Outcome–Based Program Quality Assurance Accreditation Survey Instrument: Its Development and Validation

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Abstract In the Philippines, the Commission on Higher Education (CHED) has recognized the need to realign the academic program offerings of 112 state colleges and universities thereby raising the standards of quality assurance. The Accrediting Agency of Chartered Colleges and Universities in the Philippines (AACCUP), aimed to develop a new outcomes-based quality assurance (OBQA) instrument using both quantitative and qualitative approaches of a multi-method design. There are three phases of this study: 1) consideration of benchmark data; 2) development and validation of instrument; and 3) pilot testing. The first phase generated ten areas of the instrument with 700 Likert-type benchmark statements. The second phase led to the trimming of the item pool to 672. The last phase revealed that all 672 item pool identified benchmark indicators passed both the content validationas well as reliability test. It is recommended that the instrument be used and revalidated for further improvement.

Keywords: accreditation, outcomes-based education, quality, standard

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Introduction

The 21st century has witnessed the steady rise of globalization marked by the breaking down of political and economic borders and the free flow of communication. This global phenomenon impacts all sectors including higher education. This trend is well observed in the Philippines,that justifies the call for the higher education in the Philippines to respond to the needs of globalization. Being responsive to the needs of globalization entails assurance of quality education in all sectors particularly in higher education.

The higher education sector of the Philippines adheres with its mandate to build a quality nation. It is aimed that citizens of the nation will be capable to transcend political, economic, social, cultural and ethical obstacles. These obstacles constrain the development of human capital of the country, its global competitiveness and productivity. Examining these constrains and obstacles provide several challenges for our education sector particularly to higher education. Apparently the challenges that our higher education system should be able to address include: 1) the production of thoughtful graduates imbued with the core values that are reflective of humanistic orientation, problem solving and analytic thinking skills, ability to incorporate ethical and social implications for every given course of action considered, as well as the competency to become lifelong learners which will enable of meaningful living; 2) the production of graduates with a high degree of academic, behavioral, technical skills, thinking skills, that are aligned not only to the work and academic requirements of our nation but also of the global arena; 3) provision for support to the research requirements for technological innovations, global competitions, economic progress, and for the development of our nation's strategic policies and directions; and 4) contribution in the improvement of the quality of life of our

countrymen responsive to the changing societal needs, and to introduce solutions to challenges of the community in all levels: local, regional and national.

In addressing the identified challenges in higher education institutions, our Commission on Higher Education (CHED) in partnership with the lead agency for quality assurance, the Accrediting Agency of Chartered Colleges and Universities of the Philippines (AACCUP) has since its inauguration continued to exercise its mandate to accredit quality tertiary institutions in the country.

Corpus (2003) claims that accreditation started in the country in 1957. He also defined accreditation as "a system of evaluation based on the standards of an accrediting agency." Accreditation is also a system of endorsing the capability of a tertiary institution,which helps identify and establish national standards of quality in higher education and align institutional goals with the national objectives.One strategy to achieve quality in education is the enhancement of the quality assurance system. One way of doing this is through the institution of an outcomes-based quality assurance system as well as the establishment of a learning-competency-based standards.Through this system, mechanisms can be assured; procedures will be instituted; and processes will be utilized as guides in the delivery of quality services. Eventually, the novel paradigm will ensure exemplary contribution to the overall vision of relevant and quality tertiary education in the country.

Quality Assurance

Quality assurance is a recognized practice internationally. In European countries, the essence of quality assurance in higher education institution is made possible through the European Association for Quality Assurance in Higher Education (ENQA). Describe as umbrella

organization from the European Higher Education Area (EHEA) in-charge of quality assurance in its member states. In Canada, the same essence of quality assurance is also upheld through the Commonwealth of Learning (COL) as expressed by Sanjaya (2008). COL serves the function of focusing on quality assurance particularly in higher education and teacher education. Accordingly member states of the Organization for Economic Co-operation and Development (OECD) including the United States and the Philippines also adheres with quality assurance and its measures. The major purposes of quality assurance (Kis, 2005) include improvement and accountability. In which methods include self-review, peer-review, and external review.

In an article by Padua (2003), he shared how the Philippines can learn from accreditation practices of some more countries like United Kingdom, Iran, Korea, India and Thailand. Part of his recommendations are: 1) try out a combination of program and institutional accreditation; 2) shift from voluntary accreditation to prescribed accreditation; and 3) to put in place a more reliable quality assurance system.

Significantly, our country recognizes that quality assurance is a joint responsibility of the institution offering tertiary level education and that of the state. In a specific memorandum issued by the state through its implementing arm, the Commission on Higher Education (CHED), specifically CHED memorandum order number 46 (CMO 46, 2012) defined quality as,

> *"the alignment and consistency of the learning environment with the institution's vision, mission, and goals (VMG) demonstrated by exceptional learning and service outcomes and the development of a culture of quality."*

In an institution, one of the primary obligations is to ensure that academic programs and school activities are contributing to the attainment of quality education. Additional obligations include the development of competent and high-level human resources and generation of knowledge and technologies for the advancement of the country's competitiveness and national development in the long run.

For examples, academic institutions such as the State Universities and Colleges (SUCs) that the AACCUP serves. SUCs have been operating for some time now and year on year, a greater part of their scarce fiscal resources are allocated for these academic programs. Whether or not they are achieving the goals of their programs remains difficult to determine. Records show that there has not been any formal external evaluation of the programs of these SUCs.In order for the academic service to contribute to the overall vision of relevant and quality tertiary education, its performance and management of quality have to be assessed. Questions frequently askedas regards quality assurance are: Are the academic programs of educational institutions succeeding in their objectives? If they are indeed successful, what factors contribute to their success? If not, what causes their failure?

Outcome Based Education (OBE)

CHED (2014) in its Memorandum #46 under their policy-standard to enhance quality assurance in the country, described outcomes-based as, "working-backwards with students as the center of the learning-teaching milieu." Lawson and Williams (2007) recognizes Spady's organizing principles of Outcomes-based Education. The following are the OBE organizing principles of Spady:

- Clarity of focus – this principle is about providing students with specific achievable objectives that needs to be targeted at the end of the term. A clear

focus will give students opportunities to channel their thoughts and activities towards a single aim.

- Designing back – this means that prior to starting in the program, there should be a clear plan as to how the different curricular contents are organized.

- High expectations for all students – it is believed that setting high expectations for students will help students look forward to opportunities of growth and improvement.

- Teacher provide expanded opportunities to allow for achievement of outcomes in a variety of ways – through this principle, the student will be given options to still achieve a goal without particularly focusing on a single task.

In a more recent official document of CHED (2014), outcomes-based education is defined by CHED as "an approach that focuses and organizes the educational system around what is essential for all learners to know, value, and be able to do to achieve a desired level of competence." In addition to defining OBE in terms of what the students should be able to do, it also describes it as "open to incorporating discipline-based learning areas that currently structure HEI curricula." This means that the adaption of higher education institutions of the OBE framework does not entirely mean departure from previous practices in the different institutions. This further means that higher education institutions need to incorporate with the OBE context the VMGO of their institution.

In the same document of CHED (2014), the difference between input-based education and outcomes-based education was highlighted. Here is an extract of some of the highlights from the table provided in the CHED (2014) document:

Table 1. Typical Depiction of Inputs-based and Outcomes-based Education Paradigms

Dimension	The Instruction (Input-based) Paradigm	The Learning (Outcomes-based) Paradigm
Mission and purposes	Provide/deliver instruction	Improve the quality of learning
	Improve the quality of instruction	Create powerful learning en
Criteria for success: learning varies with…	Quality of entering students	Quality of exiting students
	Curriculum development, expansion	Learning technologies development
Teaching/ Learning Structures	Classes start, end at same time	Environment ready when student is
	One teacher, one classroom	Whatever learning experience works

The excerpt highlights some of the major strengths of outcomes based education paradigm in the areas of mission and purposes, criteria for success and teaching/ learning structures. Outcomes-based education can be described as a learning paradigm as compared to a paradigm that is used by some educators which is called instruction paradigm.

Quality Assurance Framework

Quality Assurance is adhered to by several countries if not all countries around the globe. The quality assurance framework of Japan is describedin a publication of the Higher Education Bureau Ministry of Education, Culture, Sports,

Science and Technology (2009). The frameworkis shown in the illustration that follows:

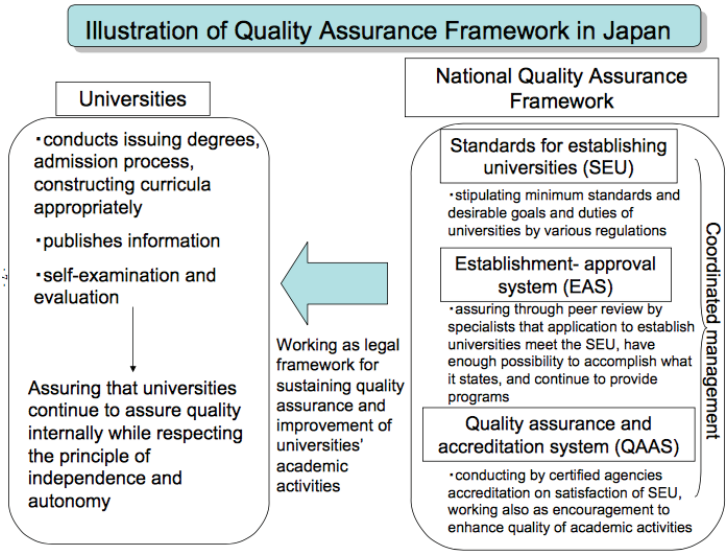

Figure 1. Quality Assurance Framework of Japan.

This framework is founded on three systems: 1) the standards for establishing universities (SEU); 2) an establishment-approval system (EAS); and 3) a quality assurance and accreditation system (QAAS). These three systemsprovide a strong basis for the maintenance of quality in universities operated in Japan. In comparison, the quality assurance framework of London hasfour essential requirements: 1) clear articulation of academic standards, 2) robust quality assurance, 3) focus on academic quality, and 4) commitment to continuous quality enhancement. These requirements are cited by a publicationof the City University of London (2012). In the Quality Assurance Framework of Uganda, as described in a publication of the National Council for Higher Education (NCHE, 2014), two components of the framework were considered to be major

components: 1) the regulatory component at the level of NCHE, and 2) the institutional component at each individual university level. Australia's Quality assurance framework as reported by Hay and Lidl (2009) includes six components. The components include: accreditation and approval; the Australian Qualifications Framework; Institutional (internal) self-monitoring and review; and External monitoring and review.

In the Philippines, the Quality Assurance Framework (QAF) of CHED (2014) is based on memorandum number 46 which is adapted by subsequent memoranda. The QAF of CHED revolves on the aforementioned definition of quality, which focused on three particular facets or elements of quality. The facets of quality are described as follows: The first facet is the, "fitness for purpose." In this particular facet, the requirement is the translation of the identified institution's Vision, Mission, Goals, and Objectives (VMGO) into specific outcomes, programs and systems in the institution. The second facet of quality is "exceptional." In this facet, the terms distinctive, exceeding the level of standards, or the conformity with standards as could be gauged by a recognized system. The third facet of quality is "as developing a culture of quality." This last facet of CHED's meaning of quality is the essence of the transformational dimension.

In line with the elements of quality are the definitions of vertical and horizontal typology. CHED relates the last two elements of Quality to the ideas of 1) level of program excellence, and 2) institutional quality. The first idea is said to be manifested through activities such as the establishment of centers of excellence and development and international certification. The second idea is about institutional quality which may be manifested through institutional accreditation and quality assessment to name a few.Other key characteristics of quality assurance in the framework of

CHED (2014) include: 1) Ensures that there are mechanisms, procedures, and processes in place to ensure that the desired quality are delivered, and 2) The QA framework also follows the Deming Cycle framework.Averson (1998) described the cycle as proposed by W. Edwards Deming in the 1952 to be a process that helps analyze, measure and identify the sources of variations in performance. The big idea of the Deming Cycle is to make the check and balance a cycle such that feedbacks can be given for continuous improvements in the system. The Deming cycle is described by a simple diagram of PDCA which means Plan, Do, Check and Act. This cyclic process is sequential in nature and is followed for continuous improvements in different systems. CHED envisions that through this continuous system, Higher Education Institutions adopting the framework will develop into mature institutions.

The idea of quality assurance is not to be singlehandedly done by the higher education institution. In section 9 of the CMO # 46 (2012), QA is a task that can be carried out with the help of accrediting bodies such as the AACCUP as well as the Commission on Higher Education itself. This particular section recognizes the role of accrediting bodies and the commission in the aim of developing quality in institutions of higher learning. Section 10 of the same memorandum adheres to the concept of a quality assurance system that is developmental. The whole system of quality assurance recognizes the big task ahead of institutions which necessitates assistance from other institutions.

Other countries also have their means to set standards, maintain them and to make quality assurance as a way of life. As an example, the European Network for Quality Assurance in Higher Education (ENQA, 2009) for one maintains a set of "agreed set of standards, procedures and guidelines on quality assurance." This quality standards (ENQA, 2009)

is divided into three broad categories of quality assurance: The first category is the "European standards and guidelines for internal quality assurance within higher education institutions." The second category is "European standards for the external quality assurance of higher education." The third and last category is, "European standards for external quality assurance agencies."

For the context of CHED (2014) in the Philippines, internal and external quality assurance is ensured as well. As an illustration to external quality assurance, through continuous checks and balances, it was found that the "one-size-fits-all" model of the past prevents delivering the expected quality of higher education institutions. For internal quality assurance, CHED has adopted both a horizontal and vertical typology for quality assurance. In order to address issues concerning the concept of "one-size-fits-all", CHED is adopting horizontal typology which is sensitive to functional differentiation of the different HEIs. This means that horizontal typology will help in the quality assurance of institutions with unique identities. That includes are three types: 1) Professional institutions, 2) Colleges, and 3) universities.

Vertical typology refers to the classification of the HEIs in accordance to two of the three elements of quality that CHED (2014) has defined: The first element is the"demonstration of exceptional learning and service outcomes" and the second element is"the development of a culture of quality." These elements are related to the characteristics of institutional practices that include, "the level of program excellence" and "the institutional quality." It is perceived by CHED that through these typologies, the quality assurance of higher education institutions in the country will not anymore be faced with the issues of previous practices.

The quest for quality and excellence in higher education follows a continuous cycle. The Commission on Higher Education of the Philippines recognizes the role of outcomes-based education as an acceptable framework to help in the delivery of acceptable levels of performance in institution of higher learning. Quality assurance is an internationally- recognized process of ensuring that standards are set and met by institutions. Through Outcomes-based education, it is expected that there will be a more organized system that will focus on essentials including what the learners need to know, value and be able to do in the process of achieving an acceptable level of performance. CHED also uses quality assurance framework which operates on three basic elements. The first of the elements being, "fitness of purpose", second being "exceptional", and the last is the "essence of transformational dimension." All these elements of quality are envisioned to capacitate institutions of higher learning with the capability of improving more and practicing the culture of quality and excellence in their delivery of programs and services. The continuous process of improvements through the quality assurance framework is deemed to be an essential step towards the promotion of lifelong improvement in institutions of higher learning. With these considerations, this study was conceived to help contribute in the continuous cycle of promoting the culture of quality and excellence.

Purposes of the Research

One of the major challenges of tertiary education is to substantially show its effectiveness and efficiency in attaining its objectives, while also responding to the recent paradigm shift in quality assurance from inputs-based to outcomes-based. The ability of institutions to properly evaluate the usefulness and quality of academic services requires the development of an instrument that is not only valid and

reliable, but also one that is aligned with and based on the framework of Outcomes-based education (OBE). This study was undertaken in an attempt to address the need todevelop an appropriate evaluative instrument to assess the academic programs in state universities and colleges.

Specifically, it sought to undertake the following:

1. develop an improved version of the Outcomes-based quality assurance (OBQA) program accreditation survey instrument; and
2. establishthe content validity and reliability of the developed instrument.

Methodology

A developmental research design was used in this study with the aims of developing and validatingan outcomes-based quality assurance instrument.It is a tool for measuring the quality of academic programs in different state universities and colleges. Richey and Klein (2005) described developmental research as a research design that, "seeks to create knowledge grounded in data systematically derived from practice." Two categories of development study were also introduced by the same authors. The first type focused on a given instructional product, program, process or tool. The second type deals with a given design, development, or evaluation or process. This study falls under the first type, where the focus is the development of the tool.

Furthermore, the design employed triangulation and focus group discussion. Triangulation had two implementation levels:(1) the method and (2) the categories of informants for the quality assurance tool. The focus group discussion involving other stakeholders was used as a validation process. The conceptualization process of the Outcomes-Based Quality Assurance Model is shown in Figure 2.

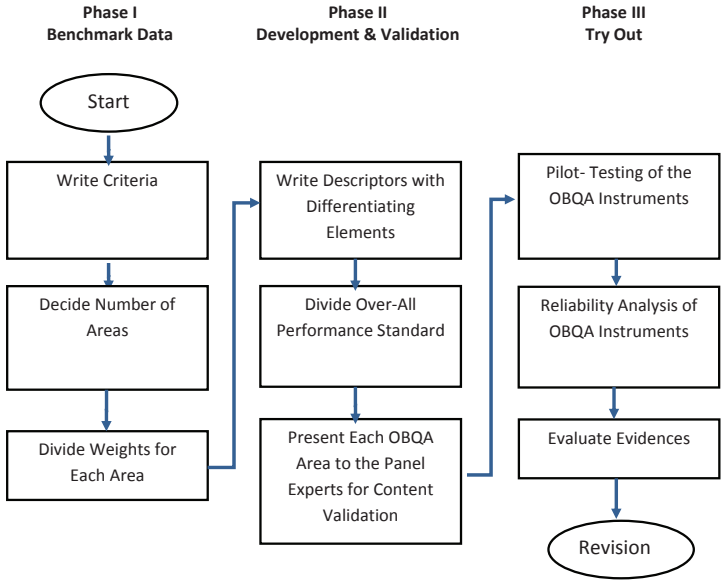

Figure 2. Steps in Developing the Outcome-Based Quality Assurance Program Accreditation Instrument.

In operationalizing the steps in Figure 2, the development of the OBQA program accreditation instrument involvedthe following phases: (a) benchmarking of data, which refers to the development and settingof criteria, the assignment of weights on certain grounds and the identification of performance levels; (b) describing the descriptors, differentiating the elements that correspond to the descriptors, validationagainst the learning outcomes and presenting the areas to the experts for content validation; and (c) conducting pilot testing and providing feedback, reliability analysis and evaluation of the evidences.

Instruments

The achievement of the objectives of the study highly depends on two important instruments of the study.

The first is that of the original accreditation instrument and the evaluation instrument.

The AACCUP Accreditation Instrument The instrument is composed of ten areas with a total of 700 indicators as item-statements. The areas are given as follows: I.) Vision, Mission, Goals & Objectives; (II.) Faculty; (III.) Curriculum & Instruction; (IV.) Support to Students; (V.) Research; (VI.) Extension and Community Involvement; (VII.) Library; (VIII.) Physical Plant & Facilities; (IX.) Laboratories and (X.) Administration.

Evaluation Instrument – was used as the same instrument where evaluators rated the responses based on the following evaluation scale:

Table 2. Evaluation Scale for Expert Validation

Score	Description
5	Excellent
4	Very Satisfactory
3	Satisfactory
2	Fair
1	Poor
NA	Not Applicable
DK	Do not know

Participants

Demographics of the Respondents

The following table presents the detailed demographics of the 205 respondents of the study. The respondents refer to the evaluators who helped in evaluating the instrument developed in the study. Table 3a shows the geographical spread of the respondents across categories. Majority of the informants came from Luzon, followed by those from Mindanao, then those from Visayas. Majority of the evaluators are senior accreditors, followed by SUC administrators, while the rest are new accreditors.

Table 3. Category of Evaluators and their Geographical Location

CATEGORY	LUZON		VISAYAS		MINDANAO		TOTAL	
	F	%	F	%	F	%	F	%
GENDER	M / F	M/F	M/F	M/F	M/F	M/F	M/F	M/F
	42/69	38 / 62	18/26	41/59	18/32	36/64	78/127	38/62
Senior Accreditor	80	72.1	30	68.0	33	66.0	143	69.80
SUC Administrator	19	17.1	8	18.0	14	28.0	41	20.00
New Accreditor	12	10.8	6	14.0	3	6.0	21	10.20
Total	111	100.00	44	100.00	50	100.00	205	100.00

Table 3 also shows the gender of the respondents. Majority of the respondents who participated in the study are female (62%), while males comprise 38%. A total of 127 evaluators participated in the study, with majority of the respondents coming from Luzon.

Phases of the Study

The study is composed of three major phases that follows the developmental research method design principles. The following are the phases of the study: Phase I – Benchmark Data, Phase 2 – Development and Validation of the Instrument, and Phase 3 – Pilot Testing.

Phase I. Benchmark Data

The first phase consisted of three steps: (1) writing and deciding the number of areas for inclusion ,(2) listing of areas, and (3) deciding weights for each area and describing performance levels. The key to these steps was ensuring that all areas are contextualized and aligned appropriately with the learning outcomes defined in CHED Memorandum Circular No. 46. Other activities in this phase included looking into the benchmark data from the

old accreditation survey instruments and output from some accreditation visits.

Phase II. Development and Validation of the Outcomes-Based Quality Assurance (OBQA) Program Instrument

The second phase involved three steps: 1) Writing and analysis of descriptors with differentiating elements; 2) Development of the item pool – Development of the initial item pool started from a review of AACCUP program accreditation output and extant literature; majority of the items were extracted from the old accreditation program instrument; and 3) Content validation of the instrument which panel of experts, with knowledge and experience in program evaluation and instrument development, validated the initial pool of item statements. The specialists and experts worked on their respective program specializations using the system-implementation-outcomes framework on the different parameters in every area.

The specialists/experts were asked to use the following guidelines in validating the instrument: a) Are the instructions clear and complete?; b) Are the items in the instrument relevant to the problems on hand?; c) Are the questions perfectly clear and unambiguous?; d) Is the instrument easy to administer?; e) Is the scoring/rating system easily facilitated?; f) Is the instrument free of contaminating elements? g) Does the instrument clearly lead to the VMGO of the institution?; h) Is the quality assurance tool appropriate?

Phase III. Pilot-Testing

The third phase covered three steps: (1) pilot testing to ensure consistency, (2) analyzing the reliability of the instrument, and (3) providing constructive feedback and evaluating the results to identify gaps and corrective actions.

Results and Discussion

This section shows the results of the study aimed at developing an outcomes-based quality assurance program accreditation survey instrument. The results are structured as patterned from the phases identified at the initial stages of the study.

Development of an improved OBQA Program Accreditation Instrument

In developing an improved version of the AACCUP OBQA instrument, the following ten areas were considered: 1) Vision, Mission, Goals & Objectives; 2) Faculty; 3) Curriculum & Instruction; 4) Support to Students; 5) Research; 6) Extension and Community Involvement; 7) Library; 8) Physical Plant & Facilities; 9) Laboratories, and 10) Administration as were earlier introduced. The decision to adopt all ten areas was collectively arrived at by the evaluators and an inventory of the 700 existing item statements yielded the following count and assignment of weights:

Table 4. Number of Existing Item Statements and weights per Area

AREA	Existing Item Statements		Weights
	f	%	
I. Vision, Mission, Goals and Objectives	20	2.86	0[1]
II. Faculty	92	13.14	8
III. Curriculum & Instruction	77	11.00	8
IV. Support to Students	131	18.71	8
V. Research	45	6.43	5
VI. Extension and Community Involvement	37	5.29	4
VII. Library	70	10.00	5
VIII. Physical Plant and Facilities	120	17.14	3
IX. Laboratories	43	6.14	4
X. Administration	65	9.29	5
Total	700	100	50

Table 4 shows the different areas of the existing OBQA instrument. A total of 10 areas are with the initial instrument with a total of 700 items. Different weights were also assigned with the greatest weights assigned to areas II to IV and with area I having the least weight of 0. A total of 50 points is set to be the maximum weight. These items are the initial items used, examined, evaluated and eventually reduced to have the final OBQA instrument.

The Philippine context looks at quality assurance operated by an external organization examining higher education institution on areas such as those identified in the instrument developed in this study. Quality assurance is also adhered by institutions in their self-review practices. This has some differences in the practices of Japan as their practice of quality assurance stems from a national quality assurance framework that works as a legal framework for their country (Higher Education Bureau Ministry of Education, Culture, Sports, Science and Technology, 2009). In higher education quality assurance practices in Australia, similarity is found in that there is self-review, peer review, site visit, and survey (Kis, 2005). Countries practicing self-review and peer-review also include: Belgium, Chile, Denmark, Estonia, Finland and France to name some as reported by Kis in 2005.

Content Validation of the 0BQA

An evaluation instrument consisting of the original 700 items was generated and considered as initial indicators of quality for the ten areas.All 700 items were reviewed for content validation by the invited panel of specialists who were chosen on the basis of their knowledge and experiences in program evaluation and instrument development. These specialists and experts worked on their respective program

[1]Note that Area 1 has no assigned weight. Being the cornerstone of any establishment, it is considered a prerequisite and a known fixture in academic institutions. Thus, accreditors simply check for its availability and dissemination, as well as its overall congruency with the programs being assessed.

specializations using the system-implementation-outcomes framework on the different parameters in every area.

The panel's thorough scrutiny of the items determined the adequacy and appropriateness of each item and the overall adequacy and truthfulness of the instrument. After this step, the 700 items were reduced to 672, with response options scaled in accordance with the scale given in Table 2.Items that did not receive an evaluation of "Excellent" were discarded from the instrument giving. A total of 28 items did not qualify for this standard. This led to the decision of discarding the 28 items. The new 672 item-statements formed the pool of items as distributed across the ten areas as follows:

Table 5. Number of Item Statements per Area After Expert Validation

AREA	Number of Item Statements After Validation	
	F	%
I. Vision, Mission, Goals and Objectives	18	2.68
II. Faculty	89	13.24
III. Curriculum & Instruction	74	11.01
IV. Support to Students	128	19.05
V. Research	42	6.25
VI. Extension and Community Involvement	34	5.06
VII. Library	67	9.97
VIII. Physical Plant and Facilities	117	17.41
IX. Laboratories	41	6.10
X. Administration	62	9.23
Total	672	100

The developed instrument still maintained all ten (10) major criteria/areas identified. Table 5 shows that area IV, Support to students had the most number of qualified item-

statements with a total of 128 and area I, Vision, Mission, Goals and Objectives had the least number of qualified item-statements with only 18 items. The National Council for Higher Education (NCHE) of Uganda (2014) includes 8 areas in its instrument needed as parallels to majority of the areas of the OBQA instrument. These areas include: 1) Institutional governance, 2) the quality of teaching and learning, 3) the quality of academic staff, 4) sufficiency of education facilities to name four of the eight areas of the NCHE of Uganda.

Similarly, the European Network for Quality Assurance in Higher Education (ENQA) in 2009 reported parallel ideas to the quality assurance in the country as practiced in higher education institutions, that include: 1) policy and procedures for quality assurance, 2) approval, monitoring and periodic review of programs and awards, 3) assessment of students, 4) quality assurance of teaching staff as four of the seven areas of quality assurance in ENQA.

Validity and Reliability

In addressing the second objective, the instrument's acceptability was determined. Experts evaluated each of the item-statement. The reliability of the instrument was also determined to the instrument consistency. The evaluation of the experts was summarized per area as shown in Table 6.

Table 6 shows a sample item from each of the ten areas of the instrument. All of the sample items chosen have means of 4.69 and up. For example, the sample items for areas I and V are, "The institution has a system of determining its vision and mission."; and "The institution has an approved research manual."

Table 6. Sample Items Retained

Area	Sample Item	Evaluation
I. VMGO	The institution has a system of determining its Vision and Mission.	4.81 (±0.45)
II. Faculty	At least 50% of the faculty are Graduate degree holders.	4.71 (±0.57)
III. Curriculum & Instruction	The curriculum reflects local, regional and national development goals as well as the institution's vision and mission.	4.77 (±0.55)
IV. Support to Students	The SAS is composed of: student welfare programs and services; and student development programs and services.	4.69 (±0.67)
V. Research	The institution has an approved Research Manual.	4.83 (±0.41)
VI. Extension and Community Involvement	The extension program reflects the VMGO.	4.69 (±0.64)
VII. Library	The organizational structure of the Library is well-defined.	4.69 (±0.66)
VIII. Physical Plant and Facilities	The Campus is well-planned, clean and properly landscaped.	4.69 (±0.46)
IX. Laboratories	There is a computer laboratory with at least 15 usable computer units and a printer.	4.72 (±0.56)
X. Administration	Every office/unit in the organizational structure has functions approved by the BOR/ BOT.	4.77 (±0.56)

The 672 items, which were temporarily referred to collectively as a Quality Indicators Checklist and was eventually named the Outcomes-based Quality Assurance (OBQA) program accreditation instrument, were pilot tested during the different OBQA Training of Accreditors held in different venues in the three major islands of the country: Luzon,Visayas and Mindanao. Results of the pilot-testing served as guide in the revision and finalizing of the

instrument. Another round of critiquing was undertaken by the invited panel of experts per program/specialization.

Reliability of the Ten Areas in the OBQA Program Accreditation Instrument

Table 7 shows the reliability coefficient of the ten areas in the OBQA program accreditation instrument. All areas were found to be excellent indicators of quality, with Area I (Vision, Mission, Goals and Objectives) gaining the highest overall mean of 4.80. Area II, on the other hand, got the lowest overall mean of 4.72,. The overall ratings also did not vary among the raters since the standard deviations of the scores are not that high, with the least standard deviation being that of Area I, and the highest being that of Area III (0.62).

The reliability indices of the areas also show that the evaluators of the instrument had a relatively consistent evaluation of the instrument. This further means that the evaluators are all agreeable to the excellent evaluation of the indicators of each of the 10 areas.

Table 7 shows the average reliability indices below of the ten areas. The indices were computed using the split half method. Split half method is done by dividing the 672 items with the different items into two and correlating the values to get a correlation coefficient value that represents the consistency of the area.

Based on the table, excellent result of evaluation and a very high value of consistency of the items may be deduced. This reflects the very high standard of the developed OBQA instrument. items discarding all items that did not meet the "excellent" criteria for choosing item statements contributed to the final acceptable results. Dill (2007) described how valid and informative instruments such as the US National Survey of Student Engagement (NSSE) can offer indicators

of academic quality. Kimberlin and Winterstein (2008) underscored the significance of tests or instruments as these tools are considered to be crucial in defining the quality of the research engagement.

Table 7. Reliability Coefficient of the Ten Areas in OBQA Program Accreditation Instrument

AREA	Number of Items	Over-All Mean	Standard Deviation	Qualitative Description	Reliability Coefficient
I. Vision, Mission, Goals & Objectives	18	4.80	0.49	Excellent Indicator	0.930
II. Faculty	89	4.72	0.59	Excellent Indicator	0.991
III. Curriculum and Instruction	74	4.77	0.62	Excellent Indicator	0.988
IV. Support to Students	128	4.77	0.61	Excellent Indicator	0.960
V. Research	42	4.75	0.55	Excellent Indicator	0.986
VI. Extension and Community Involvement	34	4.75	0.58	Excellent Indicator	0.990
VII. Library	67	4.76	0.53	Excellent Indicator	0.995
VIII. Physical Plant & Facilities	117	4.77	0.50	Excellent Indicator	0.993
IX. Laboratories	41	4.79	0.50	Excellent Indicator	0.991
X. Administration	62	4.78	0.53	Excellent Indicator	0.995
TOTAL	**672**				**0. 9756**

Final Instrument

The final set of 672 items came from an original 700 adopted items from the original instrument as was decided over in Phase 1. Both the original and new instrument includes ten (10) areas. Each of the area are given weights with some areas given higher values to emphasize importance. Area 1 is given zero weight

since it is considered to be the cornerstone of any known establishment.

Table 8. Summary of Item Distribution of OBQA Instrument and the Corresponding AACCUP Weight Value

AREA	Number of Items of OBQA Instrument	AACCUP Weight Value
I. Vision, Mission, Goals &Objectives	18	-
II. Faculty	89	8
III. Curriculum and Instruction	74	8
IV. Support to Students	128	8
V. Research	42	5
VI. Extension and CommunityInvolvement	34	4
VII. Library	67	5
VII. Physical Plant & Facilities	117	3
IX. Laboratories	41	4
X. Administration	62	5
Total	672	50

Table 8 provides the summary of the distribution of items of the OBQA instrument across the ten accreditation areas. It also reflects the corresponding AACCUP weight equivalent of the different areas. It shows that the most number of items is found in Area IV, "Support to Students". It has an AACCUP weight value of 8, similar to the areas on Faculty and Students. All the rest have an AACCUP weight value ranging from 3 to 5.

Conclusion and Recommendations

This study involved the development of an instrument for quality management and assurance. The method utilized in the study is the development research method which is specifically classified under category 1 of Richey and Klein's (2005) classification. The process of developing an instrument and validating the instrument was carried out in

this study. The three phases of the study laid the framework that was followed in the conduct of the study.

The main objective of the studyis to develop and validate an instrument for the accreditation of Outcomes-based education programs, was successfully met. The steps in the achievement of the objective in three phases led to the development of the instrument. The study highlighted the following findings: benchmark data led to the identification of 10 areas of evaluation for outcomes-based programs and 700 items of indicators; content validation by experts led to the trimming of the 700 item pool to 672 items; all items in all areas received a descriptive evaluation of excellent; an alpha coefficient of 0. 9756 indicates that the item indicators in the instrument are reliable.

The following are the details of the results of the study. The first step in the achievement of the objectives of the study is to determine the benchmark data for the instrument. The benchmark data led to the identification of 10 areas and 700 indicators. The next step is the validation of the benchmark data. The results of the validation by experts, aftera review of existing literature and the existing accreditation instrument, helped reduce the number of item statements to six hundred seventy-two (672) indicators of a quality academic program. The indicators were classified into the following 10 areas: Vision, Mission, Goals and Objectives; Faculty; Curriculum and Instruction; Support to Students, Research; Extension and Community Involvement; Library; Physical Plant & Facilities; Laboratories and Administration.

This calculated reliability index of 0.9756 for the instrument means that the OBQA instrument is a reliable instrument.These benchmarks reflected as item statements form the validated measures of a quality academic program, here referred to as Outcomes-Based

Quality Assurance (OBQA) Program Accreditation Survey Instrument. The maintenance of quality in higher education is essential in the continuous performance of the mandate of institutions of higher learning. Instruments such as the OBQA instrument is an essential tool to adhering to the culture of quality. Instruments for defining quality should also follow the cycle of quality assurance and continuous evaluation in order to assure users that the instruments are still serving their purpose.

The results of the study led to the development of an accreditation instrument. The instrument is called, the OBQA Program Accreditation survey instrument. It is recommended that the instrument be used by the AACCUP in the process of accreditation of academic programs in state universities and colleges in an outcomes-based framework.The Commission on Higher Education (CHED) through the AACCUP may also consider the adoption and use of the OBQA Program Survey Instrument as part of the assessment and monitoring mechanisms for SUCs that can lead to the establishment of centers of excellence.

The OBQA Program Accreditation survey instrument may also be administered by academic institutions yearly to monitor areas needing improvementand to obtain other information. In itself, the data gathered may be used for a longitudinal research study. The effectiveness and efficiency of academic services as an indicator in benchmarking studies can be further researched and pursued across programs and/or institutions.It is recommended that the AACCUP continue to revise and refine the OBQA instrument. The accrediting body may, in particular, revisit and revise the number of benchmark statements depending on the weights assigned per area.

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