they offered: ten subjects at each level. Instead of assessment being part of the teaching and learning process, tutors preferred to give assignments which could take at least one week to be completed. For a 12-week term, therefore, if a student has to do two assignments in each of the ten subjects he/she will be presenting about two assignments per week. Meanwhile, a lot of teaching-hours is lost during the first term of every year because: (a) re-opening for new students is usually in the middle of the term (October) (b) the IOE releases results of continuing students very late and prospective second and third year students have to wait to know their fate before they begin classes and (c) there is movement of tutors in and out of the colleges – new recruitments, transfers and releases for further studies.

It would appear that most of the operational problems revolved around three major issues. First, the increased workload of both tutors and students which rendered assessment ineffective, hence the serious limitations of reliability in the assessment. Secondly, lack of or inadequate logistics made record keeping difficult. Finally, the frequent movement of tutors in and out of the colleges did not allow tutors to gain the much needed on-the-job experience.

## Conclusions and Recommendations

Although this study is limited by the fact that, the investigation had been carried out in only three of the forty-two teacher training colleges in Ghana, some conclusions could be drawn regarding how continuous assessment is practised in the teacher training colleges. The reliability coefficient of the data collection instrument (0.92) and the 100% return rate of the questionnaire, together with observations made, lend credence to the conclusion that: continuous assessment is not being properly practised in the teacher training colleges in Ghana, and that there is the need to improve upon the practice.

To address the concerns, it is recommended that:

1. All tutors in the teacher training college system should be given intensive training on the rationale and management of CA to enable them appreciate the expected benefits to the students and the system as a whole. This should be followed up by clinical supervision and monitoring by the college authorities.
2. The module "Continuous Assessment" may be vantagely positioned in the syllabus to ensure that students are trained in the rationale and processes of CA in their first year of college.
3. The IOE, in collaboration with the Ghana Education Service (GES), should organise an in-service training on test item construction for tutors of teacher training colleges. In the interim, the IOE may provide uniform CA schedules and test items for use by the colleges to ensure comparability of standards.
4. A team of external moderators from the IOE and the GES may do spot checks in the colleges to see how CA marks are generated.
5. The teacher training programme should be restructured to allow for some reduction in the number of subjects offered by students and thereby lessen the workload for students and tutors for more effective assessment. Students will have fewer subjects to study, and tutors will also have fewer students to deal with because they may no longer teach all the students in a class.
6. The IOE should consider producing examination results sheets which show columns for CA scores, external examinations and then the total score to prove that the CA scores are made use of.

7. College administrations should be encouraged to show commitment to the process and release or mobilise funds to provide needed logistics.
8. Colleges should device a way that will ensure that fresh students report on or before the official re-opening date for the continuing students at the beginning of the first term.
9. The IOE also should explore ways of releasing the results of continuing students before the colleges re-open to save loss of teaching hours which usually occur in the first term.

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# A Proposed Framework for Tourism Education and Training in Ghana

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## Abstract

The paper presents a proposal for tourism education and training in Ghana. The expansion in Ghana's tourism industry has brought to the fore the need for trained manpower for the industry. Based on personal observation and published material this article proposes a framework to address weaknesses in tourism training in the country some of which are: (a) lack of co-ordination among employers, training institutions and government; (b) inability of training institutions to strike a balance between the 'thinking' and 'acting' aspects of their curricular; and (c) the low practical experience of tutors. For an effective training programme the suggested model demands collaboration among stakeholders, from curriculum design through the setting of competency standards to training and assessment.

Over the past two decades Ghana's tourism sector has made tremendous strides, measured in terms of all the major indices, namely international arrivals, receipts, stock of tourist accommodation, number of tour operators, travel agents and car rental firms. This much has been well publicised. Missing from newspaper headlines and from academic discourses, however, are discussions of the sector's manpower needs. Yet the success or failure of the industry hinges on its human resource base. Any policy aimed at promoting tourism in a country depends on adequate number of trained people being available at all levels of the industry.

The rapid expansion of Ghana's tourism and hospitality sector in recent times has brought the human resource needs of the industry also to the fore. A high quality workforce can be achieved only through high standards of tourism education and training. As the World Tourism Organisation (1987) puts it, the future of any country's tourism depends on that country's readiness to educate tourism employees. '*Employees*' in this context covers both workers and proprietors. Moreover, in this day

and era when 'value for money' has become a popular cliché, a well-trained workforce in the sector does not just ensure the delivery of quality service but also allows a tourism enterprise -and a country as a destination- to gain an advantage in the highly competitive tourism marketplace.

Though formal tourism education and training in Ghana have improved somewhat over the past decade, the parameters of such a programme are yet to be properly mapped out. At workshops and seminars, industry practitioners frequently gripe about the calibre of trained personnel from the universities and polytechnics; the educational institutions, in turn, complain about inadequate facilities for practical instructions.

Moreover, in their various curricula, educational institutions have had to contend with the age-old debate on 'acting' (practice) versus 'thinking' (theory). That is, how much of tuition should be devoted to 'analytical thinking and the understanding of conceptual issues, and how much should be concerned with delivering practical knowledge, skills, and techniques (Cooper, Fletcher, Gilbert, & Wanhill, 1993). Or as Go (1994) puts it "what abilities and concepts should a programme of tourism education impart?" (p.332).

Owing to the nature of the tourist industry, there are no clear-cut answers to some of the issues raised above. For one thing, tourism comprises a myriad of diverse enterprises, "a vast, complex network of businesses engaged in lodging, transportation, feeding and entertainment of the traveller" (European Institute of Education and Social Policy, 1991). Each of these mostly private, commercial firms concerned with the actual delivery of services to consumers requires certain vocational skills. There is also the public sector organisation, termed the National Tourism Administration (N.T.A), which is engaged in policy formulation, development planning, and monitoring. Ghana's N.T.A is the Ghana Tourist Board (G.T.B.). But, as in other developing economies, the country has other public institutions in charge of tourism development at the national level. These are examined below.

Consequently, tourism's manpower requirements are as varied as its constituent parts; they range from operatives such as ticketing and reservation clerks, tour guides and cooks to highly trained personnel in the policy-making and management levels. Certain skills are either learnt informally on the job "by observing the supervisor" or formally in

educational institutions. A good number of employees in the operative and vocational categories do not necessarily have to acquire the relevant skills in formal settings. At the upper levels, however, policy makers and administrators are invariably university products in the social sciences.

The objective of this article is to examine the current system for tourism education and training in the country with the view to proposing a framework for strengthening the system to produce an efficient workforce. Hopefully, it would generate further discussion among academia, industry practitioners and the general public about an area in the emerging tourism sector, which has not received due attention.

## Education and Society

Across the globe, educational curricula keep on changing to strike a balance between the "eternal values and cultural objectives (achieved by the study of literature, science, history, mathematics, art and music) with the need to respond to the social, economic and industrial demands of the age" (Wallace, 1985, p.3). While the former category of disciplines or 'pure education' must be acquired by every developing human irrespective of society or environment, changes in a nation's industrial and commercial needs demand that her educational provision must "embrace vocational – and technical- elements and aims".

In most countries the public educational set up allows students at higher levels to specialise either in 'pure academic' or vocational and professional courses. The reality is that pure academic courses are facing decline as students opt for professionally oriented courses in the hope of enhancing their chances on the job market. The rapid decline of classical studies from the middle of the 20th century attests to this. This occurred because their vocational prop -producing statesmen, administrators and colonial governors- was "removed and no one worked out a justification for their inclusion in the curriculum on other grounds".

Schools are increasingly being tasked "to produce manpower according to the needs of society and the demands of the labour market" (Townsend, 1994, p.20). According to Wallace (1985), technical and vocational education has made a 'strong' appearance on the curriculum debate in Britain because "it has government backing" and "evokes a

response from pupils and parents who have anxieties about employability and the relevance of some things which schools do to the needs of the young "(p.2).

As curricula the world over tend to embrace vocational elements, how should such programmes be organised? How do the major stakeholders, namely the state, training institutions and industry, comprising employers and employees' associations, collaborate in training that calibre of manpower that can stand on its own in the highly competitive global market place?

The hospitality and tourism industry is one that lends itself to evolving a training framework whose graduates will be the joint efforts of academia and industry with superintendence by the state. It is a multifaceted sector involving a wide range of activities; it is global in scope and comprises businesses that range in size from small souvenir retailers to giant multi-national companies operating hotel chains. It is a labour-intensive industry with diverse manpower requirements. In some establishments highly skilled personnel dominate; in others such as accommodation facilities, "senior management posts are scarce, compared with low-skill employees" (Cooper et al, 1993, p131). Manpower education and training entails a curriculum that achieves a balance between 'thinking' and 'acting'.

This paper examines the current tourism education and training structure in Ghana before putting forward a framework, which seeks to balance practical skills with intellectual development in the curriculum, through greater dialogue between the key players.

Tourism education is used in the article to mean "the encouragement of analytical thinking and the understanding of conceptual issues in order to contribute to the professional and intellectual development of a person" in a formal setting. Tourism training, on the other hand, is the delivering of practical knowledge, skills and techniques needed to work in the tourist industry (Lavery, 1989). *Tourism* and *hospitality* are used here to refer to one and the same industry.

## Tourism Education and Training: A Review

Tourism as an academic discipline is of recent origin, emerging only in the post World War II era. As a phenomenon that cuts across sectors, its education -and research methods have been influenced by a

large number of scholars from such "neighbour disciplines of the social sciences" as sociology, psychology, geography, anthropology and economics. On the other hand, the adaptation of methods from the natural sciences to tourism has led to very limited insights (Kasper, 1989).

From the very beginning the concern was with costs and benefits of tourism to man, mostly socio-economic and lately environmental. Thus, though tourism is a labour- intensive activity, concern with manpower requirement came late partly because it is only in recent years that governments have recognised the value of tourism to their economies, and have linked manpower training and education with competitiveness in the industry (Go, 1994).

All tourism resources, as the saying goes, are the result of human development. The tourist may hike, go sight-seeing and bathing; he or she may do mountain climbing, and wine and dine. But throughout all these activities and experiences it is their interaction with the service provider that tends to have the most profound impact on them. (Interaction with members of the host community is equally important but that requires public education whose modalities are outside the purview of this article.) Tourists' impressions and experiences of a product or destination have consequences for the patronage levels of destinations or facilities. It is estimated that some 96% of dissatisfied customers complain not to the organisation or facility operators concerned but to relatives and friends (Go, 1994). Tourists' impressions, therefore, enhance or diminish an organisation or destination's marketing efforts through word-of-mouth publicity.

Davidson (1993) is of the view that "managers and owners of tourist facilities, as well as governments all over the world, realise that the people employed in tourism play a major part in determining the success or failure of the industry" (p.131). In other words, unlike the case of tangible products like automobiles or oranges, the calibre of employees play a determinate role in the marketing of hospitality services.

Lavery (1989) is of the view that a trained, quality manpower does not only enhance service delivery but also gives an enterprise an edge over its competitors. This has resulted in changes in curricula. In the U.K., for instance, colleges have since the late 1960s offered courses designed to provide not just essential skills, but a broader knowledge of the industry and the world of business generally (Lavery, 1989).

In underscoring the importance of the human factor in the tourism industry, Cooper et al. (1993) put it simply that "it is the people who make the difference" (p.274). The '*people*' here means not just employees but also tourists and the host community. The latter's attitude towards tourism development in their locality can make or mar the industry (Cater, 1988). Host populations and tourists, therefore, need to be educated on the importance of conservation and on inter-cultural relations.

This is a view also shared by the World Tourism Organisation (WTO) which has observed that there is the need to educate not only tourism employees, but also tourists and the population of tourist-receiving areas so as to impart an adequate level of general culture and etiquette which is essential for all concerned in this wide-ranging and rapidly growing sector (World Tourism Organisation, 1987).

The benefits from a well-trained workforce in the hospitality industry cannot be overemphasised. According to Copper et al, (1993) good education and training:

1. adds value to the industry, raises the quality of personnel and infuses a sense of professionalism and ownership;
2. ensures that workers in the industry tend to understand the interrelationships of the sectors and begin to perceive business opportunities;
3. provides skills and practical knowledge to boost the performance and productivity of personnel;
4. allows the actors to gear the needs of the sector with the output of tourism institutions; and
5. helps to retain staff, provide a career path for employees and, overall, achieve a better use of human resources in the tourism industry (p.274).

Whereas the need for trained manpower for the hospitality industry is not in dispute, opinion is divided on the curriculum. For a long time the approach to training in private sector firms was 'a sectoral one'. Travel agencies, tour operators, catering outfits and hotels, which constitute the sector's core enterprises, focused on "narrow job-specific abilities", which were primarily concerned with training the staff to become competent (Holloway, 1994). On his part, Lavery (1989) stresses the need to go beyond the mere acquisition of job-specific skills; a destination needs qualified people to prepare and implement development plans, manage

and regulate the industry, and staff the diverse firms that make up the industry. But even as these essentially vocational courses held sway, the question of balance between job-specific skills and broader conceptual knowledge has long taxed employers and educationists alike.

## Current Trends in the Ghanaian Tourist Market

Ghana's tourist industry, like that of other developing countries, is basically a receptive one, that is, one oriented mostly towards attracting and caring for the vacation or business traveller. Like other developing countries, Ghana generates very little leisure travel owing to the generally low levels of disposable incomes (Cater, 1988; Lea, 1988; Oppermann & Chon, 1997).

Though heavily dependent on in-bound travel, it is nevertheless, worth noting that Ghana is not a mass tourist destination. (The characteristic feature of a mass tourist destination is the arrival en masse of tourists at a destination, usually by chartered flights during certain seasons. A traveller pays far less for the total cost of the trip than he/she would do on an independently organised trip. Low budget travellers tend to patronise mass organised tourism). In other words Ghana, as a destination, attracts for the most part the well-heeled traveller or those in the middle-to-upper income brackets. This category of visitors places premium on value for money, hence the need for trained, efficient manpower providing quality service.

Tour operations, which constitute a key indicator of the level of leisure travel in a country, and which thrive in major source or generating countries such as those of Europe and North America, is the least developed component of Ghana's tourism industry. As the Ghana Tourist Board puts it, most of the country's tour operators merely "deal in air ticketing and do very little in organising excursions and tours. They hardly direct or stimulate incoming tourism from the generating markets" (Ghana Tourist Board, 1987, p.15). Though there has over the past decade been an appreciable increase in the number of tour operators in the country, organised leisure travel, particularly among domestic patrons, is still very negligible. Except for those organised by schools and peer organisations, travel is mostly independently planned and, consequently, party size is very small. There is, therefore, very little involvement by tourism institutions in the domestic holiday market.

Another feature worth mentioning is the relative size of the public sector. At independence the state's involvement in direct productive activities was necessarily extensive, encompassing tourism, too. The Ghana Tourist Board, as mentioned above, has been around since the 1970s as the chief public agency for tourism policy formulation and implementation. Since the creation of a Ministry of Tourism in 1994, it has taken over the policy formulation function as well as exercising oversight responsibility for tourism development in the country.

The Ghana Tourist Development Company is another public sector institution. Established in the mid-1980s, it manages the state's investments in tourism facilities and mobilises financial and technical assistance for small-scale private tourism enterprises (Ghana Tourist Board, 1996). To these bodies can be added the tourism desks being established by some district assemblies to develop and promote tourism at the district level as envisaged by the country's 15-year (1996-2010) Tourism Development Plan. The employment structure in these public sector organisations is such that the state remains the leading employer of high-level manpower in the tourism industry.

These public servants are, as it were, not engaged in direct service delivery but in policy formulation, development planning, marketing, conservation, monitoring and other functions such as consumer protection. Working under the ambit of the larger government administration, such bureaucrats would not have necessarily had education in tourism development and promotion.

Competition in the global market place is now the order of the day. Along the coast of West Africa a great deal of similarity exists in the tourism products of the countries. The tropical climate and palm-fronted, sandy beaches are common to all the countries. Ghana's ecological heritage, specifically, the rainforest and savannah grassland are also available elsewhere in the sub-region. Ghana, indeed, has the largest number of castles and forts from which large numbers of slaves were shipped across the Atlantic, but Senegal has a large castle on its Goree Island, which is extremely popular not only among African-Americans but also French and German tourists. Also the cultural artefacts among countries in the region are very identical. Accra is currently enjoying a boom in conference and business travel (Ghana Tourist Board, 1999) but the volume of that traffic cannot be compared to that of Abidjan, the capital of la Cote d'Ivoire. In short, the similarity between our major

tourism products and those of our neighbouring countries intensifies the level of competition in the West African sub-region. If Ghana is to remain in the competition, a trained manpower becomes imperative.

The current structure of Ghana's accommodation stock also comes into play. Across the globe, the accommodation sector tends to engage those with the lowest educational qualifications (Cooper et. al., 1993). In Ghana, the predominance of family- owned accommodation units or what Rodenburg (1980) describes as 'craft-operated' hotels worsens this situation. Based on scale of operation, that is relative size and capitalisation and the relative level of bureaucratisation or degree of industrial operation, Rodenburg puts hotels (in the island of Bali) into three categories, namely, large-industrial, small industrial and craft or family-operated hotels. The first two categories, typically 3 to 5-star facilities, tend to have a higher per room employment rate and also employ the bulk of trained manpower in the private sector. But these form a very small percentage of the country's accommodation stock. The preponderance of craft-operated or family-owned hotels in Ghana limits the capacity of the accommodation sub-sector to engage highly trained manpower.

This overview cannot end without this observation: the topmost positions of the country's leading hotels are either occupied by foreigners or by Ghanaians trained abroad. The latter category of managers can also be grouped into two: those who self-financed their studies and former employees of the then State Hotels Corporation, the umbrella company that managed the dozen or so state-owned hotels, who were sponsored by the state to study hotel management and related courses abroad. Given the rapid expansion in the industry over the past two decades, it can be said that the establishment of a well co-ordinated tourism education and training programme in the country is not only long overdue, but can also be justified on the basis of the foreign exchange savings that will accrue to the country.

## Tourism Education and Training in Ghana Today

Unlike agricultural, educational, or industrial policies, which every regime must, *willy-nilly*, contend with, tourism development is a chosen policy. It is not a policy forced upon a reluctant regime by political pressures (Richter, 1985). In Ghana the state can be said to have made the choice in 1986 when tourism was declared 'a priority sector'. It is

therefore gratifying that the nation has during such a relatively short period witnessed an expansion in tourism education and training.

Several commentators have stressed the need for a well-educated and trained manpower in the country's tourism sector. In a 1990 report on tourism development in the Central Region, a foreign consultant called for a crash programme to train and provide international exposure to tourism officials in the areas of tourism administration, marketing, research and product development; and design a publication of destination brochures. He also advocated training of tour guides and tour operators (Tourism Development Scheme for the Central Region, 1990).

As recently as 1999, a study undertaken by the Department of Geography and Tourism, University of Cape Coast (UCC), in collaboration with the University of Maryland, Eastern Shore (UMES) and the Central Regional Development Commission (CEDECOM) into the hotel industry of the Central Region, bemoaned the low educational and training levels among employees in the region's hotel sub-sector. This situation, no doubt, holds for the country as a whole.

While on the job training can be said to have started in 1956 with the opening of Ghana's first modern hotel, Ambassador Hotel in Accra, formal tourism-related education can be traced to the country's four pioneer polytechnics (Accra, Kumasi, Takoradi and Ho) which have since the 1960s offered courses in catering and institutional management. The bulk of their products were absorbed into educational and health institutions with only a small fraction finding jobs in the few industrially operated hotels. Upgraded since the mid-1990s to provide tertiary education in the field of manufacturing, science and applied social sciences, polytechnics can now be found in all the ten regional capitals. At the moment Accra, Cape Coast and Sunyani Polytechnics have moved a step further, offering tourism as a course in itself.

In 1991 a Hotel, Catering and Tourism Training Institute (HOTCATT) was established in Accra to provide vocational training in basic skills aimed at developing and enhancing qualified manpower in the tourism industry (Ghana Tourist Board, 1996). The Institute also offers short time courses to upgrade skills for employees. Prominent in the programme are front desk house keeping, food production and tour guiding; the programmes of HOTCATT emphasise practical work.

The country's first university level programme in tourism was started at the Department of Geography and Tourism, UCC in 1996. Run from a multi-disciplinary perspective, the courses include Marketing, Personnel Management, Principles and Practice of Tourism, Statistical and Research Methods. The University of Ghana has for some time now had plans to begin an Executive M.B.A in Tourism Management but this is yet to materialise.

Beside their recent origins, a cursory look at the curricula of the institutions offering tourism or tourism-related courses in Ghana reveals an interesting dichotomy. In HOTCATT and the polytechnics, courses tend to be fairly vocational in orientation, emphasising *training* over *education.* At UCC, on the other hand, the programmes in both under-graduate and graduate levels belong more to tourism *education* as defined above. There is very little practical work, though this is not by design as logistical constraints make practical experience impossible for now. Moreover, an industrial attachment component meant to provide students with practical training during the long vacation is run with difficulty as business organisations are not very enthusiastic about taking on the student trainees.

Yet, in any 'solid tourism curriculum' the 'thinking' (theory) aspect must complement the 'acting' (practical) component (Go, 1994). In Ghana, this act of delicate balancing between theory and practice is yet to be realized. The causes are manifold: Logistical constraints and channels for practical experience have already been mentioned. There is also the problem with literature and teaching staff. Literature, where available, is mostly Euro-centric. The majority of teaching staff, except for older courses such as Catering and Institutional Management, are by and large foreign-trained. Invariably, they themselves lack practical experience in industry. But these problems are superficial.

The real problem facing tourism education and training which this paper seeks to address is structural: it is the lack of co-ordination among the key players, namely industry, training organisations and government. Consequently, courses taught are the result of academic endeavours rather than the expressed demands of industry.

As tertiary institutions, the universities, polytechnics, and accredited private institutions have a common forum in the National Council on Tertiary Education (NCTE), which has oversight responsibility for these institutions. There is also the Committee of Vice-Chancellors and

Principals, which brings together the chief executives of public tertiary institutions. HOTCATT on the other hand is not a tertiary institution and, therefore, has hardly any formal links to the other public training institutions. It is to address some of these bottlenecks that the framework below is put forward.

## The Proposed Framework

The model (Figure 1), refer to appendix, is an adaptation of one that is termed Competency-Based Training (CBT), which has been adopted by the Ministry of Education for technical education in Ghana (JICA/Ministry of Education, 2001). The model is a radical improvement upon the 'traditional approach' to education in which training institutions provide what they (the institutions) 'believe' to be good for students to know.

According to the model the formulation of broad policy outlines for tourism education emanates from the collaboration between a ministerial council and the tourism and hospitality industry. The Ministerial Council consists of the Ministry of Tourism, the Ministry of Education, and the new Ministry of Employment and Manpower Development with input by the Wildlife Department, which manages the national parks. Industry, as used in the model encompasses enterprises, employers and employees in tour operations, travel agencies, accommodation and catering facilities. Though transport is an integral part of tourism, owing to the current low levels of tourism-specific transport in the country, enterprises in that sub-sector are overlooked in the model. In addition to offering policy advice, Industry also provides avenues for attachment and retraining of teachers as well as training and employment of students.

Located in the GTB, or preferably in the Ministry of Education, the Tourism Education and Training Office (TETO) is envisaged to be the body within the country's educational system that will oversee and co-ordinate tourism training and education. It will formulate guidelines on tourism education and training and be the forum for tourism-related departments of both public and private institutions.

Training Organisations, are institutions that provide education and training of manpower in the hospitality sector in a formal setting. These tourism-training organisations are the universities, polytechnics,

HOTCATT and the numerous private institutions offering tourism courses particularly in Accra. Industry Advisory Boards are specialised organs of the TETO with expertise in their individual enterprises such as catering, accommodation, tour operations, car rental and travel agencies. They also advise the National Accreditation Board (NAB) which is presently the statutory body that determines the qualifications framework and competency standards of training organisations. NAB also determines the suitability of programmes, teaching staff and standards of all institutions, private or public, seeking authorization to offer tertiary level courses in tourism. In addition, it assesses the Ghanaian equivalencies of certificates or programmes pursued in overseas institutions. Students or the products of the training organisations are not just school leavers but also people already in employment and who are eager to improve upon their skills and academic qualifications.

The greatest strength of the model is that tourism education and training will be the collaborative efforts of government, industry, and educational institutions. Industry, thus, contributes to the development and review of the curriculum of training organisations. Manpower training in the tourism and hospitality industry will thereby be 'demand-driven' and not 'supply-oriented'. The model also incorporates a systematic monitoring mechanism through course feedback by students, job offers and through the graduates. These are all achieved through establishing and strengthening linkages between the educational institutions and industry.

With vocational skills, it is essential for teachers to have practical knowledge and exposure to current trends in the trade. The collaboration between industry and training organisations offers that opportunity to teachers through industrial attachment. Like all other aspects of our technological and socio-economic development, tourism education at all levels is confronted with bottlenecks whose solution can be realised through such co-operation. In this instance faculty members or teachers are trained in specific skills in an industrial setting, sometimes in company training schools (Wallace, 1985). In addition, such collaboration will afford industrial visits for students and work experience for members of academia.

A major weakness of the model, though, is its emphasis on occupational skills or 'acting' while playing down the 'thinking' aspect of the curricula which involves the "analytical thinking and the understanding of conceptual issues". This is not surprising given that the original model was designed for technical education. In tourism education the 'thinking' component is as important as the 'acting' aspect, and must be given due recognition in any fully-fledged curricula. Mitigating this imbalance will require faculty members insisting on 'their pound of flesh', namely, that intellectual development or 'pure education' of the individual is as of paramount importance even in technical or vocational courses.

Achieving a blend of the 'thinking' and 'acting' components of a discipline has several advantages. First, a programme can be the terminal for a student who can either join the labour force or set up on his own as entrepreneur or self-employed. As explained above the tourism industry comprises a diversity of enterprises, which allow for a large number of employees and entrepreneurs as well as generalists and specialists. To this end the general aspect of education will include basic courses in entrepreneurship. Alternatively, with good foundation in general education the graduate at any stage of the system will be better placed to proceed on further education and training either in the same field or some other related profession. Again the 'pure education' component of the curriculum should be organised from a multi-disciplinary perspective. "As the tourism system is embedded into super-ordinate systems (economic, social, technological, political and ecological environments) a multidisciplinary approach becomes imperative" in tourism education (Kasper, 1989).

Finally the framework also facilitates 'paper' qualification for lowly educated, employees who have acquired enough experience to be appropriately acknowledged and certified. Such 'adult learners' will easily fit into the training programme. Polytechnics or other training organisations can organise short-term courses for that category of trainees.

## Conclusion

The need for a trained manpower for the country's hospitality industry cannot be overemphasised. For an emerging destination like Ghana, the need for a local tourism education and training programme has more than economic justification. In tourism the country is showcasing not

only its natural and historical resources but also its cultural heritage. Ghana's educational system is best placed to offer a training programme that incorporates the country's cultural values and mores as well as the preparation of our unique cuisine.

The broad outlines and structure of tourism education in Ghana shall occupy stakeholders for sometime. Even in established destinations like the U.K. and continental Europe the "infrastructure of tourism education is still being put into place" (Cooper, 1991, p274) and more so for a newly emerging destination such as Ghana. Fortunately, tourism development does not make severe demands on a country's educational resources. Unlike say, mining, agriculture and engineering where large doses of equipment and logistics are needed such as teaching and learning aids, tourism education, by and large, makes use of existing structures. Indeed the framework proposed above relies on the existing educational system, which nevertheless, is in dire need of serious refurbishment and rehabilitation, especially the public sector.

The thrust of the model, though, is on the dialogue among the major stakeholders, that is government, training institutions and industry. Such co-operative efforts, currently lacking, will help address the many bottlenecks facing tourism education in the country. When such cooperation is formalised the logistical constraints facing academic institutions would have been somehow addressed. This would help not only in promoting individual facilities and Ghana as a destination but also in raising productivity levels of the industry as a whole.

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## Appendix

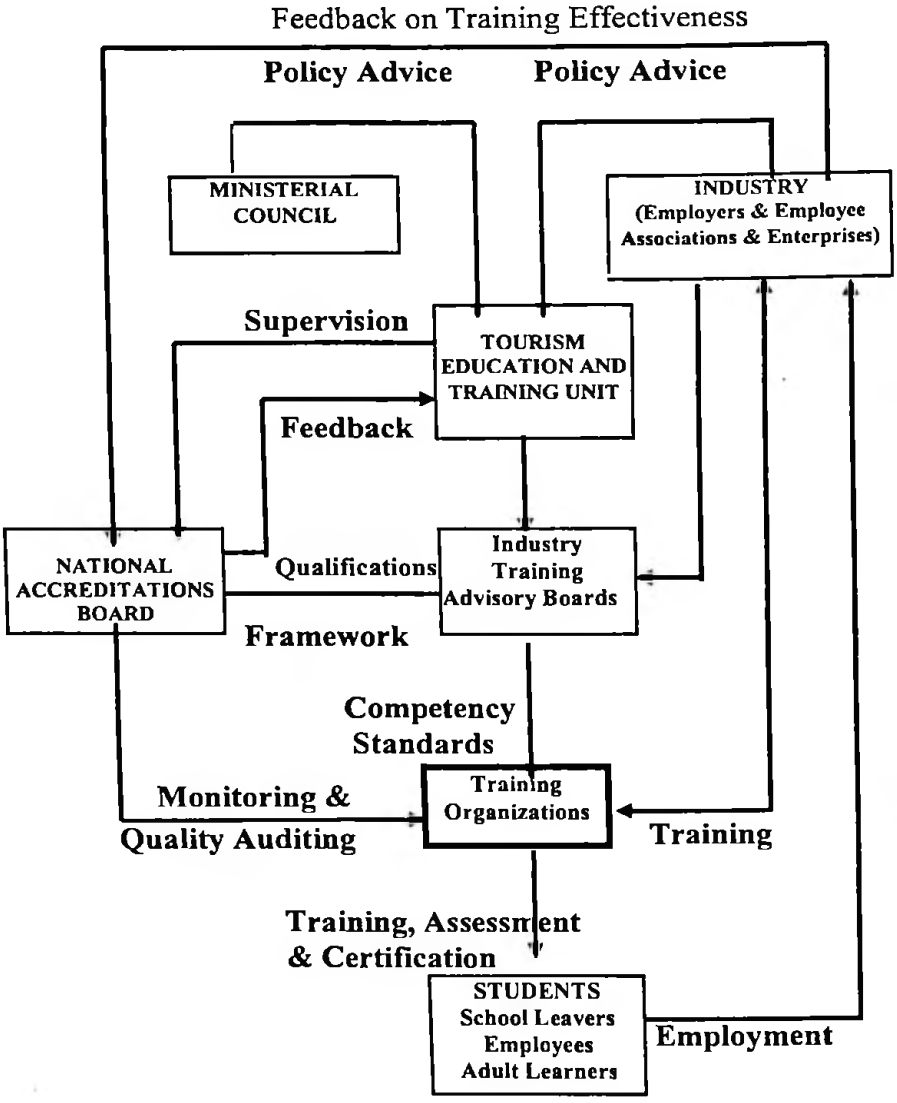


Figure 1: Proposed Framework for Tourism Education and Training in Ghana Adapted from JICA/MOE (2001): Master Plan for Technical Education in Ghana.

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# The Japanese Approach to Improving Classroom Teaching: Lessons for Ghana

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## Abstract

The paper describes how the Japanese In-service training for teachers has implications for Ghana. It discusses the Japanese approach to in-service training for teachers and explores how this model of institutionalised school-based training can be made practicable in Ghana. It is based on the writer's observation of the organisation and conduct of the school-based INSET in Japan, as well as other related literature on the topic. The paper recommends: (a) teacher retention, (b) teachers' sense of professionalism and ownership of the INSET programme, and (c) collegiality among teachers as some of the inputs that can make the system of continuous and sustainable in-service training possible in Ghana.

Education is the cornerstone and agent for improving the productive capacity of the economic, social, scientific and political institutions of any nation (Lockheed & Verspoor, 1991) and primary education is the foundation. In the last decade however, there has been growing concern about the potential of education systems to bring about the desired impact. A number of international studies and discussions on achievement such as the Third International Mathematics and Science Study (TIMSS) reports (Stevenson & Nerison-Low, 1999; Stigler & Hiebert, 1999), UNESCO and World Bank reports (Craig, Kraft & du Plessis, 1998; UNESCO, 1998) have raised alarming concerns about educational standards in terms of learning outcomes. Even in industrialised countries with high results in international comparisons of educational achievement, there is growing interest in how to improve the quality of their education delivery. In this connection, education reforms in many countries have been committed to making the issue of teacher quality and its development the cornerstone of the strategy to improve education quality and increase learning outcomes.

The importance of teacher training and development in the overall quality of basic education has received a lot of attention in the literature (Dove, 1986; Huberman, 1995; Tatto, 1997). The role teacher education should play in producing and maintaining an effective teaching force is increasingly becoming an important subject in many developed as well as developing countries. It is in this respect that Japan attaches a lot of importance to its teacher development programmes, especially as the society is predominantly dependent on its teachers for the development of students' personalities, the transmission of the Japanese culture and for instilling high moral standard in students.

The trend of teacher development in Japan is believed to be a very influential factor for increasing learning outcomes, high performance in international examinations such as TIMSS and the overall economic development of the country. Japanese teachers are almost entirely responsible for the physical, intellectual and mental development of children and thus, have a great influence on children's personality development. Teachers are therefore held accountable for any lapses in the education delivery and learning outcomes.

In Japan, it is again widely recognized that the knowledge and understanding of the growth and development of children, as well as the specialized knowledge of pedagogical skills and subjects teachers need cannot be mastered in the initial teacher training alone, but should be pursued continuously throughout their career. Moreover, the law stipulates that the employer shall provide its employees with in-service training opportunities for efficient fulfilment of their duties. In line with these expectations, various in-service teacher training programmes are made available to the teachers at the national, regional and the school level throughout their entire career. The types of in-service teacher training in Japan, the peculiar features of the school-based type and its implications on teacher development in Ghana are discussed in this paper.

## Types of In-service Teacher Training in Japan

Basically, there are two types of in-service programmes in Japan, namely the centralised and the decentralised. In the centralised programmes, a large number of teachers are given training at a time in programmes, which may not necessarily have been initiated by the target

group. The decentralised programmes are planned depending on the nature or focus of the need for change in a smaller local target group. Examples of the centralised programmes are those organised: (a) at the university for active teachers (b) by the Ministry of Science, Sports and Culture (MEXT) annually for principals and their deputies, head teachers, coordinating and advising teachers, and (c) by the Municipal and Prefectural Education Centres.

The decentralised programmes on the other hand take the form of formal/informal and voluntary INSET workshops promoted by teachers themselves through participating in district-wide study groups and in-house workshops conducted under the guidance of an instructional supervisor (leading teacher) appointed by the superintendent of schools. The most popular INSET programmes in Japan are a combination of the centre-based and the school-based programmes. The INSET at the Education Centre is peculiar in the sense of its systematised structure of providing a professional growth and development model to ensure that teachers could receive the appropriate training according to their ages and experience in their career.

As real teacher training is believed to occur in their on-the-job experience after graduation from college, Japanese schools are recognised to exist not only as educational establishments to impart knowledge and skills to the young, but also as an organisation for research and teachers' professional development. Many surveys have reportedly revealed that the best way to develop teachers' competence consists of reflecting on their own teaching styles and sharing practical wisdom with colleagues (Sato & Asanuma, 2000).

Some of the researches conducted in Japan suggest that teachers considered INSET at the school the most effective because it integrates theory and practice, and also because apprenticeship is commonly accepted as an effective means for training other professionals (Minamimoto, 1986; Sato & Asanuma, 2000). Moreover, the centralised programmes are believed to be mostly inconsistent with the teachers' needs. The school-based INSET has therefore become a popular activity in almost all Japanese schools to cater for teachers' initiative in their self-development. This deep-rooted historical tradition of staff collaboration and development is recently attracting the attention of the

international community that is still in the process of finding ways for improving teacher quality and increasing learning outcomes.

Of particular interest are the TIMSS results that prompted a team of American educators to investigate the educational factors that might help to understand the different levels of performance in different countries. The research was based on the premise that much of what society expects children to learn is learnt at school, and teaching is the activity most clearly responsible for learning. Focusing on classroom processes in three countries, namely Japan, Germany and the United States of America, the study showed that the differences in teaching methods might have contributed to the exceptionally high scores of some countries like Japan and the embarrassingly low performance of American students (Stigler and Hiebert, 1999). The Japanese system of school-based INSET programme that uses the lesson study approach was particularly found to be an influential factor for the high learning achievement of its students, especially in international studies, and for setting and maintaining national academic standards over a long period of time.

The conclusion drawn was that to improve teaching, teachers should have a means of successfully generating, sharing and contributing to knowledge about what constitutes effective teaching, and the Japanese system is one good example to learn from.

## Observable Peculiarities of the School-based INSET in Japan

The school-based INSET in Japan is notably one of the best examples in the world today, a reason for which many industrialised countries like the United States of America are using it as a model for improving their professional development programmes. The following are some of the peculiar characteristics of the programme.

### Ensures Continuous Teacher Development

As has been noted, in Japan, certain systems such as the INSET at the Education Centre and in the school have been put in place and institutionalised to regularly update teachers with newly introduced national and local policies in education. As such, it can be said that

Japanese teachers are probably never out of touch with modern ideas of teaching and improving learning outcomes. It must be noted, however, that in Japan almost all teachers stay in the teaching profession till they retire at the age of 60. The low attrition rate accounts for the availability of personnel to support and sustain such a system.

After graduation, Japanese teachers are considered novices who need the guidance and support of their experienced colleagues; thus, the accumulated wisdom of teaching practice is passed on to each new generation of teachers through a systematic effort of continuing professional interaction between teachers (Stevenson & Stigler, 1992).

In a 'Study of the School-based INSET in Japan' (Adu-Yeboah, 2002), it was discovered that though the INSET programmes at the Education Centre may be similar in a lot of ways to that of the school, in the sense that they both have a common objective of improving teachers' professional competence, there is some remarkable difference in the extent to which the content impacts on teachers' professional competence. Even though the centralised programmes address issues of professional concern, teachers in the 4 schools surveyed by Adu-Yeboah (2002) in Hiroshima, Japan considered the INSET at the school the most effective in addressing their problems relating to professional matters and, specifically, to lesson plans.

Makes use of the Lesson Study Method

The lesson study component of the school-based INSET was institutionalised on the premise that to improve teaching, the most effective place to do so is in the context of a classroom lesson. A school-based lesson study mostly focuses on a problem that teachers themselves have identified from their practice; other times it is on problems of national concern in which teachers' input is required in its solution, or recommendations, which teachers are to implement.

The lesson study is characterized by a wide range of activities offering teachers the opportunity to examine all aspects of their teaching: curriculum, lesson plans, instructional materials, and content. A Research lesson is the main component of the lesson study, which is characterized by lesson observations and critical analysis by many teachers (Lewis,

2000; Lewis & Tsuchida, 1998). In an observation of the INSET programmes, a common trend could be identified. Each INSET programme began with a demonstration lesson based on a topic that had been decided on by the teacher-in-charge in collaboration with a committee responsible for the programme. In the 4 schools observed, it was clarified that groups of teachers were responsible for planning and preparing the lesson plans for the demonstration lessons in real classrooms. The concerns of the lessons basically centred on the teaching methods appropriate for presenting a lesson in a new or problematic subject area.

Another common feature of the school-based INSET programmes observed was a teacher conference which followed soon after the demonstration lesson, moderated mostly by the teacher in charge of INSET. A reflection took the form of a recapitulation of the lesson in reference to the lesson plan used, the processes of the lesson, what was successful and what was not, and what accounted for both situations. Teachers were then given the chance to make their observations about the lesson they observed, focusing on the lesson and not the teacher. Firstly, the strengths of the lessons were acknowledged and complimented, and then constructive suggestions were made using concrete and specific incidents/behaviours during the lesson to improve on the weaknesses. Teachers are critical without offending their colleagues because the lessons are treated as joint products whose ownership is shared by all in the group. As such it could be said that in the process, teachers are critiquing themselves (Stigler & Hiebert, 1999). Alternative approaches were also given for trial in subsequent lessons and a revision made.

Transfers Ownership to Teachers

Another peculiarity of the school-based INSET in Japan is that teachers are offered greater autonomy in their professional development and are, therefore, made to play a central role in both planning and implementation of the programme. There is a collective decision-making between committees, subject and grade-level groups, the teacher in charge of the INSET and the entire staff in planning INSET topics and the most appropriate approach or method of delivery. Consequently, in the 'Study

of the School-based INSET in Japan', it was observed that participatory delivery methods were employed very often. In a list of 8 items, teachers highly rated the demonstration lesson (84.5%), observation (80%) and lesson plan discussion (73%) to have had a greater impact on their professional competence than other items (Adu-Yeboah, 2002).
The role of the principal was, however, found to be almost inconspicuous in the planning and implementation of the school-based programmes since that was the least rated among 4 given items.

Portrays Collaboration as a Process and a Product of Professional Development

It has been asserted that in Japanese schools, there has been a deep-rooted historical tradition of staff collaborations that manifest in a number of voluntary and informal interactions. In the study of the school-based INSET (Adu-Yeboah, 2002), six items sought to find out whether or not there existed any form of interaction among teachers, be it formal or informal, and the circumstances in which teachers interacted with their colleagues. Informal peer-consultation on disciplinary problems and lesson plans (83.8% and 83.4% respectively) received the highest scores.

It is pertinent to note that in Japan, the issue that has become a national concern recently borders on student indiscipline in schools. Interestingly, all the 4 schools surveyed indicated collegial consultation on issues concerning indiscipline, followed by teaching methodology. The impression is that teachers feel responsible individually and collectively in solving problematic educational issues of national concern. Secondly, collaboration includes continuing interactions about problems relating to effective teaching methods and observations of one another's classrooms. As already noted, lessons for the school-based programmes are planned collaboratively, and as teachers observe its demonstration, they reflect on their own practice and identify things that can be improved.

There is also an indication of the existence of informal and spontaneous interactions. This was confirmed by informal observation

visits to the schools in the study. It is important to note that in a typical Japanese school, the seating arrangement in the teachers' common rooms is set up (consciously or not) in such a way as to encourage natural interactions among teachers on a variety of issues ranging from professional to secular/social ones. This kind of atmosphere promotes the freedom to share strengths and weaknesses without any inhibitions or reservations.

Demonstrates Teachers' Sense of Professionalism

Japanese teachers see it as their professional duty to develop themselves and their profession through developing knowledge that is relevant to classrooms and which they share among the members of the teaching profession. The strongest reasons teachers gave for their continued participation in the lesson study were those relating to learning (84.7%) and sharing (84.2%) professional experiences (Adu-Yeboah, 2002). Interestingly, 'strong school leadership' as a reason for participation received the lowest score, indicative of the teachers' voluntarism and personal desire to learn and share; not coerced or threatened to participate.

It can be said that the teachers' sense of professionalism contributes to their continued participation in the research lesson in the school-based INSET. This confirms Amagasa's analysis of the elements of organisational climate that promoted the group-oriented behaviour pattern, a characteristic feature of Japanese way of life (cited in Sato and Asanuma, 2000). Another study by the "Japanese Society for the Study of Education" makes a similar discovery about the informal professional culture of teachers, which has maintained the high quality of education in Japan (cited in Sato and Asanuma, 2000).

A few lessons can be derived from this discussion. Firstly, in addition to the centralised programmes of teacher development, it is important to have a system that would bring teachers together, preferably at the locus of the school, to gather, discuss and share knowledge about effective teaching. Teachers should be made to play a central role in the choice of topics and approaches which will best meet their needs because they are directly involved in instructional processes and as such, know best where their needs lie. Should any change occur in teaching, teachers should be the driving force behind that change.

This calls for the articulation of collegial relationships in a non-threatening atmosphere. Such an atmosphere once developed could be nurtured into a culture that would promote peer-consultation and collaboration, consequently generating naturally into professional discussions (INSET) that would come to stay.

It has also been observed that the sustainability of such a system of continuous teacher development depends on teachers' perception of its impact and the support of the larger educational agencies (district education personnel). The implication is that for the above concerns to be operational in a school, a sense of professionalism should be developed in teachers.

## Characteristics of In-service Teacher Training Programmes in Ghana

In Ghana, as in many developing countries, a severe deterioration in the inputs in basic education and its consequent effects on learning achievements has been recorded since the late 1970s. In spite of various governmental and donor interventions in the education sector, very little success in delivering quality teaching and learning has been recorded. The most prominent of the identified causes of low learning outcomes is teacher inefficiency (Ministry of Education (MOE), 1997). This situation calls for regular updating and monitoring of teacher efficiency through regular in-service training programmes.

In-service training programmes in Ghana have been provided as crash programmes, donor-sponsored, sporadic and sometimes do not address the real inadequacies of teachers. In the provision of these short-term in-service programmes, which mostly use the cascading approach, teachers have been allowed little or no control over their professional development. Some academic studies and sponsored interventions have confirmed evidence that there is a need for the institutionalisation of a comprehensive, systematic and permanent in-service teacher training programme (Nyiaye, 2000). It must be noted, though that these donor-sponsored and piloted programmes which mostly use the cascading method, are mostly found to be expensive, inadequate and unsustainable.

In search of a more sustainable approach to teacher professional development, the school-based INSET has been proposed as a potential tool to increase the competencies of teachers in basic schools and thereby increase learning achievement (Ghana Education Service, 2001). In response to this, the British Department for International Development (DFID) and the MOE have sponsored the Whole School Development (WSD) project in a bid to give schools the control in planning and developing their teachers. Unlike previous programmes, the WSD initiative is expected to be sustainable. Ghana seeks to achieve its national goal of enhancing the quality of teaching and learning outcomes through a regular and continuous teacher professional development programme, among others. To do this, it is important to learn from the experiences of other countries like Japan which has a 50-year history of school-based INSET.

## Possible Challenges to the Adaptation of the Japanese Experience in Ghana

Improving teacher efficiency is the concern of every educational system. Being such a common educational concern, examples from advanced systems could be useful lessons for others that are still struggling to develop and maintain teacher quality. Researchers and educators have become increasingly aware of the need for ideas for improvement to be tested and adapted to the Ghanaian context. It is generally believed that teaching is a cultural activity such that consciously or not, teachers teach the same way they were taught in school (Stigler & Hiebert, 1999). Change in any culturally embedded activity like teaching, should be gradually done in the context of that culture. Its cultural significance notwithstanding, the following lessons from the Japanese teacher development programmes could be practicable in Ghana if its attending challenges are addressed.

Developing a System of Continuous Teacher Development

The centralised and decentralised programmes of teacher development are provided in Ghana. At the national level, regional and district levels, INSET is organised for head teachers, teachers and other education personnel. However, as has been mentioned before, these programmes are not regular and continuous because they are mainly donor-assisted, sporadic and piloted. In many instances, the programmes end with the withdrawal of the sponsorship. This makes the sustainability of the school-based INSET almost unachievable. One possible way of ensuring its sustainability is to encourage teacher-research. Research into problems in specific subject content or pedagogic issues could be carried out at the regional and district levels. Findings of such researches could serve as teachers' contribution to the body of knowledge about effective teaching. This practice could then be nurtured into a professional culture that would come to stay. Given the right support and climate, the school-based teacher development programme could make an invaluable contribution to effective teaching and teacher quality.

Ensuring Teacher Retention

It has been noted that teacher support is among the factors that ensure the sustainability of a programme. In this paper, it has been suggested that the low teacher turnover rate in Japan ensures the continuous availability of personnel for a sustainable school-based programme.

The common practice in Ghana is for basic school teachers to apply for study leave with pay after teaching for 3 years and move out of the basic school teaching or from the teaching profession all together (Akyeampong, 2001). This situation does not ensure continuity in any teacher development programme initiated especially at the school or cluster level. If there were any systematic effort of continuing professional interaction between the teachers at the school level, the accumulated wisdom of teaching practice would be passed on to each new generation of teachers before they embark on study leave or leave the teaching profession.

This makes it necessary therefore to address the issue of high attrition rate among Ghanaian elementary school teachers in order to maintain a regular teacher supply and retention. Support could then be developed and sustainability ensured.

Transferring Ownership to Teachers

The observable trend in the INSET programmes in Ghana is that they are either perceived to be literally 'for the government' or for a donor agency as they are normally initiated by either of them, based on nationally identified teachers' needs. It can be said that most of the time, teachers do not have a sense of ownership for such programmes and so do not give them the needed support that could sustain their institutionalisation.

As was perceived in the Japanese system, it may be necessary to have at the school or cluster level, an organisational structure that would ensure the active interaction of committees, same subject and grade teachers, coordinated by a designated teacher in charge of INSET. In turns, these committees could be made responsible for deciding how and what issues to focus on in the training programmes. This collaborative planning, once established could be another channel for generating professional discussion about what constitutes effective teaching. The head teacher's support, external or middle level support (from regional and district education agency) would also be needed to regularly provide expertise and resources to the school to ensure its sustainability.

Encouraging Collegial Interaction

It has been shown in this paper that the existence of informal and spontaneous interactions is important for the development of a sharing and learning culture among teachers in a school, and a prerequisite for the lesson study method of professional development in the Japanese school-based INSET. Additionally, it has been observed that for such a culture to be operational in a school, teachers must be willing to share their experiences, good or bad with their colleagues, and must also be willing to have their classes and lessons observed and discussed.

In the Ghanaian culture of teaching, however, teachers are isolated in their classrooms, and find it most difficult to discuss their work, especially their challenges, with colleagues. Teachers would, in most cases, be most unwilling to open their classes up for observation and 'criticism'. Lessons are observed only for evaluation purposes; teachers also take very suspicious view of being observed. Thus, there never seems to be the opportunity to observe and learn from the practice of others.

Teachers' rooms are almost non-existent in Ghanaian elementary schools; teachers have their desks and teaching materials in their own classrooms, and interaction among colleagues is almost impossible for as long as teachers remain in the privacy of their closed doors, where they are completely in charge. Such closed doors form barriers to communication, cutting off teachers from their colleagues, consequently, making very little time for interaction with other teachers (Stevenson & Stigler, 1992).

It has been suggested that the climate of the school is determined by the management system and support instituted by the school principal. This spirit is manifested in various forms, including coordinating and managing the learning process (Heneveld & Craig, 1996; Craig, 1996, cited in Craig et al, 1998). By implication, the practice of sharing and learning professional experience from colleagues could be developed through an organisational climate that could promote the group-oriented behaviour pattern peculiar with the Japanese model.

## Developing a Professional Culture

In Japan, the high sense of professionalism was found to account for the sustainability of the school-based INSET. The success of programmes aimed at improving teaching and learning is found to be highly dependent on the professional commitment of teachers.

A true professional has been described as one who has command over a substantive body of professional knowledge, as well as a mechanism for improving it, and has a genuine desire to improve her/his practice (Stigler & Hiebert, 1999). Unfortunately, the level of commitment that is associated with the sense of professionalism is very low among

members of the profession in Ghana. According to a 1999 evaluation report of the World Bank-supported Primary School Development Project (PSDP), teachers were not meeting professional expectations, and this manifested in a number of indicators including high teacher absenteeism, frequent loss of instructional time, poor instructional quality, poor management, and inadequate textbooks (Fobih et al., 1999, cited in Akyeampong, 2001). Moreover, even where professional commitment is exhibited, resources are not available to help teachers improve how they teach. Additionally, no system has been provided in which teachers might spend time studying and improving teaching, and thus building a strong consciousness of the demands of the profession.

For the above lessons from the Japanese example to be operational in the Ghanaian context, it is important to develop a sense of professionalism among teachers. A lot of factors influence the development of teacher professionalism. Some of these factors have been found to be related to status, monetary rewards, public recognition, and the images of the profession teachers hold (UNESCO, 1998).

Much as policy interventions would be required to address some of these socio-political factors that influence teacher professionalism, it is equally important to be able to identify Ghanaian teachers' perception of professionalism so as to be able to provide the right inputs to address any deficiencies and inadequacies identified.

## Conclusion

Having a system of professional development in place is in itself no guarantee that it will thrive; that system must receive the support of all stakeholders, especially the teachers for whom that system is supposed to improve professionally. The articulation of collegial relationships in a non-threatening atmosphere is of primary importance in promoting a learning atmosphere in a school. Such an atmosphere once developed could be nurtured into a culture that would promote peer-consultation and collaboration, consequently generating naturally into professional discussions (INSET) that would come to stay.

Finally, it must be reiterated that the sustainability of the school-based INSET programmes depends on the availability of personnel, on teachers' perception of its impact, and the support it will generate from the

beneficiaries. Moreover, for a programme to achieve its desired impact, the stakeholders or beneficiaries should be made to play a central role in the choice of topics and or approaches which will best meet their needs. The kind of atmosphere prevailing in the school also suggests the level of teachers' support and participation for the school-based programmes.

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# Examination Malpractices in Ghana:

# What Teachers Should Know

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## Abstract

The paper is about what teachers should know with respect to examination malpractices.It brings to light the various forms of examination malpractices that take place in educational institutions in Ghana. It also provides suggestions as to how this menace can be curbed. Information for writing the paper was obtained from personal observations and published literature. The paper concludes that examination malpractices can be minimized if rules are made for examiners concerning the proper conduct of examinations. The examiners should also be made aware of the need to behave properly during examinations.

Examination malpractices have become rampant in recent years and this does not augur well for the academic progress of a nation. It is not uncommon to hear that examination results of candidates have been cancelled because of this practice. In fact, in almost every release of examination results by the West African Examinations Council (WAEC), the principal examining institution for the West African sub-region, cases of examination malpractice have been cited with the resultant cancellation of the results of candidates. For example, in 1999 candidates numbering 181 were barred from writing any examination conducted by the Council in any of its member countries, namely, Ghana, Nigeria, Sierra Leone, Liberia and the Gambia, for 3 years because of their involvement in examination malpractice with respect to the General Certificate of Education (GCE) Ordinary ('O') and Advanced ('A') level examinations (Dery, 1999). In the same year the number of candidates involved in examination malpractices in the Senior Secondary School Certificate Examination (SSSCE) was 317.

In the year 2000, the number of candidates whose results were cancelled as a result of examination malpractices was 172 (Amanor, 2000). The SSSCE results released in 2001 recorded 160 cases of examination malpractices (Donkor, 2002). In reality cheating by candidates has been a headache for WAEC, leading at times to delays in the release of examination results (Okine, 1999). Asamoah and Cook ( 2001) reported that the Head of the Ghana Office of WAEC decried "the increase in examination malpractices, stressing that drastic measures have to be taken to prevent the recurrence of the practice" (p.17).

The examining body for the 3-Year Post-Secondary Teacher Training Colleges, the Institute of Education of the University of Cape Coast, has also had its share of examination malpractices with the consequences of cancellation of results of candidates. For example, in 1997, the results of 9 candidates were cancelled for their involvement in examination malpractices in the Three-Year Post-Secondary Teacher Training College Final Part II examination (Institute of Education, 1997). In 1998, those involved in examination malpractices in the Final Part I examination were 14 in number (Institute of Education, 1998). Cheating in examinations occurs even at the University level. Such incidents have been reported in the local newspapers. One such case resulted in the expulsion of a student of the University of Ghana for his involvement in examination malpractice and the suspension of 3 others for a similar offence (Graphic Reporter, 1998).

Even in the primary schools, pupils do cheat. This was discovered in the course of testing pupils in English and Mathematics within the period 1999 to 2000 in a United States Agency for International Development (USAID) sponsored research in which the author was involved. It covered schools from every region of Ghana. The data collectors really had difficult times in trying to prevent the pupils from copying from each other. Doubtlessly, cheating in examinations must be seriously combated. It is in this direction that Awortwi-Mensah (1998) reported that the Public Relations Officer at WAEC "appealed to churches, parents and the members of the general public to help eradicate examination malpractices to ensure that students grow to become responsible adults in future" ( p. 13 ).

The causes of examination malpractices are many, and it is important that educationists are made aware of them so that this canker can be minimized if not quashed altogether. In this paper, the author

draws on experiences as an examination supervisor to provide information on the nature of examination malpractice and how it can be controlled. It is hoped that armed with this information invigilators and supervisors of examinations can execute their duties with an informed mind and also aspire towards malpractice-free examinations so that more confidence can be placed in examination results. Specifically, the paper focuses on (a) the nature of examinations: (b) nature of examination malpractice; (c) causes and examples of examination malpractices
(d) some remedies to examination malpractices and how to deal with culprits of examination malpractices.

## Nature of Examinations

Examination is part of a large concept called assessment. Examinations have become an almost indispensable means of assessment in educational institutions since 2200 B. C. when formal testing started ( Popham, 1981). For the purpose of this paper an examination is just a large scale test, or a combination of several tests and other assessment procedures. A test in the context of this paper is defined as a particular situation set up for the purpose of making an assessment (Wrigley, 1986). In the testing situation there is a testor and a testee and in the examination situation there is an examiner and an examinee. In the context of examination malpractices the testee and examinee will be considered as synonymous since in both cases situations are set up to collect data on a person for some decision to be taken.

Because an examination is considered as an assessment, its outcome is supposed to represent the true performance of the examinee so that the outcome can be useful, among other things, for:

1. Screening or selecting individuals for admission
2. Motivating learners to maximize their learning
3. Advising individuals on their vocational choices
4. Diagnosing learning difficulties and designing methods and materials ( Akplu, 1989).

The above uses of assessment necessitate the genuineness of examination scores, otherwise the wrong impression will be conveyed. This situation will lead to a wrong decision which might be taken, as it happens when a

candidate cheats in an examination and thus obtains a score which does not represent his academic ability.

In Ghana, different types of examinations are organized for various purposes. For example, the West African Examination Council organizes many examinations among other things, to certify Junior and Senior Secondary School students. The Institute of Education of the University of Cape Coast also organizes examinations for the promotion and certification of teacher-trainees of the Three-Year Post-Secondary Teacher Training Colleges in Ghana. Examinations are also done at the University level in Ghana to award degrees, diplomas, and certificates. For all these purposes the real academic output of the candidate is very important, otherwise square pegs would be put into round holes.

## Nature of Examination Malpractices

Examinations are necessary practices in the teaching/learning situation because of the many functions they are supposed to perform. It has, however, been observed that "selection-oriented examinations such as the ones that dominate our educational system have generated intense competition forcing pupils and schools to adopt fraudulent practices in order to win the 'Rat Race' (Akplu, 1989, p.4). These fraudulent practices are what are popularly known as examination malpractices. By definition it is "any activity of a student or group of students whose purpose is to give any of them higher grades than they would be likely to receive on the basis of their own achievement" (Ebel and Frisbie, 1991, p.206).

Examination malpractice is a serious academic fraud that should be given serious attention by teacher education units and governments since it is a social vice and an indictment on the reputation of heads of educational institutions. According to Ebel and Frisbie (1991), although it is agreeable to students, teachers and educational administrators that cheating in examination is a serious problem "it seems to receive more attention in popular press than in technical books and articles on testing. Cheating in examinations is commonly viewed as a sign of declining ethical standards or as an inevitable consequence of increased emphasis on test scores and grade" (Ebel & Frisbie, 1991 p. 206).

Examination malpractice has become so rampant that it became necessary for the head of an examination institution to instruct Chief Examiners, Team Leaders and Assistant Examiners during a co-ordination and marking exercise to scrutinise very carefully all scripts to ensure that candidates have not committed any examination malpractice. They were to watch out for scripts which were not properly stuck together and to report any cases of collusion where the answers of two or more candidates were too similar to be a coincidence (Antwi, 1995).

The teacher has now turned into a detective. As a follow up, it is justifiable for the teacher education curriculum in Ghana to include courses on the detection of examination malpractices to equip teachers with the necessary skills to be detectives for this menace. Coupled with the strenuous effort of marking scripts is an added task of carefully scrutinizing all scripts because an examinee misbehaves or an examination supervisor/invigilator did not do his/her work properly. The part examiners and supervisors play to foster examination malpractice needs elaboration.

## Causes and Examples of Examination Malpractices

The causes of examination malpractices are many and, therefore, cannot be completely covered in this paper. However, a few of the known causes have been highlighted. These include laxity in proctoring, leakage of examination questions, the nature of the test, preparedness of examinees and noise making.

In the view of Mehrens and Lehmann (1991), if one considers the prevalence of cheating in examinations, it is obvious that the responsibility of proctoring is not considered seriously enough by many teachers. This situation, therefore, creates a conducive atmosphere for cheating. It is tantamount to the absence of invigilators and/or supervisors from the examination room. Poor invigilation may have many interpretations. Firstly, there is the "present-absentee" situation in which case the invigilator and/or supervisor will be physically present in the examination room but will be pre-occupied with other things such as reading a novel, conversing, marking scripts, among others. Such situations can give the students the chance to cheat because they know that they are not being observed. In the second situation, the invigilator/supervisor will be present and be actually observing the students but turn a blind eye to

whatever unconventional scenes that may be set in the examination hall. These invigilators/supervisors are described as being "blind." The third category are the supervisors/invigilators termed as "ghosts" who stand outside the examination hall for most part of the examination. There are also those faultfinders ready to pick a quarrel with a teacher who reprimands students for wrong doing in the course of the examination in order to win the favour of the students. The main job of these case-pickers in the examination situation is rather to aid and abet examination malpractices.. The fourth group are those who occasionally or for most part of the examination are absent from the vicinity of the examination to attend to other matters. They are also called ghosts. Lastly, are the helpers who go there with the intention to help certain examinees.

The above analysis spells out different categories of indecorous invigilators/supervisors, namely the blind, the present-absentee, the case-pickers, the helpers and the ghost. One can imagine the kind of activities that go on among the examinees in the examination hall with such kind of supervisors/invigilators. The teacher-teacher supervision inhibitory actions can also impinge negatively on the alertness of even the firmest of supervisors/invigilators. A supervisor/invigilator may adopt an apathetic attitude in order not to incur the displeasure of his colleagues or the students for his corrective actions in the examination room.

Laxity in proctoring can lead to examination malpractices such as receiving of unauthorised information by the examinees. For example, he/she can glance sidelong at another examinee's script for information. Sometimes an examinee intentionally places his/her script in the course of the examination in such a way that a fellow examinee can have a full view of whatever has been written on it and thus copy the information. The examinee can also obtain information using foreign materials for example books (not applicable to open-book evaluation), pieces of paper with or without information which have been smuggled into the examination hall under unorthodox conditions. A handkerchief can also be a source of unauthorised information. Those with prepared notes copy them directly and the blank ones are sent in for the purpose of copying questions. The copied questions are then sent outside the examination hall under the pretext of going to urinate, to obtain answers.They are then smuggled back into the examination hall to be used as sources of information.

One has to be watchful when examinees borrow because borrowing of items such as erasers, pencils, calculators and other stationery in the course of the examination are means by which information can be passed from one examinee to the other, verbally or documented.

One trick that can go on unnoticed is swapping of question papers with written information between examinees. Gestures must also be watched and interpreted as "friendly" or "dangerous". Dangerous gestures are the ones used to communicate answers to other examinees. This happens especially with multiple-choice items. One finger lifted may represent the first question. The answer follows with the second gesture. If the first finger is lifted for the second gesture the answer is the first one. If two fingers are lifted the answer is the second one. Watchfulness should extend to the examinees leaving the examination hall with excuses. This is because examinees can arrange to meet outside under the pretext of visiting the washroom but rather go out and confer.

The second cause of examination malpractices, which is leakage of examination questions, happens as a result of laxity at the processing stage of the questions. The mode of disposal of unused question papers during processing can be a channel for questions to leak. Leakages can also occur when question papers are not kept properly before the administration of the test by the examiner.

Thirdly, the nature of the examination can also be a determinant as to whether cheating will take place or not. It is believed that "cheating is more likely to occur on a poorly planned test in which the test items do not cover what was taught, or focuses on straight memorization of trivia rather than upon reasoning skills" (Mehrens and Lehmann, 1991, p. 158). The increased use of objective test has been given as a leading cause to cheating (Ebel and Frisbie, 1991). The types of cheating inherent in objective tests are sidelong glance, gesticulation to communicate answers to others and exchange of papers. In the objective test it is very easy for an examinee to look on a fellow examinee's paper and quickly spot the answers, unlike the essay type of answers which involves lengthy reading. It is also easy for the answers to be copied and circulated on paper among the examinees. Gestures can be used by supervisors and invigilators to provide answers to multiple choice items to examinees.

Content invalidity, the fourth cause of cheating in exams, happens when items do not compare favourably with what is stipulated in syllabuses. This situation can lead to desperation on the part of the examinee. Such desperate situations are enough of an impetus to cause even an angel to want to cheat. Another desperate situation that can lead to cheating is when examinees realize they are handicapped because they have not learned enough to be able to answer the questions, and they are directly faced with failure. It can be difficult for such people to be restrained from cheating unless they are under the most vigilant eye. The more hard pressed the examinee is for information, the more likely it is that he/she may resort to cheating.

WAEC supports this view when it states that one of the causes of the recent upsurge in examination malpractices is inadequate preparation by students (Tetteh, 1998). It may be this lack of preparedness on the part of the candidate that causes them to ask others to write the examination on their behalf. This is an examination malpractice termed impersonation. In fact, the examining body in Ghana that reports a lot on impersonation is WAEC. For example, a 24 year old former student was arrested in connection with impersonation. He was caught when he was found writing the English Language paper for a girl (Dzamboe, 1998). In another instance seventeen candidates were arrested for impersonation during the English Language paper of the GC E "O" level examination. Earlier on 4 were arrested for the same offence during the Modern Mathematics Paper of the GCE "O" level examination. According to WAEC officials, the impersonators have devised new methods by exchange of index numbers or exchange of examination papers (Tetteh, 1998). In yet two more instances a man was arrested whilst he was in the process of writing the GCE " A" Level Modern Mathematics Paper I examination for a friend (Awortwi-Mensah, 1998) and there was impersonation at the GCE "A" and "O" level examinations involving more than 200 candidates (Dery, 1999)

Last but not least, noise-making within or outside the examination hall can create the opportunity for students to cheat. Sources of noise in the examination hall can be when drawing examinees' attention to typographical errors, giving instructions, conversation between examiners and noise made by passers-by and outside events. Whenever there is such

a situation, some examinees can take advantage of the noise being made to make their own noise by communicating with each other.

Even if all the aforementioned tricks are not detected , the examination scripts and other things can give clues that can help to detect examination malpractices. The examiner may do well to look out for:

1. Scripts to which entire sheets are attached or new sheets have been inserted when many of the original sheets in the script are not used. The inserted script could be from another candidate or materials smuggled into the examination hall.
2. Scripts with many creases. These are characteristic of scripts which are smuggled out of the examination hall to answer questions and later smuggled back into the examination hall.
3. Answer scripts having different hand writings. This is suggestive of information from another candidate/source.
4. Answers too similar to be coincidental. In this case there will be common errors and the answers will be the same, word for word.
5. Foreign materials such as notes and torn out pages of books are left in the answer scripts (Antwi 1995).
6. Fidgety examinees. These candidates may be looking for opportunities to use foreign material or to communicate with another candidate.

It is really not impossible to nib these offences in the bud. With the help of dedicated and vigilant examination supervisors/invigilators something can be done about the negative intentions of the examinees before they degenerate into fraudulent acts.

## Some Remedies to Examination Malpractices

One thing is clear from what has been said so far, that if a person cheats then the outcome of the test is not a reflection of the candidate's output. This situation puts validity at stake, because the score will be representing something else instead of what it is supposed to represent. This is serious because validity is a requirement of test scores, if they are to be of any use.

To minimize the invalidation of test scores through examination malpractices certain measures have been suggested as follows:

1. At the processing stage, measures should be put in place to ensure that the questions do not leak. One way of doing this is to shred and burn all discarded question papers. No bags should be allowed into the processing rooms, and there should be a body-search of the people leaving and entering the processing room. The processing should be under tight security, and if possible the time lapse between the processing and actual administration of the examination should be as short as possible to provide less time available for leaked questions, if any, to circulate. Besides, storage of examination questions over a long period of time carries with it the temptation of examination malpractice. Account should be made of each copy of the test that is duplicated. Numbering of the copies can also help.
2. Examination questions should be valid to avoid the desperation which causes examinees to cheat as has been happening especially when questions set do not have much bearing on what the syllabus demands. The questions must be proofread before being used, to avoid distracting the attention of students during the test to correct errors, for example typographical ones, thereby creating a noisy environment which can favour cheating. Students should be directed to check on whether or not their test copies contain all pages and are properly collated before they begin to avoid interruptions during the examination or the temptation to seek help from other examinees, which can lead to collusion.
3. Rules must be established for both examinees and supervisors/invigilators to guide them with respect to their behaviour in the examination hall. For the students the rules can be posted to

notice boards and their attention drawn to it for perusal. That alone is not enough. There should be a formal session at which the rules and regulations can be read and the rationale behind them explained to the students so that they can better appreciate why they are not to do certain things. In the same way the invigilators/supervisors should also have sessions at which they will learn about their duties and the rationale behind the rules. The informed mind can better help them to enforce the rules after having had understanding of their implications.

4. For noise to be minimized, teachers who are friends should not be put together to supervise the same session for fear that they themselves may create noise in a form of conversation, thereby allowing students to do the same. Also a notice can be put outside to warn passers-by not to disturb when examination is in session.
5. Before students enter the examination room they should be searched to prevent them from carrying any foreign material into the examination room. The idea that they should be allowed to go in with whatever they have, and if they are found out they will be dealt with should be discarded. Students should be made to know that it is improper to carry foreign material on them for the purpose of taking advantage over others. Examinees leaving examination room and intending to return should go under escort or else should not be allowed to return to the examination room. Not more than one examinee intending to return to the examination room should be allowed to go out. If more than one person leave, there is the tendency for them to confer even inside the washroom.
6. For very effective proctoring, sections in the examination room can be apportioned to the invigilators, so that they can intensify their watchfulness on the examinees in the area given them. Also under no condition should there be no supervisor/invigilator in the examination room.
7. Examination rooms should function for that purpose alone, otherwise they can promote cheating if they also serve as study rooms for the students after the examination sessions. Information can be scribbled on tables and other materials can also be hidden there for their use during the examination if the room serves a dual purpose during the examination period.

8. Once in the examination room there should not be any form of communication between examiners. Even communication between examinees and invigilators/supervisors should be disallowed unless it becomes very necessary. Borrowing of items such as pencils and erasers can be avenues for exchanging information and thus should be discouraged. Borrowing through the mediation of a supervisor/invigilator should also be discouraged.
9. Examinees should not be allowed to leave during the last few minutes of the test period as this tends to distract and unsettle other students and to abet cheating (Ogunniyi, 1991).
10. If it is possible examinees should be seated on alternate seats to minimize cheating. An alternative is the preparation of two formats of the same test but having the test items arranged differently on each format and printed on differently coloured papers if possible. If the examination involves different classes taking tests concurrently, the seating can be arranged such that students sitting adjacent to each other are not members of the same class.
11. Index numbers should be written on all examination tables and the index number should be that of the candidate sitting for the examination at that time. Candidates should not be allowed to choose where and with whom they want to sit. The identity of each candidate must be established.
12. Scripts of all those who finish the examination early should be collected and kept by the examiner to prevent a situation whereby an examinee can take his script away or exchange his script with that of a more intelligent candidate who might have left earlier.
13. To safeguard against exchange of question papers with information written on them provision should be made for all question papers to bear the candidate's index number which has been written in ink. Also all scripts should bear the stamp of the institution.
14. Students should learn to be honest. They should prevent other students from copying their answers and also report cases of cheating to the invigilator.

How to deal with the Culprits of Examination Malpractices.

Firstly, all cases of examination malpractice should be officially documented. A format as found in the Appendix can be used whereby provision is made for stating the nature of the offence. It is important that other examinees present in the examination room are made witnesses to the offence to forestall future denial by the culprit or to prevent a false preferment of an offence against a candidate by a supervisor/invigilator for personal reasons. The form should then be signed by the detector of the offence, the culprit, the supervisor and possibly an external supervisor if there should be one. The candidate's name as well as his correct index number should be on the form. The exhibit, if any, should be collected and attached to the report as evidence.

Secondly, for a fair judgement of the offence it should be presented before a special board, which will then decide the kind of punishment to be meted out to the culprit if found guilty of the offence.

Thirdly, the attention of the general student body should be drawn to the offence and the kind of punishment given to serve as a deterrent to them. It must, however, be noted that the fact that a student has cheated in an examination does not mean that he should be given a low score. Learning goal attainments are not reflected when an examinee cheats (except the goal attainment is honesty, which is rare). Therefore, if a student cheats on a test then his/her score is not valid for that test and therefore he/she should not be given any score, just like anybody who never took the examination at all.

Judgement of the attainment of the proper learning goals should be suspended and should only be done if the culprit no longer displays the dishonest behaviour to enable a true assessment of the attainment of the learning goals to be made.

According to Frisbie and Andrew (as cited in Ebel & Frisbie, 1991) "the typical student has many opportunities to cheat, and the willingness to do so has been observed as early as kindergarten ( p. 207). This observation justifies the moulding of a student's character with respect to cheating by conscientizing them. Examinees must know that examination malpractice is an academic dishonesty and is tantamount to stealing with its logical punishment of incarceration.

Since examinees come from different backgrounds and as such have formed their characters already with respect to what is morally sound it behoves educational institutions to consciously train students to come to the realization of the malicious nature of cheating so that the student will frown on it .

## Conclusion

Examination malpractice is real. It is a nuisance to examination bodies and it is an impediment in making a fair assessment on learners. It over-burdens invigilators /supervisors because of the extra caution they have to take. Knowing its negative effects, all those concerned with examinations should arm themselves with the knowledge given, hoping that it will be minimized if not eradicated altogether. The examination rules should help students to mould their behaviour on honesty. According to the behavioural model, the events which come after a behaviour are essential in determining whether the behaviour will be strengthened and maintained. Consequences which are found to be pleasant or desirable increase the likelihood that the behaviour will recur. They can, therefore, strengthen or reinforce behaviour. Consequences which are found to be unpleasant or undesirable decrease the likelihood that the behaviour will be repeated and therefore weaken it (Bull & Solity, 1987). In this light, it can be logically concluded that examiners' attitude to cheating will determine whether it will continue or not.

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Appendix

REPORT ON EXAMINATION MALPRACTICES

1. NAME OF COLLEGE:
   .....
   CANDIDATES NAME: ..... INDEX NO. .....
2. SUBJECT:.....
3. LEVEL: (PART I/PART II) DELETE WHERE NOT APPLICABLE)
4. DATE: .....
5. NATURE OF EXAMINATION MALPRACTICE (to be written out in space provided)
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AWARD COMMITTEE'S COMMENTS

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CHAIRMAN SECRETARY
AWARD COMMITTEE AWARD COMMITTEE

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DIRECTOR

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# Reforming Education in Ghana: A Critique of Gender Reform Policies

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## Abstract

The paper presents a critique of gender policies in ongoing basic education reforms in Ghana. Reports, articles, policy documents, and textbooks were analysed to unpack conceptual underpinnings and implications for change. While lauding the reforms for articulating gender concerns explicitly, raising questions on inter-sectionality and proposing curricula review, it was also argued that the stop-gap and deficit approaches to policy framing impeded the structural change necessary for social transformation. Hence, a case was made for the consideration of the Larkin and Staton (1998) transformative equity model, which focuses on questions regarding access, inclusion, climate and empowerment, for confronting the structural impediments.

Since independence, a number of attempts have been made to address the numerous problems in the Ghanaian education system. In fact, every decade has been marked by major reforms that were meant to address problems such as low participation, curriculum dysfunctionality, gender gaps, rural-urban dichotomy and rich-poor disparities (Education Advisory Committee, 1972; Education Commission, 1986; Fobih, Koomson & Godwyll, 1995). Notable among them were the Accelerated Development Plan on Education of the 1950s, Universal Primary Education Initiative of the 1960s, Dzobo Reforms of 1970s and Anfom Reforms of the 1980s (Antwi, 1992; McWilliam and Kwamena-Poh, 1975). These efforts have, however, not been very successful in addressing the problems that they were intended to address. For instance, in 1984, in a message mandating the newly constituted Education Commission (i.e., the Anfom Commission) to draw up new proposals for reform in education, it was reported that:

The fundamental message of his [Chairman Rawlings] inaugural address was that our children must "grow up free from the stultifying

influence of the educational oppression, which has prevailed for long." He observed that a system which denies the majority of children equal opportunities, which values conformity before creativity and which encourages self-interest cannot be described as anything other than oppressive. He, therefore, charged the Commission to formulate "recommendations of national policy on education such as will enable the realisation of the objectives of the revolutionary transformation of the society in the interest of social justice." (Fobih et. al., 1995, p. 66)

Drawing from past and ongoing initiatives, the Education Commission presented some proposals that were aimed at addressing the problems of Ghanaian education more seriously (Education Commission, 1986). The central focus of the resulting report was on the democratisation of education for the social transformation of the Ghanaian society. This was to result in the revision of the then New Content and Structure of Education that had been proposed by the Dzobo Committee (i.e., the Education Advisory Committee) a decade earlier (Education Commission, 1986). Although the grave gender gaps were acknowledged, the proposed democratisation process did not include explicit statements on gender questions. Indeed, it can be concluded that questions about gender were not deemed critical. Consequently, it is being argued that prior to the 1990s gender questions were not central to the reforms. Rather, gender questions were peripheral to the education reform process. Although a very important initiative, namely, the Science, Technology and Mathematics Education (STME) programme had been initiated in 1987 to address gender gaps in the sciences, this was an isolated attempt rather than part of a comprehensive project of gender reform (Girls' Education Unit, 2000; Atakpa, 1995).

The lack of explicit policies and a comprehensive programme of reform can be said to have accounted for the situation depicted in the following claims:

> ...In spite of all the efforts that successive governments of this country [Ghana] as well as institutions and organisations have been making since independence to ensure that all children of school-going age go to school and complete at least basic education, gaps still exist between boys and girls in admission, enrolment and retention rates. These gaps grow larger especially in the northern sector of the country and as one goes up successive grades and

> levels.... This situation is at variance with government's commitment to providing a basis for social justice and equality of opportunities to all. In view of this, there is the need to pay special attention to the problem of girls' education (Ghana Government, 1994. p. 5).

A year later, the following gloomy picture was painted regarding the persistent gender disparities in education:

> Adult literacy is estimated at 53% of the adult population (15 years and above) but varies considerably between men and women, their respective rates being 64% and 42%. Primary and secondary school enrolment rates amount to 77% and 38% (respectively) of the population in the relevant age groups. Again the rates are higher for males than for females and the discrepancy widens as one ascends the educational ladder: a male-to-female ratio of 55:45 in primary school and 67:33 in senior secondary school. (Ghana Government, 1995, p.7)

This gloomy picture has been the subject of concern in many educational and development fora in the 1990s (Atakpa, 1995; Dolphyne, 1991; Girls' Education Unit, 2000; Nikoi, 1998). During such fora the significance of female education to the national development process was underscored. In fact, it was in one such fora that a Deputy Director of Education observed that:

> The fact should not be lost that the full participation of women is essential to achieve sustainable development. Research has proved that women's education is the single important path to higher productivity, lower infant mortality and morbidity. Government is therefore convinced that by equipping the girl-child with the tool of education we are not only tapping the potential of our country's most valuable yet marginalized resources but we would be paving an effective way of breaking the vicious cycle of ignorance, exploitation, poverty, hunger and diseases that hold developing nations in bondage. (Tete-Enyo, 1997, p. 18)

The role of education in general and female education in particular, in national development cannot be overemphasised. Women as a category that occupy the margins of our socio-economic system are prone to suffer the problems outlined in Tete-Enyo's statement above. Initiatives such as the Nairobi Forward Looking Strategies, Beijing Platform of Action, Abuja Declaration, Lagos Plan of Action, Khartoum Declaration and Arusha Strategies underscore the urgency of women's concerns regarding development in general and education in particular (Dolphyne Nikoi, 1998;, 1991).

It is indisputable that as a result of prior discussions and initiatives some action was taken resulting in increases in overall enrolment figures (Girls' Education Unit, 2000; Tete-Enyo, 1997; Ghana Government, 1995). However, the gaps remain too wide and far from elimination. For instance, in a millennium campaign in support of female education in Ghana, the Forum for African Women Educationalists (FAWE) observed:

> In Ghana, in spite of the general improvement in enrolment at the primary school level, girls' education continues to be plagued by high drop-out rates between P2 and JSS 3 and low transition rates from JSS [Junior Secondary School] to SSS [Senior Secondary School], particularly in the rural areas. Currently, Primary School enrolment rate for girls stands around 47%, JSS 42% and SSS 37%. In the five (5) Universities, female students constitute only about 28% of the total enrolment. (FAWE, 2000, p. 1)

The above statistics are indicative of the sluggishness of progress toward gender parity in education. It also raises several questions regarding the gender reform policies and programme. It raises questions, among others, about the continued appeal to universalising principles, the distribution of resources, efficacy of programmes and the framing of policies. While all questions are attractive and necessitate critical analysis, acting within the confines of this paper, emphasis is placed on policy issues only.

## Gender Reform Policies

The gender reform policies are a reflection of the overall educational goal of improving the quantity and quality of education as well as fostering social justice. This is better captured in the policy document of the Basic Education Sector Improvement Programme, also called the Free Compulsory Basic Education (FCUBE) initiative, as follows:

> The long-term goal of the initiative to which FCUBE will contribute is an empowered citizenry effectively participating in the civic, social and economic life of the country. The government is committed to ensuring that all of its citizens participate in the political, social and economic life of the country, regardless of the geographic region in which they live, their *gender*, religion or ethnicity. The central goal of the education system in Ghana is to ensure that *all citizens* are equipped with the fundamental knowledge and skills that will enable them to be full stakeholders in and beneficiaries of development. (Ghana Government, 1996, p. 15, emphasis added).

This policy statement paved the way for tackling gender questions in the education system more seriously as compared to previous initiatives. For instance, it was stated explicitly in the FCUBE policy document that "special attention will be given to promoting access for girls, the poor and rural children to basic education" (Ghana Government, 1996, p. 38). The strategies identified for achieving this policy goal were as follows: (a) Institution of Girls in Poor Families Scholarship Schemes, (b) Increasing of admission of women into initial teacher training colleges, (c) Provision of accommodation facilities for women teachers posted to remote areas, (d) Addressing of gender concerns in teacher training curriculum and Curriculum Research and Development Division (CRDD) textbook and syllabi production, (e) Enhancement of Science Technology and Mathematics Education (STME) for girls and, (f) Social mobilisation to increase girls' participation in education, promote local participation in education and increase school-based community improvement programmes (Ghana Government, 1996).

As part of the process of realising the reform goal, a number of actions were stipulated to accompany each of the strategies. These stipulations were to guide practice as made evident in the following section.

The Gender Reform Policies in Practice

Although the focus of this paper is not practice, a brief look at practice will help further the policy analysis intent. Practice is framed here in terms of policy stipulations and actions. The discussions are drawn from various sources including briefs, reports, policy documents and reviews (Apusigah, 2002; Girls' Education Unit, 2000, 1999; Ghana Government, 1994/1996,). Four significant areas of practice emerge from the examination.

Support for female students.

Support for female students has taken the form of scholarship for girls in poor families. This line of support was aimed at providing financial aid for girls from deprived backgrounds to buy school uniforms and supplies. At the governmental level, the concept was piloted, initially, as part of the Primary Education Programme (Ghana Government, 1994). The reported success of the scheme enticed policy makers to try it on a national scale as part of the FCUBE initiative. Unlike the pilot project, which was supported by externally generated funds, the expanded programme was to be supported by District Assemblies. In addition to the special scholarship scheme, "all districts will be made to sign a formal undertaking to allocate 50% of all forms of scholarships awarded by the District Assemblies to girls. This will ensure that costs are lowered to parents to send their girls to school" (Ghana Government, 1996, p. 39).

Complementing the efforts of the District Assemblies, Non-Governmental Organisations (NGOs) agencies embraced the policy by instituting various educational scholarships for "needy but brilliant girls." Key NGOs supporting this endeavour include Centre for Sustainable Development Initiatives, The Roman Catholic Church, Forum of African Women Educationalists, World Vision International and Action Aid Ghana.

Role models and mentors.

Recognising the significance of role modelling and mentorship for female students, the gender reforms sought to increase the number of female teachers in the education system. As a result, the training of female teachers was to be intensified and their retention in the education system ensured. In a brief, the Girls' Education Unit (2000) revealed that in 1991/92 female teachers formed only 36.8 % and 21.5% of the total number of teachers in primary and junior secondary schools, respectively. The low rates of female teachers were seen as a major setback to the role modelling and mentorship drive. As a result, reform efforts were aimed at reaching a 50% target by accelerating the pace of the training of female teachers. This was to be achieved through the expansion of existing infrastructure in order to increase the admission rates of female trainees. In furtherance of this cause, District Assemblies were encouraged to sponsor indigenes including females into colleges. On completion, they were required to return to their communities to teach. Fifty percent of those sponsored were to be females.

Both governmental and non-governmental agencies have collaborated in support of this policy goal. For instance, Action Aid Ghana has collaborated with training colleges, the Ministry of Education and the Ghana Education Service to provide make-up courses for females resulting in the admission of qualifying ones to training colleges. Also, World Vision International has supported female leavers of Senior Secondary Schools with weak grades to undergo remedial classes in order to improve their grades. In collaboration with the Ghana Education Service, these females are offered appointments as teachers, which enables them to earn some income while working toward the improvement of their grades.

As part of the requirement to attract female teachers to rural areas, where there are hardly any models or mentors, conditions in those areas are being improved (Girls' Education Unit, 2000). Incentives such as accommodation and bicycles are being offered to entice teachers including females to stay and teach in rural communities. Accommodation facilities are being built especially in rural areas for teachers.

It is a policy requirement that fifty percent of such accommodation is set aside for female teachers.

Engendering school curriculum.

In appreciation of the effects of school programmes on students, the gender reforms have included the review of the curricula of teacher training colleges and basic schools. This has been aimed at ensuring that the curricula were sensitive to gender issues. It has sought to eliminate sexism and remove stereotypes and bias while ensuring inclusive content and language (Ghana Government, 1994; 1996).

Consequently, review workshops were held and the curriculum reviewed. Selected teachers were trained in the development and use of gender sensitive curriculum. The Girls' Education Unit has also embarked on a consistent programme of removing sexism in the educational system. In collaboration with non-governmental organisations such as Forum for African Women Educationalists and Action Aid Ghana, educational campaigns have been mounted. Posters, bumper stickers, sketches/dramas, music and talks are some of the aids used.

Another dimension of the curriculum reform process is the improvement of female access to Science, Technology and Mathematics subjects (Girls' Education Unit, 2000, Bobi, 2000; Awortwi, 1999). Consequently, the Science, Technology and Mathematics Education (STME) programme was established in 1987. The STME programme predates the FCUBE reforms. At the initial stage, annual clinics were held for 200 girls from selected senior secondary schools across the country. When it became part of the FCUBE reforms, the clinics were expanded to admit more students. The expanded programme has involved the decentralisation of the clinics and inclusion of students from junior secondary schools. As a result, in 1997 and 1998, clinics were held in four zones in the country of which a total of 1050 and 1150 girls, respectively, attended. In 1999 and 2000, the clinics were further decentralised resulting in the holding of clinics in each of the 10 regions of Ghana. From then on clinics have been held in each of the 110 administrative districts of the country. This has made it possible for over 2000 girls, nationally, to benefit from the clinics annually (Bobi, 2000; Girls' Education Unit, 2000).

The clinics provide opportunities for participants to interact among themselves and with role models. They are also taken through workshops, lectures and fields trips that are aimed at encouraging them to choose and pursue careers in the physical sciences. In furtherance of this cause, science teachers are trained in innovative teaching methodologies.

Community involvement.

The gender policy required the mobilisation and sensitisation of communities in support for and promotion of female education. This requirement was informed by studies, which attribute the problem of low female educational enrolment and literacy rates to cultural factors (Daaku, 1999, Girls' Education Unit, 1999; Nikoi, 1998, Dolphyne, 1991). This initiative has involved the use of Participatory Learning Action (PLA) strategies to engage community members in analyses that foster awareness and ginger support for female education. Explaining the relevance of PLA, the Girls' Education Unit (1999) asserted:

> There are many constraints preventing girls from going to school and performing well. It is true that there exist poor classrooms and few teachers: there is also a lack of teaching and learning materials. But we must also acknowledge that parents' attitudes towards education are not always favourable. This is why the GEU is initiating a grassroots approach to community sensitisation aimed at increasing people's awareness of the value of education (p. 1)

Through PLA, community members are invited to critically examine their situation and strategize toward improving it. Specifically, the Girls' Education Unit uses the strategy to enable parents to identify and appreciate the effects of gender-based discrimination on female education (Girls' Education Unit, 1999; Agyeman-Duah, 1999; McAdams, 1999). On impact, Agyeman-Duah (1999) points out that, "PLA will empower [communities] to initiate their own action plans to increase girls enrolment, retention and transition rates"(p. 2).

As part of the campaign to address the problem of low female participation in education in Northern Ghana, between May and July 1999, the Girls' Education Unit organised workshops during which its regional and district officers and community facilitators were trained in the PLA skills. With the assistance of regional and district officers, the community facilitators, in turn, organised training workshops in their communities. The ten selected communities that formed the pilot phase of the project have benefited from the exercise. Reports from field experiences point to enthusiasm and willingness to change (Girls' Education Unit, 2000; Bobi, 2000; Agyeman-Duah, 1999). However, the positive reports have been marred by the inability to implement the project on a larger scale.

Taken together, the policy stipulations and actions did not only generate and intensify interest in gender issues in education, they also led to some improvement in female education (Ghana Statistical Service, 2000; Girls' Education Unit, 2000). However, various analyses show that these developments did not eliminate or close the gender gaps significantly (FAWE, 2000; Girls' Education Unit, 2000; Dolphyne, 1997; Tete-Enyo, 1997). In fact, gaps remain wide requiring serious attention. Various accounts have been advanced to explain the persistent gaps. These include lack of resources, poor supervision, lack of personnel, limited awareness and commitment. While these concerns might be real, a critical view of the framing of the policies raises equally important questions. Yet, very little is said of the policies themselves and/or how they inform and shape practice. Recognising the significance of the policy questions, the rest of the analysis is devoted to critiques of the gender reform policies.

## Problematizing the Gender Reform Policies

The gender reform policies have focused on two essential ways of enhancing female education, namely, improving access and participation (Ghana Government, 1994, 1996). Previous analyses revealed that although there were significant disparities between females and males at the entry level, these were more pronounced higher up the educational ladder (Ghana Government, 1994; 1995, Tete-Enyo, 1997). This situation

suggests a low retention rate and a high disengagement rate. The gender reforms were thus aimed at not just attracting girls into schools but also ensuring that they stayed in school long enough to graduate. Although commendable, a critical viewing of the framing of the policies reveals some shortcomings. Discussions of the significant contributions as well as the shortcomings of the policies follow.

Significant Contributions

The gender reform policies are commendable for having been initiated in the first place. As already noted, in spite of the fact that questions regarding gender disparities in the Ghanaian education system were indisputable, no significant efforts were made to address them prior to the FCUBE initiative. The FCUBE was thus a novel endeavour. This novelty lies in the legal basis provided through the issuance of an explicit policy statement with guidelines for the pursuit of gender causes as a national concern. As an official policy, it provides legitimacy for ongoing efforts and paves the way for further action even as the policies attract critiques and reviews. Also, it provides a basis for gender workers to call policy makers on their words.

Another issue worthy of commendation is the effort to address gender issues in school programmes, which resulted in curriculum reviews. This component of gender equity reform is critical for beginning to address some of the structural causes of gender disparities. As well, this novel attempt has rightly recognised the need for gender sensitisation and training for teacher trainees ahead of practice. Hence, gender education was to be provided as part of the pre-service training of teachers. In addition, in-service training was to be given to serving teachers.

Also, for the first time, there was an indication of the recognition of a connection between gender, on one hand, and class, ethnicity and location, on the other. Although this connection was not well articulated to reflect a proper appreciation of the intersectionality of gender, class, ethnicity and location, the mere recognition of this connection is commendable. The proposed Girls' Education Scholarship Scheme reflects such recognition. With time, such schemes and others that might follow

can be better developed to reflect the cross-cutting nature of gender issues. This can be better captured when gender is treated as an integral part of mainstream policy and programme reforms.

In addition, the attempt to increase the number of female teachers in schools is laudable. At least, the endeavour reflects the recognition of the fact that the education system is implicated in the marginalization of females. It constitutes an indirect acknowledgement of the male-centric nature of schools and classrooms. The very presence and support extended by in-school mentors and role models constitute a great motivation for female students to stay in school. By working closely with the female students, these female teachers/role models/mentors are able to assist them in ways that enable them to confront and deal with their challenges. The female teachers provide guidance in both academic and non-academic matters.

Although the mentorship initiative is not far reaching, it at least recognises the importance of moving beyond the mere opening of access. In order to foster retention, it is critical for the reforms to look beyond questions of access. This recognition provides the critical entry for taking up questions of systemic and structural nature. The mentorship initiative provides the much-needed avenue for working toward establishing the support structures necessary for addressing the unique challenges of female students. Indeed, it paves the way for moving the discourse from a focus on issues about access to begin negotiations toward addressing systemic and structural issues. This is an indication of the realisation, even if nominally, that both overt and covert factors and forces affect the education of females.

Although these policies were phenomenal and groundbreaking, given the specific Ghanaian history of reforms, they were also fraught with some difficulties. Analyses of past reform efforts reveal a persistent focus on logistic and administrative difficulties. In the following section, focus is shifted from these by directing attention to conceptual difficulties. By so doing, the intent is not to minimise and/or dismiss the logistic and administrative issues. Rather, what is sought is to draw attention to an equally important area of analysis.

Shortcomings

Commendable as the new policy directions seem, they do not adequately address gender questions. One key concern regarding the gender reform policies is the stopgap measures that frame them. The policies are stopgap insofar as they aim at remedying an immediate problem without any indication of an interest in long-term solutions. For instance, the policies require that school texts and syllabuses be reviewed to reflect an inclusive language and content but do not challenge the political underpinnings of the curriculum. Questions about power and its implications for curriculum development, politics and its effects on school reform and, authority and its manifestations in the control of educational institutions remain unasked. Issues are not made of questions regarding the investment and gains of the status quo to particular individuals and groups and whatever resistances there might be. In fact, the critical politics that underpin such social justice questions trouble the liberal ideologies that frame the ongoing socio-economic reforms in the country, which drive the education reforms.

The training of female teachers to serve as models is another stopgap measure. Apart from the same problematic focus on enhancing access, the policy does not look at systemic factors such as power and how it affects female participation. These policies reflect a simplistic assumption that the more female teachers there are in schools, the more modelling and mentoring there will be for female students. Hence, they fail to engage in the kind of critical questioning that troubles existing structures and compel renegotiations toward the equitable change anticipated. Likely questions may include: What kinds of models are sought? What are the unique locations of models and mentors and how will they affect their work? What sensibilities do these models bring to the gender question, given that their own experiences in the educational system are not different from what the reforms seek to change? Is the gender question reserved for females only? These questions reflect the complexity of gender issues. They are indicative of the fact that gender questions require the use of more sophisticated strategies than anticipated in the gender reform policies.

Another stopgap measure is the scholarship drive. In a country where depravity is the norm rather than the exception, poverty related problems require strategies that are more comprehensive than the mere provision of stipends. While scholarship schemes might serve as starting places for dealing with emergency situations, it is equally critical to begin to think of more sustainable ways of addressing the causes of poverty. Questions about unemployment and underemployment, vagaries of the weather, food insecurity, rising costs of living including education and the privatisation of essential social services become critical for seeking redress.

Another stopgap measure is the STME programme. On STME, Bryson and de Castell (1995) argue that technology is "always already gendered" and is a "masculine" disciplinary field (p. 38). As a result, even programmes that target females have "involved adjustments directed at a regenderment of the relation of female students and technology" (Bryson & de Castell, 1995, p. 38). They explain that programmes directed at the re-socialisation of females in terms of changing their attitudes towards technology or repudiation of technology are pre-gendered, classed and/or raced. By extension such programmes only end up re-inscribing discrimination rather than eliminating it.

A second major concern is that the policies reflect a deficit framing of gender issues. Bennison, Wilkinson, Fennema, Masemann & Peterson (1984) define the deficit approach as "characterized by the assumption that differences among groups of learners exist which render them unequal in ways that are important to the educational process" (p. 6). They point out that the deficit approach results in the viewing of differences or disparities between female and male participation rates in education as stemming from some inherent inadequacies which disadvantage females and which can be compensated for to bring females and males at par. Thus framed, gender disparities are blamed on an inherent ability or the lack of it rather than systemic and structural inadequacies. Remedies are then geared toward compensating for the shortcomings, which often result in victim blaming.

On their part, Bryson and de Castell (1995) speak of the paradox that attends the deficit model as follows:

> Typically, educational reformers identify female students as a disenfranchised group whose members are systematically denied

> opportunity for equitable access to educational technologies, and who therefore represent a high priority target for the construction of nondiscriminatory policies. Paradoxically, instructional practices that are designed to promote gender equity embody exclusionary values that, we have argued elsewhere, are more likely to entrench discriminatory practices and to reduce their range of possible relations to technology than to empower the oppressed. (p. 21)

For Bryson and de Castell (1995), gender questions have deeper implications than the simplistic approach implicit in the deficit model. Although these deficit approaches present an optimism necessary for confronting gender and other forms of disparities they do not delve into the remote and subtle workings of educational and social systems that lead to the privileging of one group over the other in the first place. With Bryson and de Castell, it is argued that deficit measures though might have some merit, eventually lead to the re-inscription and re-entrenchment of discrimination by their tendency to blame the victim.

On their part, Larkin and Staton (1998) argue that "focusing on the alleged deficit of girls has diverted our attention from the myriad factors that interfere with their ability to get an equal education. When structural barriers are ignored, the onus for girls' lack of success can fall squarely on their own shoulders" (p. 17). Indeed, as evidenced in the Ghanaian reforms, which place great emphasis on creating access without commensurate efforts that seek to level the playing field, retention becomes an issue right after the primary level. The progressively high female disengagement rate along the educational level is a pointer, among others, to the problematic nature of the discriminatory educational institutions into which they are condemned. Yet, even the efforts at addressing the problem of low retention remain woefully inadequate, as already pointed out.

From the above analysis, it becomes clear that in spite of the good intentions of the gender reforms, the stopgap measures and deficit approaches adopted render them inadequate. By their very framing of gender questions, the transformative goals that are intended in the reforms are compromised (Ghana Government, 1994, 1996). Indeed, the failure to

address long term structural and systemic forms of discrimination in the educational system undermines the equity project intended. Consequently, an invitation is extended to Ghanaian policy makers and programme planners to take a look at the Larkin and Staton (1998) transformative model of gender equity. In the following section, attention is turned to discussions of the model while showing how it might benefit the Ghanaian process.

## A Transformative Model of Gender Equity

The attraction to the Larkin and Staton (1998) transformative equity model lies in its ability to move gender questions beyond quick fix approaches that only scratch the surface. Its very framing of gender questions facilitates the tackling of issues of the structural and systemic kind. This model does not reject the quick fix but works from them toward more sustainable approaches. By tackling problems that focus on issues regarding access and inclusion it becomes possible for fostering a climate conducive for the empowerment of female students. That the Ghanaian reforms seek transformation, recognise the need to move beyond access and have already begun looking at questions regarding retention, makes the Larkin and Staton model very attractive.

Larkin and Staton (1998) espouse four essential elements for modelling gender equity. The four elements are access, inclusion, climate and empowerment. Hence, the acronym, the AICE model. In the following analysis, discussions focus on these elements as they might inform ongoing gender reforms in the Ghanaian education system.

Larkin and Staton (1998) view access-oriented initiatives as crucial for working toward transformative gender equity. Viewing access-oriented programmes as a starting point of the process, they stress the need for recognising the fact that such initiatives are necessary but not sufficient measures for securing equitable change. For them, access-oriented initiatives should not stop at the mere creation of access for entry into existing spaces or traditional fields but should also enhance entry into non-traditional fields such as STME.

Wary of the violence that attends discriminatory and/or exclusionary system, Larkin and Staton (1998) caution against complacency with access-oriented approaches to gender questions. They

argue that the liberal ideologies that underpin programmes such as affirmative action render them inadequate for addressing complex gender issues. They also point out that such approaches have traditionally been geared toward "incorporating girls into the existing educational structure rather than transform the educational system in which females are systematically devalued" (p. 17). They argue that rather than address the systemic issues confronting females, such efforts result in the further victimisation of women. They trace the situation to the appeal to policies that are purported to present the same ground rules and assume that the playing field is level/even. In reality, however, females are presented with unequal opportunities and expected to compete favourably with their male counterparts.

With regard to Ghana, Larkin and Staton (1998) help throw light on questions regarding the persistence of gender inequities in spite of the time and effort, material and immaterial, put into fostering a more equitable education system. As a country that has uncritically embraced liberal ideologies in politics and economics, there is no gainsaying how this has informed and shaped policy initiatives. As a matter of fact, we can find explanation in the continued appeal to universalising policies that are rooted in a notion of equality without considerations for equity. This is evident in the appeal to blanket policies even when transformative change is intended.

Larkin and Staton (1998) take the advocacy further by urging the need for initiating programmes that will facilitate the proper use of the access so created or opened. Arguing that programmes that just add females to discriminatory processes and stir further their subjugation and domination, Larkin and Staton seek ways of enabling females to become active members of the systems into which they gain access. They suggest that access-oriented programmes be enhanced to facilitate the effective inclusion of females in educational institutions and programmes. For Larkin and Staton (1998), inclusion involves looking at gender biases in teaching and learning materials both in terms of language and content. Inclusion, for them, means counting in female students. They argue that our classrooms have been places for male, not female students. The classrooms are gendered, traditionally favouring males, as reflected in biases in teacher contact time and educational material use. They argue

that male-centric school curricula remain unchanged while simplistic reforms continue to add in female students without changing the playing field. To counteract this condition, they propose sweeping changes in the school system in ways that foster the critical questioning of the existing curriculum. This is consistent with the curriculum review proposed in the Ghanaian reforms. A notable difference, however, is that in addition to content and language, Larkin and Staton are critical of contact time, resource allocation and curriculum politics. What they seek is a complete transformation of the curriculum.

Citing Watkinson and Epp, Larkin and Staton (1998) point out that:

> Inclusive curriculum necessitates the asking of questions, which may bring discomfort and in some cases, disharmony, such as: who decides curriculum? Who is left out? Whose ideology is represented here? Would this have the same meaning if examined by people not of our culture? The questioning provides classroom space where educators/teachers and students raise critical questions and interrogate texts in light of their experience. (p. 18).

The sort of critical questioning proposed above, necessitate the introduction of gender analysis during policy making with the view to facilitating effective programming. In the long run, it fosters gender mainstreaming, an intended but yet to be fulfilled goal of the Ghanaian process (Akpalu & Offei-Aboagye, 1999). Such questioning also requires that reforms capture systemic and structural issues by encouraging the setting of policy goals that match means and ends. As already noted, the gender reforms in Ghanaian education are short on such critical viewing.

One way of creating inclusive education systems is through the appreciation of the significance of subjective experience (Code, 1993; Scott, 1992). This involves not just recognising but also embracing women's experiences as a critical element of the curriculum. It requires the incorporation of women's experiences in knowledge systems in ways that can authenticate the curriculum and lead to the completion of the missing link in the epistemological process. Also, it can enable women to recognise and identify themselves in the process as knowing beings. In

addition, women's experiences can generate new insights and meanings for initiating and negotiating effective change. Since our patriarchal institutions fail to provide effective answers to the numerous problems that confront us today, an inclusive and for that matter expanded knowledge base enhances our repertoire and as such holds great potential for confronting today's problems with the novelty that they deserve.

To be able to take advantage of the benefits of an inclusive system, spaces need to be created for female students to tell their stories as best known to them. Since females have different experiences in our patriarchal institutions, experiences which remain largely untold, it is important at this stage for reformers to begin to initiate work toward their telling. Reforms should facilitate processes for females to share those histories. The inclusion of such histories in school curriculum can serve as first hand information for fostering gender equity. For female students to feel safe and secure to tell their stories, a supportive climate is necessary.

By climate, Larkin and Staton (1998) mean the creation of an educational atmosphere that supports equity. This requires not just the availability of classrooms that are safe for all persons but also that the entire institution and its various components enforce zero tolerance policies against all forms of violence. People must feel safe in all institutions at all times irrespective of their gender, class, race, and ethnicity. This might involve eradicating all forms of violence such as sexual harassment, verbal abuse, emotional torture, physical abuse and any other form of derogatory behaviour that creates fear and insecurity.

Larkin and Staton (1998) cite a number of studies that show that although both males and females suffer some form of harassment within schools, the rate for females is higher. They found that females were more prone to experience some form of verbal and physical harassment in schools. They point out that females are more likely to be teased, insulted and degraded by their peers, especially males. As a remedy, Larkin and Staton advocate for the creation of safe spaces that can help minimise or eradicate gender-based violence in schools.

Consistent with the Ghanaian gender reform agenda of enhancing access and retention, it becomes necessary to examine school climate in order to determine the ways in which they contribute to discouraging

female students from staying long enough to graduate. The review above points to the fact that females do not stay in school as long as males do. This suggests a need to direct attention to finding reasons for the higher disengagement rate for female students, in general. It also establishes the need to investigate and determine why disengagement is more intense at the higher levels and more so in rural settings, in particular. As well, we need to find out why more females from Northern Ghana than Southern Ghana disengage from schools and why participation rates are higher for those in urban settings than in rural settings (Ghana Statistical Service, 2000; Ghana Government, 1994, 1995). It is also important to look into the schools but also other socio-cultural forces for ways that they are implicated in female disengagement. When this is done and when female students feel safe enough to tell their stories, initiate and negotiate dialogue as well as begin to take up the challenges confronting them, they will be taking the path toward empowerment.

The ultimate goal of the equity project, for Larkin and Staton (1998), is empowerment through the creation of safe spaces for forging solidarity toward liberatory action. Such spaces can serve as powerful sites for females to strategize against the negative and/or conflicting messages that they receive within and beyond the educational system.

To empower females is to enable them to assert themselves and confront issues that affect them. To be able to do so, female students will need the requisite knowledge and skills for recognising, naming and fighting back domination. It will take the individual and their personal participation to be able to reach such empowerment. Inarguably, the institution of mere policies is insufficient for reaching empowerment. This is especially so if the policies do not enable individuals to confront their challenges. It is not being suggested, at this point, that the onus be shifted to the disadvantaged to justify their inclusion as implied in simplistic strategies. Rather, what is sought is a corroboration of Freire's (1997) assertion that transformative processes should involve participants in active deliberations that aim at conscientising them to the problems they face while equipping them with the critical tools and safe spaces for initiating and working toward self reclamation and collective liberation.

Such corroboration stems from the fact that most of the harassment that occurs in schools, but also in society, goes unnoticed. Harassment

occurs in settings that are not always obvious. It also tends to present itself in ways that are at times too embarrassing to tell. However, if females are equipped with strategies to deal with issues by themselves and are guided by informed opinions, they will be able to recognise and handle potentially devastating situations before they occur. This is enhanced by the availability of a safe environment.

In fact, the fourth element, empowerment, is very consistent with the broader goal of the educational reform process in Ghana. The mandate of the Education Commission, cited above, requires that the education system should empower citizens to contribute to the revolutionary transformation of Ghanaian societies (Fobih, et. al., 1995; Ghana Government, 1994). The citizens in question are all Ghanaians, including women. In the light of this, it is time to begin to incorporate empowerment issues in the policy making and gender reform processes. As suggested by Larkin and Staton (1998), when reformers provide for and work on enhancing access, fostering inclusion and creating enabling climate that center females in the process of change, they are put on the path of empowerment. Also, when all four components are facilitated thoroughly and deservedly, change that is transformative and equitable occurs.

## Conclusion

The discussions above have comprised an examination of ongoing gender reform policies in the Ghanaian Education system with particular reference to the basic sector. In the process, the strengths and weaknesses of the policies were unveiled and ways suggested for improving them for the enhancement of the transformative goals of education intended in the FCUBE. The discussions were focused on the historical context, conceptual underpinnings and implications of the policies for promoting an equitable education.

The analysis revealed, on one hand, that the FCUBE attempt at gender reform policies was commendable for its: a) novelty, b) recognition of the significance of role-modelling and mentoring, c) suggestion for curricula changes, and d) appreciation of the intersectionality of gender, class, ethnicity and location. As well, the

FCUBE reforms paved the way for negotiating work that could begin to tackle structural and systemic sources of gender discrimination. On the other hand, it was revealed that the reforms were fraught with problems, namely, the adoption of simplistic stopgap measures and deficit approaches to address complex gender questions. It was argued that the stopgap and deficit measures proposed in the policies lacked the long-term perspectives for reaching sustainable change resulting in the re-inscription of inequities through the shifting of the onus to the already disadvantaged.

To remedy the situation, Ghanaian policy makers were invited to turn to the Larkin and Staton (1998) model of equity, which it was argued, held potential for the transformative change intended. Locating this potential in the move beyond access to tackle issues on inclusion, climate and empowerment, it was demonstrated that by remodelling the policies along those lines it would become possible to begin work toward a more sustainable and equitable programme of gender reform.

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## Notes for Contributors

1. Manuscripts should conform to the style set forth in the Publication Manual of the American Psychological Association 4th edition by having the following characteristics among other things:

   (a) A title page with a title of 10-12 words. Below the title should be written the author's name in this order: first name, middle initial and last name. Below the author's name is the institutional affiliation of the author.

   (b) An abstract on page 2 written as a single paragraph and having a maximum of 960 characters with spaces or 120 words.

   (c ) A text which starts on page 3. Page 3 should begin with the title or the paper centered at the top. The text begins below the title without the label "Introduction". The sections of the text follow each other without a break. If the paper is the report of a study it should include: an introduction (which comprises the problem, background, purpose and rationale) method, results and discussion.

   (d) References. This list starts on a new page. References should be written in alphabetical order and should include only the cited works within the body of the paper. The format to be followed in writing the reference is as below:
   i) Surname of the author ii) The initials iii) The year of publication iv) if it is a periodical, state the title of the article,the name of the periodical, the volume and pages. v) If it is a book, state the title of it, the place of publication and the publishers.

   (e) Tables and Figures should be numbered consecutively in the order in which they are first mentioned in the text. Use only horizontal lines for tables.

(f) Manuscript should be typewritten, double-spaced throughout, on A4 or 8.5 x 11paper.

(g) All paragraphs should be indented five to seven spaces. Type the remaining lines of the manuscript to a uniform left hand margin.

(h) Use uppercase and lowercase letters for most elements on the title page, page labels, most headings, table titles and some elements of the reference list.

2. Manuscripts most acceptable to space requirement would be 15-20 typewritten pages or between 3500 – 6500 words including the references.

3. Use Microsoft word and IBM compatible PC. Submit three hard copies and a computer diskette (3.5, HD/DD diskette) containing the submitted article.Keep a back-up diskette for reference and safety.

4. Enclose a covering letter containing your telephone number, fax number, e-mail address and address for future correspondence.

5. Contributors to the journal will pay a submission fee of ¢50,000 and a publication fee of ¢200,000.00 (if in Ghana). Those outside Ghana will pay a submission fee of $10.00 and a publication fee of $45.00. Monies are payable to the Institute of Education Accounts Officer and attach receipt to the manuscript or to account Number 3021130000655, Ghana Commercial Bank and Account Name: Institute of Education Exams. The advice should be sent to the Accounts Officer, attention; Editor, JED-P, Institute of Education, University of Cape Coast, Ghana, WestAfrica.