

HOW GOOD ARE OUR ACADEMIC PROGRAMMES – THE SELF-EVALUATION APPROACH

Ansah, Francis

Bolgatanga Polytechnic, Bolgatanga, Ghana

boansah@gmail.com

ABSTRACT

This study was conducted to design valid and reliable self-evaluation instruments for periodic assessment of academic programmes of Bolgatanga Polytechnic using evaluation experts and relevant stakeholders of the Polytechnic. Teachers, Administrators, students, alumni and employers of Polytechnic graduates were identified as the main relevant stakeholders for the self-evaluation process while curriculum, teaching, learning, assessment, output, outcome, programme organisation, resources and quality assurance constituted the main quality domains of the academic programmes. The methods of data collection adopted in the instrumentation included: survey questionnaire, interviews, focused group discussions and document analysis. In the instruments, a quality domain or an indicator is rated along the scale of very good, good, fair and unsatisfactory which translate into major strength, strength, weaknesses and major weakness respectively. To emphasise on a major strength, 90% or more of the total respondents should rate a domain or quality indicator as very good; 60% to 90% in favour of both very good and good emphasises strength; 50% or more in favour of unsatisfactory emphasises major weakness; and 40% to 50% in favour of both fair and unsatisfactory emphasises weakness. The presentation of evaluation feedback report is in a tabular format which gives picturesque view of the strengths and weaknesses of the quality indicators assessed. Validity and reliability of the instruments were ensured using expert views, pilot exercises and the Alpha Cronbach's Reliability Test Model.

Key Words: Quality Assurance, Academic Programmes, Self-evaluation

1.0 INTRODUCTION

Quality education delivery remains Ghana's hope of reducing the high level of poverty in the society as well as becoming competitive in today's knowledge driven globalized economy. In spite of the fact that Ghana's polytechnic education system has come far as compared to what it was a decade ago, the increasing challenges of the twenty-first century demand that the quality of polytechnic education is reengineered to make it more responsive to national goals and aspirations as well as global demands. The perception of low quality of polytechnic education in Ghana has generated a lot of debate in the country, occasioned by strike actions and demonstrations by students of the polytechnics to demand the needed recognition for their certificate as well as proper job placement.

There have been lots of debates on the quality of Ghana's polytechnic education because quality is a term that defies specific definition. Brennan [1] states, "in sum: there are (at least) as many definitions of quality in education as there are categories of stakeholders, times the number of purposes, or dimensions these stakeholders distinguish. Scheerens, Glas and Thomas [2] state that in actual practice, concerns on quality may relate to a good choice of educational objectives (relevance) or the question whether the educational objectives are actually attained (effectiveness). There may also be an emphasis on the fair and equal distributions of educational resources (equity) or a specific concern with an economic use of these resources (efficiency). In an article by Harvey and Green [3], they distinguish five broad categories of definition: quality as exceptional ('excellence'); quality as perfection or consistency (zero errors); quality as fitness for purpose (mission orientation, consumer orientation); quality as value for money; and quality as transformation. In analyzing a number of aphorisms that have emerged as the common perspective on quality, Bush and Bell [4] define quality as what the customers say it is, as well as fitness for purpose. They define quality by the customer's

satisfaction rather than supplier's intention. They also try to intimate that quality is not inherent in the product or the service but it is connected to the use that the consumers make of the product or service. Bradley [5] refers to quality as an evolving term; what was quality in the past is not quality today, and what is quality today will not suffice as quality in the future. This means that educational institutions need to conduct regular evaluation to enable them redefine their quality goals as well as assessing their strengths and weaknesses.

The relationship between quality and evaluation in education is established by two key questions which link them together. These questions are: (a) "are education providers doing a good job at all"? (b) "how do we know"? The first question refers to the quality of education while the second brings the issue of evaluation in education. Without providing answer to the second question, it becomes difficult to answer the first question. This means that judgement of educational quality is based on educational evaluation. It is therefore obvious that quality assurance in education includes evaluation.

The relationship between quality assurance and evaluation can be explained by the use of Edward Deming's PDCA cycle (Bounds, G. Yorks, L. Adams, M. and Ranney, G., [6]). The PDCA is an acronym for Plan-Do-Check-Act. The 'Plan' represents planning activities for quality improvement; the 'Do' represents implementation of the activities; the 'Check' represents evaluation of the activities; and the 'Act' represents acting on the evaluation results for improvements. The whole process is a cycle and it is depicted in figure 1 below:

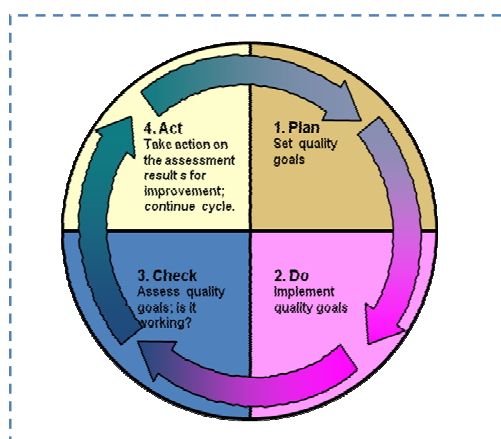


Fig. 1: Deming's PDCA Cycle
Source: Bounds, G. et al (1994)

Evaluation is a familiar term in education. It has proven to be a useful tool in ensuring quality in education. It serves as a 'mirror' through which actors in education can view the state of the education system, institution, programme or an individual actor within the education system. Evaluation in education has been defined by Scheerens, Glas and Thomas [7] as judging the value of educational objects on the basis of systematic information gathering in order to support decision making and learning. The 'educational object' in the definition can be a national educational system, an educational programme, an educational institution, an individual teacher or a student. One of the established methods of internal evaluation is self-evaluation. Scheerens et al. [8] define self-evaluation as a type of evaluation where the professionals that carry out the programme or core-service of the organization initiate the evaluation and take responsibility for the evaluation and the evaluation results of their own organization. The important terms in the definition are "initiate" and "take responsibility". The idea is that the need to evaluate comes from the professionals themselves and they are also prepared to accept the consequences of the evaluation process and results even though they may involve external stakeholders in the evaluation process. Generally, the main goal of self-evaluation is for improvement. It is a form of self-diagnostic activity to identify strengths and weaknesses and devise strategies for improvements.

Bolgatanga Polytechnic considers self-evaluation as one of the quality assurance tools to ensure continuous improvement in its programmes though it has not been able to conduct evaluation of her academic programmes due to the absence of valid and reliable instruments for self-evaluation. This study was therefore conducted to design such instruments for evaluating academic programmes in Bolgatanga Polytechnic.

2.0 RESEARCH METHODOLOGY

Probably the most difficult and time-consuming task in conducting any programme evaluation is developing the instrument to collect the information (Kane, M.). [9] Institutions usually search for already-existing instruments which may "fit the bill," but often these instruments do not exist, or need major revisions before using. This puts a huge responsibility on institutions that need to do self-evaluation for the first time.

The methodology for the design of the self-evaluation instruments was to first of all develop specific design questions which included: which areas of academic programmes should be evaluated?; who should be the respondents/participants of the data collection process of the self-evaluation?; what should be the methods for data collection?; what should be the evaluation standards?; what should be the format for presenting the evaluation feedback?; and finally, how would the technical adequacy of the instruments be ensured? Providing answers to these design questions completed the whole process of the self-evaluation instruments design.

The first step to answer the design questions above was to organise series of stakeholder workshops to brainstorm what should constitute the content, respondents, data collection methods, evaluation standards, format for presenting the evaluation results and technical adequacy of the instruments. Stakeholders brought together for these brainstorming activities included teachers, students, alumni, senior administrators and employers of polytechnic graduates.

An extensive review of literature on what constitutes quality areas of academic programmes as well as the design of evaluation instruments was also carried out. Seasoned Educational Practitioners and Evaluation Experts were also interviewed on what they thought constituted quality areas of academic programmes. A draft version of the instruments was produced out of these activities and given to evaluation experts and educational practitioners to review.

Another series of stakeholder workshops were organised for each stakeholder group to identify quality areas of academic programmes that should be directed to them for assessment. Validation workshops of all the stakeholders were organised again to reassess and validate the instruments. In all, sixty teachers from three different polytechnics teaching in more than ten different academic programmes were involved; twenty-five students from three different polytechnics pursuing more than ten different types of academic programme were involved; thirty administrators from three different polytechnics belonging to top, middle and lower level management were involved; twenty-five alumni from three different polytechnics who pursued more than ten different academic programmes were involved. Fifteen employers of polytechnic graduates were also involved. The validated quality indicators were used to design survey questionnaires. A final stakeholder workshop was organised for the aforementioned stakeholders to assess and also validate the survey questionnaires.

3.0 RESULTS AND DISCUSSIONS

The study produced the self-evaluation instruments in terms of respondents, content, data collection methods, evaluation standards, format for presenting evaluation feedback and technical adequacy of the instruments.

3.1 Respondents

Respondents for the instruments identified by stakeholders were administrators, teacher, students, alumni and employers. These respondents were chosen on the basis that they are key stakeholders and thus capable of providing valid and reliable data as far as self-evaluation of academic

programmes is concerned. The roles of the respondents for the instrument include consultation, discussions, approval, examining of data and development of improvement strategies.

3.2 The Content of the Instrument

The content of the instrument identified by the stakeholders involved in the process was categorised into nine quality domains as presented in table 1 namely: curriculum, teaching, learning, assessment, output, outcome, programme organisation, resources and quality assurance of academic programmes. Each domain was operationalised into measurable indicators. With the help of evaluation experts and educational practitioners involved in the process, each respondent group selected quality indicators which should be directed to them for assessment during the evaluation exercises.

Table 1: Selection of Operationalised Quality Indicators by the Respondent Groups

Domains	Total Indicators Operationalised	No. of Indicators Selected by Respondent Groups				
		Teachers	Students	Administrators	Alumni	Employers
Curriculum	31	31	25	28	25	9
Teaching	18	-	18	-	18	-
Learning	9	9	9	-	9	-
Assessment	8	8	8	8	8	-
Output	5	5	5	5	5	-
Outcome	5	2	2	3	5	2
Programme Organisation	20	20	20	20	20	-
Resources	19	19	16	19	16	-
Quality Assurance	7	7	6	7	6	2
Total	122	101	109	92	109	13

There were a total of 122 operationalised indicators identified for the nine quality domains.

Students and alumni selected the highest number of indicators. From table 1, the student respondent and alumni respondent groups each selected 109 out of the 122 indicators and were interested in

assessing all the quality domains of an academic programme as they selected indicators under all the domains. This suggests that students and alumni are the actual direct beneficiaries of the academic programmes run by the polytechnics and are thus concerned about ensuring quality of the programmes.

From table 1, it is clear that teachers selected the second highest number of the operationalised indicators and were also interested in assessing all the quality domains of an academic programme except teaching which they explained that they did not find it objective enough to assess themselves when it comes to teaching. 'Students should rather assess teaching,' they stated.

Administrators selected 92 out of 122 operationalised indicators. They did not select any indicator under the teaching and learning domains. They explained that since they are not part of the operating core, they would not be in a better position to assess actual classroom practice.

From table 1, it is clear that employers are interested in assessing only the curriculum, outcome and quality assurance domains of an academic programme. Even with these domains, they are interested in only few operationalised indicators. Out of the 31 quality indicators under the curriculum domain, they selected only 9. They also selected 2 out of 5 and 2 out of 7 under the outcome and quality assurance domains respectively. This is not surprising since employers require graduates with the requisite knowledge and skills to move their organisations forward and are less concerned about the procedures for producing such graduates. They are therefore interested in assessing the skills and knowledge components of the curriculum, the output and the quality assurance systems in the academic programmes.

The five stakeholders involved in the design of this instrument and the experts who reviewed the instrument established that the curriculum of the programme was a very vital component to be covered by the instruments in the sense that it is the basis for teaching, learning and assessment which eventually lead to the output and outcome of the programme. All the programme outputs and outcomes must first of all be conceived in the curriculum. The knowledge, skills and competencies that students require must also be conceived in the curriculum. This domain deals first and foremost with the rationale of the programme and concentrates on issues such as the relevance of the programme to specific students' needs, industry needs, societal needs and institutional needs. The second aspect of the curriculum domain is about the objectives of the programme. Issues involved in the objectives are specific skills and competencies students require for job performance, academic progression and their everyday life outside school. The issues of institutional interest, students' expectation, feasibility and clarity of the objectives are covered as well. The third dimension of the curriculum domain which the instrument covers is the content of the curriculum. The content of the curriculum is the most cardinal of all the issues. It embodies what actually should be imparted to the students. It deals with issues such as adequate coverage and or emphasis of the objectives; appropriate sequence or arrangement of the various courses; sufficient subject matter information; balance between practical and theoretical orientation; appropriate skills and competencies; and gender and ethical issues. The fourth component of the curriculum domain is the instructional strategies. This component handles the issue of how the curriculum content should be delivered to achieve the desired outcomes. It concerns the prescription of instructional roles and learning activities. It also deals with the prescription of appropriate instructional materials. The fifth and the last component of the curriculum domain covered by the instruments are the credit and curricular implications which deals with the credit requirements for successful completion of the programme. It also assesses the skills and experience required to succeed in the programme as well as how the programme fits into the overall study portfolio of the particular department and the Polytechnic. It is clear from table 1 that all the respondent groups with the exception of employers selected almost all the operationalised indicators under the curriculum for assessment.

The teaching, learning and assessment domains cover issues relating to the actual impartation of knowledge, skills, competencies and attitudes to the students in the programme by their teachers. As Diamond [10] puts it, "the best curriculum or course design in the world will be ineffective if in our classrooms we do not pay appropriate attention to how we teach and how students learn." The teaching, learning and assessment domains assess the actual impartation and absorption processes. The indicators for these domains were based on the general characteristics of teaching in higher

education as well as characteristics of adult learning. The teaching indicators covered are: the presentation techniques used by teachers; teacher professionalism; teacher competence; teacher use of appropriate teaching materials; teacher encouragement of students participation; teacher attitudes towards students; teacher assistance to students; effect of teaching on students; the use of appropriate teaching mode; the use of group work; and supervision of students' projects. It is also clear from table 1 that students and alumni were the only respondent groups for assessing the teaching domain. As teachers explained that they did not find it objective enough to assess themselves, administrators and employers indicated that they also would not be able to assess actual classroom practice such as teaching. The learning domain covers among other issues students' ability to see the relevance of ideas presented in the topics; students' efforts towards learning; students' ability to organise their studies effectively; students' time management towards their studies; students' ability to learn independently; and students' ability to ask important questions for clarification. As usual administrators and employers did not select any indicators from this domain because it relates to actual classroom practice. The assessment domain covers the appropriateness of assessment instruments and procedures; the fairness and objectivity of the instruments and the procedures; the validity and reliability of the instruments; and the use of the assessment results. The provision of assessment feedback to students is covered as well. Teachers, students and alumni were the most concerned respondent groups for this domain; they selected all the indicators identified as indicated in table 1.

The output and outcome domains concern the end product and the benefit from the programme respectively. The output domain consists of proportion of students who are able to complete the programme successfully; the attrition rate, academic achievement in terms of 'class obtained'; and completion of programme on schedule. All the respondent groups except employers selected all the under indicators under this domain. Under the outcome domain, the concentration is on employment of graduates from the programme; appropriate placement of graduates from the programme; employer satisfaction with performance of the graduate from the programme; and alumni satisfaction with the programme. This domain appeared to be the most concerned component for employers because they selected all the indicators for assessment.

The programme organisation domain focuses on issues such as class and time scheduling; organisation and coordination of field placement and practical sessions; provision of information to both students and staff; provision of guidance and counselling to students; and helping students with social issues.

The resources domain deals with the availability of qualified teaching staff for the programme; availability of qualified students, support staff, teaching materials, library facilities, relevant textbooks, furnished laboratories and workshops, adequate classrooms, adequate offices for staff and residential accommodation for students and staff.

The quality assurance and enhancement domain deals with activities for ensuring, maintaining and improving the quality of the programme. The main areas covered by the instrument are: regular revision of curriculum to be abreast with time; regular assessment of teaching and learning; selection of qualified staff; selection of qualified students; and regular evaluation of the programme for improvement.

These quality domains have been conceptualised in the model presented in figure 2 below. The arrows in the model indicate the dependent relationships of the different quality domains. The model follows the reason that outputs/outcomes are achieved through teaching, learning and assessment activities. The teaching, learning and assessment are assumed to be based on the curriculum of the programme. The curriculum; teaching, learning and assessment; and outputs/outcomes are also assumed to be dependent on programme organisation and resources. These four domains should each have quality assurance and/or enhancement measures.

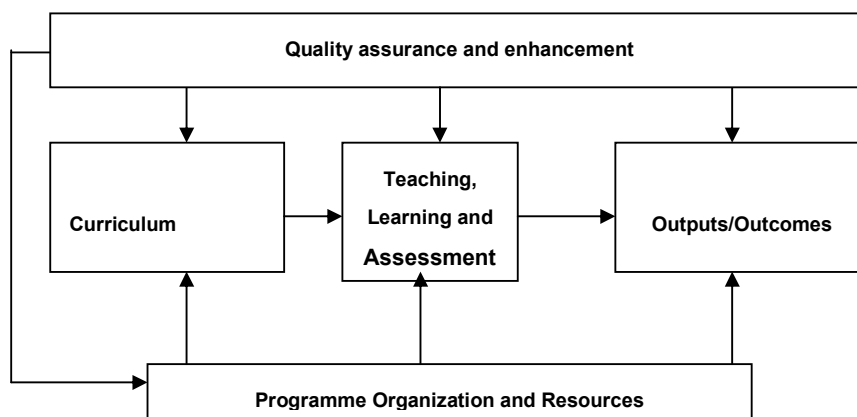


Fig. 2: Quality Domain of an Academic Programme

3.3 Methods for Data Collection

The study identified both qualitative and quantitative approaches as key data collection methods for self-evaluation. The qualitative approaches include interviews, workshops and focused group discussions with all the relevant stakeholders. These provide in-depth information which is very essential and helpful for quality assessment. Since the qualitative approach may not provide all the relevant information, the quantitative approaches are often employed in addition and this usually involves the use of survey questionnaires. The extent of use of each approach would depend on the domain being assessed and the stakeholder involved.

3.4 Evaluation Standards

Every evaluation requires some standards in the form of 'benchmarking', norms or criteria which form the basis of judgement. It is often the case that different quality domains use different standards for judgement. The quality of what is observed within each quality indicator would be judged against five levels of scale. The levels are: very good, good, abstinence, fair and unsatisfactory. These levels represent major strengths, strengths outweigh weaknesses, not in a position to assess strengths or weakness, some important weaknesses and major weaknesses respectively. The stakeholders involved in the design of the instrument agreed that for a quality domain to be judged a major strength in these instruments, 90% and above of the total number of respondents must rate it *very good*. A domain that is rated as strength in these instruments must have more than 60% of the total number of respondents as either *very good* or *good* or *both*. A domain is judged as weak in these instruments if more than 40% of the total number of respondents rates it as fair or unsatisfactory or both. Any domain in these instruments that has more than 50% of the respondents judging it unsatisfactory is taken as major weakness that needs to be addressed urgently.

3.5 Format for Presenting Evaluation Feedback

The format for presenting evaluation feedback in this instrumentation has two components, namely: a short description of the programme that has been evaluated and a tabular presentation of the results of the evaluation as depicted in table 2 below.

Table 2: Sample table format for feedback

Description	Percentage Scores (%)					Interpretation
	Very Good	Good	Abstinance	Fair	Unsatisfactory	
Resources	10	60	0	20	10	Strengths outweigh weaknesses

The tabular presentation would be done for each respondent group to facilitate comparison of results from different respondent groups, periods and programmes.

3.6 Ensuring Validity and Reliability in the Instruments

As data collection instruments are developed, the most important concerns are that the instruments are reliable and valid. Reliability and validity both indicate the extent to which error is present in the instrument. Reliability is an indication of the precision of the instrument (Cronbach, L. J.,) [11] i.e. whether it consistently measures whatever it measures and controls for random error in the measure. On the other hand, an instrument deemed valid is controlling for the systematic error in the measure i.e whether the instrument is appropriate with regards to what is intended measure. To ensure high validity and reliability, experts who know what should be measured in education were made to review the content of the instrument. Stakeholder agreement on all the components of the instrument was ensured. This was done through stakeholder workshops and focused group discussions and several methods of triangulation in data collection were employed to design the instruments. These were expert review, interviews, workshops, document analysis and focused group discussions. Then after the stakeholders had approved the instruments, they were piloted on some selected academic programmes of the Polytechnic to test the efficacy of the instruments. The Alpha Cronbach's reliability test model was applied to test the reliability of the instruments after a pilot exercise. A coefficient of 0.9 was obtained which indicates high reliability.

4.0 CONCLUSION

The study established that it is important to involve all the relevant stakeholders in the design of any self-evaluation instruments of academic programmes to facilitate the stakeholders' acceptance of the instrument for the intended evaluation. It concludes that the content of evaluation instruments for academic programmes should include curriculum, teaching, learning, assessment, outputs, outcomes, programme organisation, resources and quality assurance. It is also concluded that teachers, students, administrators, alumni and employers are very relevant respondent groups for any self-evaluation of academic programmes in tertiary institutions. Teachers, students and alumni are the most important respondent groups for self-evaluation of any academic programme because they selected the highest indicators for assessment.

5.0 REFERENCES

- [1] Brennan, R. (2001). *An essay on the history and future of reliability from the perspective of replications*. *Journal of Educational Measurement*, 38, 295-317.
- [2] Scheerens, J., Glas, C. and Thomas, S.M. (2003). *Educational Evaluation, Assessment and Monitoring: A Systemic Approach*. The Netherlands, Swets & Zeitlinger Publishers
- [3] Harvey, L. and Green, D., (19993). *Defining Quality; Assessment & Evaluation in Higher Education*
- [4] Bush, T. and Bell, L. (2005). *The Principles and Practice of Educational Management*. London, Paul Chapman Publishing
- [5] Bradley, L.H. (1993). *Total Quality Management for Schools*. USA, Technomic Publishing Company, Inc.
- [6] Bounds, G. Yorks, L. Adams, M. and Ranney, G. (1994). *Beyond Total Quality Management: Toward the Emerging Paradigm*. New York, NY, McGraw-Hill, Inc.
- [7] Scheerens, J., Glas, C. and Thomas, S.M. (2003). *Educational Evaluation, Assessment and Monitoring: A Systemic Approach*. The Netherlands, Swets & Zeitlinger Publishers
- [8] Scheerens, J., Glas, C. and Thomas, S.M. (2003). *Educational Evaluation, Assessment and Monitoring: A Systemic Approach*. The Netherlands, Swets & Zeitlinger Publishers
- [9] Kane, M. (2001). Current concerns in validity theory. *Journal of educational Measurement*, 38, 319-342.
- [10] Diamond, R. M. (1998). *Designing and Assessing Courses and Curricula: A Practical Guide*. San Francisco: Jossey-Bass Inc., Publishers
- [11] Cronbach, L. J. (2004). My current thoughts on Coefficient Alpha and successor procedures. *Educational and Psychological Measurement*, 64, 391-418.