ALIGNING SAMAR STATE UNIVERSITY ARCHITECTURAL DRAFTING PROGRAM SUBSEQUENT TO INTERNATIONAL ACCORD FRAMEWORK

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Major in Drafting Technology

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APPROVAL SHEET

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The Researcher

DEDICATION

This is dedicated to the family of the researcher with whom this thesis might not have been written, and to whom I am greatly indebted.

To my parents, who encourages me to continue learning, growing and developing and have been a source of encouragement and inspiration throughout my life, a very special thank you for providing a 'writing space' and for nurturing me through the months of writing. For the myriad of ways in which, throughout my life, you have actively supported me in my determination to find and realize my potential, a simple thanks is not nearly enough.

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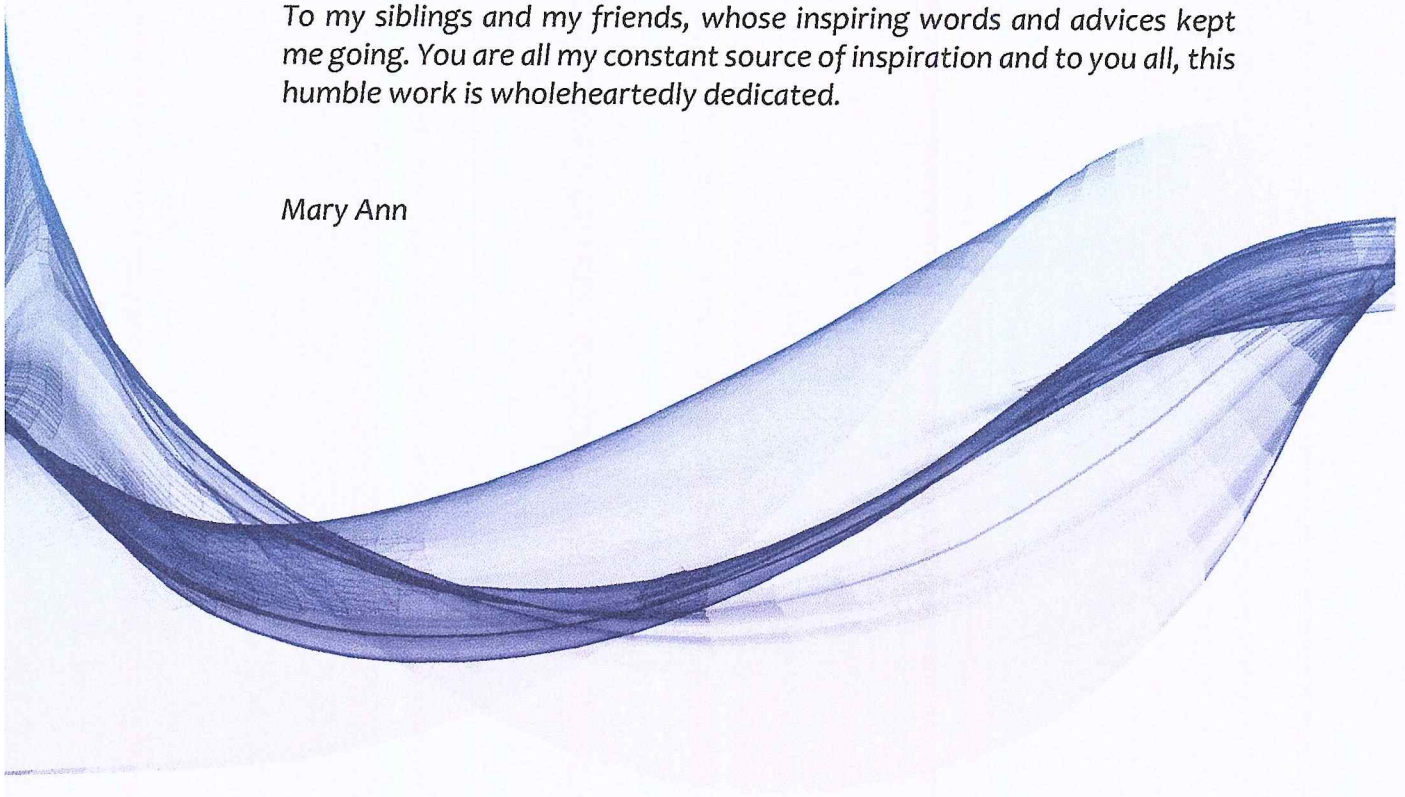
Mary Ann



ABSTRACT

The study aimed to align SSU-ADP curricular structure to the Sydney Accord framework with reference to program graduate outcomes. Assessment of the current status of the program was conducted and consequently designed an alternative curricular model based on Saylor, Alexander & Lewis Curriculum Model. A qualitative methodological approach was employed in the development of the study, using guided interview as instrument for the needs assessment phase. This facilitated all the required data pertinent to the scheming of the designed curriculum where 16 key informants representing the different stakeholders of the program were identified, namely: the industry, alumni, administrator, faculty and students. Results from the interview were processed using Thematic Analysis. Utilization of NVivo Pro software facilitated the swift progress of data evaluation through word tree and text query analysis which enabled the researcher to form themes and codes from the responses of the key informants. These responses translated to the concerns emerging from each sector where gaps and limitations of the graduate outcomes were identified. From the findings of the study, it is concluded that the current Program Graduate Outcomes (PGO) of CIT-ADP are responsive to the needs of the industry for it focuses on the skills and attitude attributes that are highly practical in the field. Important components like varied and advanced design software acquisition, and communication skills however needs attention. The desired Graduate Outcomes of the Sydney Accord Framework are to some extent embedded to that of the CIT-ADP, although are far more superior to the

CIT-ADP outcomes. This basically means that to be able to satisfy the industry needs, not just locally, but internationally, the CIT-PGO should be raised and properly implemented to be able to complete.

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Chapter 1

THE PROBLEM AND ITS SETTING

Introduction

According to a theoretical perspective of Ominiyi (2013), education is one of the fundamental factors of achieving sustainable economic development through investment in human capital. It fosters self understanding, improves quality of lives, and raises people's productivity and creativity, thus promoting entrepreneurship and technological advances. In addition, it plays very crucial roles in securing economic and social progress thus improving income distribution which may consequently salvage the people from poverty.

Looking into the global perspective, in order to cope with modernization, schools and universities in the Philippines should keep the pace of societal changes and technological progress. Hagos & Dejarme (2008), states that the schools of today should participate in the educational and social revolution. Thus, the curriculum in Philippines schools has to be geared to the rapid changes and new responsibilities for the new breed of Filipinos.

The transition of the ASEAN Integration 2015 inevitably requires profound changes in educational content. Changes of values associated with the shift from hard skills to soft skills, and the full implementation of the K-12 Program, have impacted the process of curriculum development.

In relation to this concept, Chung, (2011) in his research discusses that a student should possess several qualities to be able to be globally competent.

With the decline of education quality, the proliferation of regional development in Asian countries, the ASEAN Integration 2015 becomes a heavy challenge to accomplish. This compels higher education institutions in the Philippines to take action and consider drastic measures to cope with these significant changes or otherwise be surpassed by other developing countries.

Higher Education Institutions (HEI) plays a vital role in preparing a country to be globally competitive through the skilled human capital resources it produces. The task is daunting as the institution has to constantly check itself against the standards in place and keep itself abreast of the latest demands of the labor market. Cruz (2014) mentioned in one of the UP Forums regarding the readiness of Philippine HEIs for ASEAN 2015 that there is a need to strengthen and strictly implement policies on accreditation and monitoring of HEIs and programs to ensure quality and competitiveness and a need to create a policy to facilitate the accreditation of HEIs and programs by international bodies.

Aligning with global education trends, the main thrust of The Commission on Higher Education (CHED) in the Philippines is to move towards Outcomes-Based Education (OBE). OBE can be considered as a philosophy of education where there are certain sets of beliefs and assumptions about teaching and learning.

According to CHED Memorandum Order No. 77, series of 2012, quality education today is measured not only by effectiveness, efficiency, sustainability, but also by relevance. Relevance in education would mean addressing the needs of the students and the employers of today and providing the future graduates a curriculum of global comparability. (Pateña et al 2013).

As a leading institution for quality education, it has been the Samar State University's thrust to improve, upgrade and advance its offered programs as evidenced by pursuing quality assurance through ISO certification aside from the periodic AACCUP accreditation of different programs.

Since its establishment as a Trade School in 1912, as a shop laboratory for Samar Provincial High School, it served as a training ground for various fields and has been providing quality, relevant education for local and national development. Proof in point when it was converted from Samar Trade School (STS) to Samar School of Arts and Trades (SSAT) and authorized to offer two-year technical curriculum in various vocational courses.

Following several transitional periods, (SSAT) opened up its gates to several programs, including the Technical Vocational Department with Drafting Technology as one of the major for the Bachelor of Science in Industrial Technology in 1979, around that same period the school was converted to Samar State Polytechnic College in 1982.

At present, the Architectural Drafting Program (ADP) is one of the pioneering program majors under three separate courses namely: Bachelor of

Science in Industrial Technology (BSIT); Bachelor of Technology (BT); and Bachelor of Industrial Technology (BiTech), in Samar State University.

However, since its establishment in the past thirty seven years, SSU-ADP has undergone minimal revisits and content upgrade. Although the program is undergoing regular accreditation visits; it does not focus on the curricular content of the major in particular, but only to the course program in general. This leads to a scenario where the fast-paced global educational field is threatening the program major to obsolescence, notwithstanding the full realization of the K-12 program implemented by the government which puts pressure on the HEI's to reorganize the current curricular structure of the different programs offered.

In the desire of the researcher to assess the current status of the Architectural Drafting Program, this paper presents a review in the existing curricular make-up of the Architectural Drafting Program with regard to evaluative progression development through qualitative and quantitative approach. In doing so, an alternative curriculum model defined by program graduate outcomes was developed and aligned from the program major's current curricular model to that of the international accredited standard of the Sydney Accord under the Washington Accord for engineering technology degree programs based on graduate outcomes.

The following reasons were established which guided the researcher in the development of the study: (1) That the current status of the architectural drafting program faces a "time lag dilemma," and risks obsolescence to likely

and impending shifts in industry, regulations and accreditation; (2) That the implementation of the K-12 education system compels the Higher Education Institutions to conduct major changes in the existing curriculum; (3) That there are potential opportunities to proceed with curriculum renewal with an overview of a range of options for implementation through evaluative progression, and (4) That the program can keep in step with the international community by joining regional and international cooperation initiatives through implementation of internationally recognized accreditation.

Statement of the Problem

The study assessed the current status of the Architectural Drafting Program with reference to Sydney Accord under the Washington Accord and consequently designed an alternative curricular model.

Specifically, the study sought to answer to the following questions:

1. What are the current program graduate outcomes of CIT Architectural Drafting program?
2. What are the desired student outcomes according to Sydney Accord Framework?
3. What are the desired outcome requirements of Architectural Drafting Program (ADP) from the industry, alumni, administrators, faculty and students in the following themes:
    a. Career and Employment;

b. Program Content; and

c. Formative Program Evaluation

4. What program graduate outcome of the SSU-ADP can be aligned and integrated with the Sydney Accord Framework based on the needs of the stakeholders?

Theoretical Framework

This paper is grounded on curriculum renewal model, of Saylor, Alexander and Lewis (Oliva, 2009), specifically on the Study Outcomes Based Education Curriculum. This model is the basis for the researcher's aim to align the current curricular structure of SSU-ADP in an outcomes-based education system, with reference to the Sydney Accord program graduate outcomes.

The researcher came up with a framework model to suit the needs of the Architectural Drafting Technology program aimed at identifying, assessing and presenting a possible solution to the current and emerging needs of the program. This long-term continual model entails the progress and steps to be made once the proposed curriculum direction being presented in this paper is implemented.

Higher education administrators and teachers in the Philippines are faced with the critical process of reviewing and re-aligning their existing programs and courses offered at their colleges and universities.

An important principle defining the theory presents the assumption of Study Outcomes Based Curriculum. This entails modular and process

approaches, stakeholder participation, periodic renewal and orientation to practice are the supporting principles. (Pukelis, et al, 2009)

Spady, one of the first proponents of the OBE, states that outcomes are clear learning results that we want students to demonstrate at the end of significant learning experiences and these are actions and performances that embody and reflect learner competence in using content, information, ideas, and tools successfully, as shared by Bustos-Orosa (2012).

It basically means clearly focusing and organizing everything in an educational system around what is essential for all students to be able to do successfully at the end of their learning experiences. This means starting with a clear picture of what is important for students to be able to do, then organizing the curriculum, instruction, and assessment to make sure this learning ultimately happens.

Bustos-Orosa (2012), further describes the identification of competencies as suggested by the framework model shown in figure 1. The concept identifies gaps of industry standards and the perceived competencies by faculty. This illustrates that to be able to have defined competencies to be achieved by the students; a consultative approach with the stakeholders should always be considered.

Figure 1. Competencies Framework Model for Industry (Bustos-Orosa, 2012)

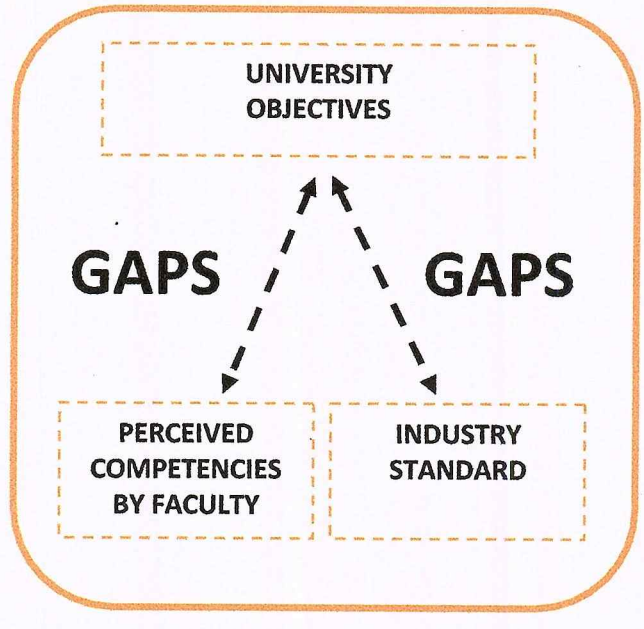

Figure 2. Competencies Framework Model for University (Bustos-Orosa, 2012)

Figure 2 establishes the connective relationship of the three proponents in identifying competencies for the students to achieve, where the University objective and the perceived competencies by the faculty falls short as the two does not delineate and sometimes lacks components leading a mismatch and sometimes gaps.

The aforementioned framework models helped to establish a concept for the intended curriculum redirection of the ADP.

Figure 3 is a diagram showing a framework model for the curriculum redirection of the ADP. A needs assessment will be conducted to identify three important perspectives in coming up with possible solutions. These will be based on the three needs of the existing curricular make-up of the program.

These areas are:

(a) Observed needs from the faculty and administrators' responses;

(b) Felt needs from the students' responses; and

(c) Real needs, from the alumni the industry's responses.

The three needs being addressed ensures that the problems and deficiencies encountered by the graduates of the program will be identified not just by one perspective, but from the viewpoints of the different stakeholders.

This is supported by a theory from Thayer (2014) known as the Technology foresight programs—a policy-planning tool where it engages key contributors and stakeholders in the construction of shared visions of alternative and preferred plans for the future. Curriculum renewal and revision should

therefore begin with the end result in mind. To achieve this, outlined inputs is established from corroborated testimonies of stakeholders. This process facilitates in identifying important technological and social developments for long-term policy decisions. Therefore, constructing visions of the future should concern existing and emerging technologies which entails a rational process of extrapolating data from current contexts to future contexts.

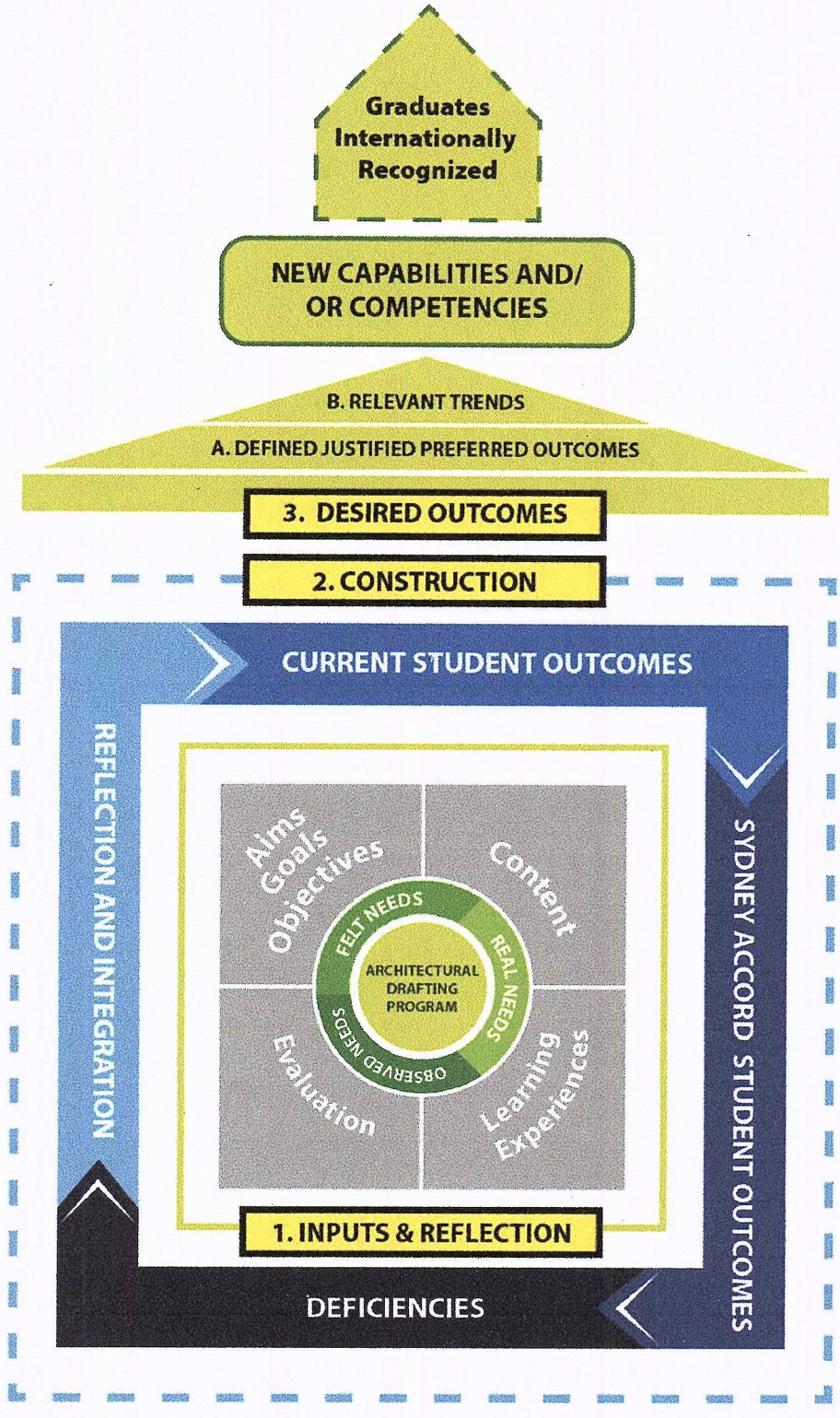

Figure 3. Consolidated Theories of ADP Curriculum Redirection

With ADP as the central item of the diagram, it leads to an outward direction and follows a cyclical pattern. This cycle involves inputs and reflection of the different components of the current Architectural Drafting Program's curriculum content area which includes:

(a) Aims and objectives,

(b) Curricular Content,

(c) Learning Experiences, and

(d) Evaluation.

This process continues in a recurring pattern to ensure that the desired outcomes are met. To define the methodology, the framework model focused on three phases of curricular review process from the following concept flow:

(1) Inputs and Reflection - The first phase begins by identifying the four areas of focus in terms of identifying a new curriculum direction, these areas are:

a. Aims, Goals and Objectives of the Program;

b. Curricular Content of the Program;

c. Learning Experiences of the Students undergoing the Program; and

d. Methods of Evaluation of the Program.

(2) Construction/Reconstruction- Second phase involves reconstruction of the curricular components from the inputs in the first phase. This looks into the current Student-Outcomes of the Architectural Drafting program; analysis of its deficiencies; and integrate those with the Sydney Accord's student outcomes. This cyclical pattern ensures that the third phase is carried out.

(3) Desired Outcomes is met: the outward arrow points to the directions of the new capabilities and competencies. To facilitate this, Preferred Outcomes have been defined that fits to industry-based Relevant Trends.

All these will in turn result to produce desired capabilities and competencies required in a student, based on the needs assessment and outcomes integration process. This construct will enable the researcher to establish a direction leading to the holistic improvement of the Architectural Drafting Program.

This construct enables the researcher to establish a direction leading to the holistic construction of the new the Architectural Drafting Program curriculum redirection, subsequent to the Sydney Accord framework.

Conceptual Framework

In reference to the theory cited, the concept model from the theoretical framework, the researcher considered several curriculum models that would fit with the Architectural Drafting Program, as shown in Figure 4, in a pyramid structure. Represented at the base is the research environment involving Samar State University's Architectural Drafting Program along with its stakeholders.

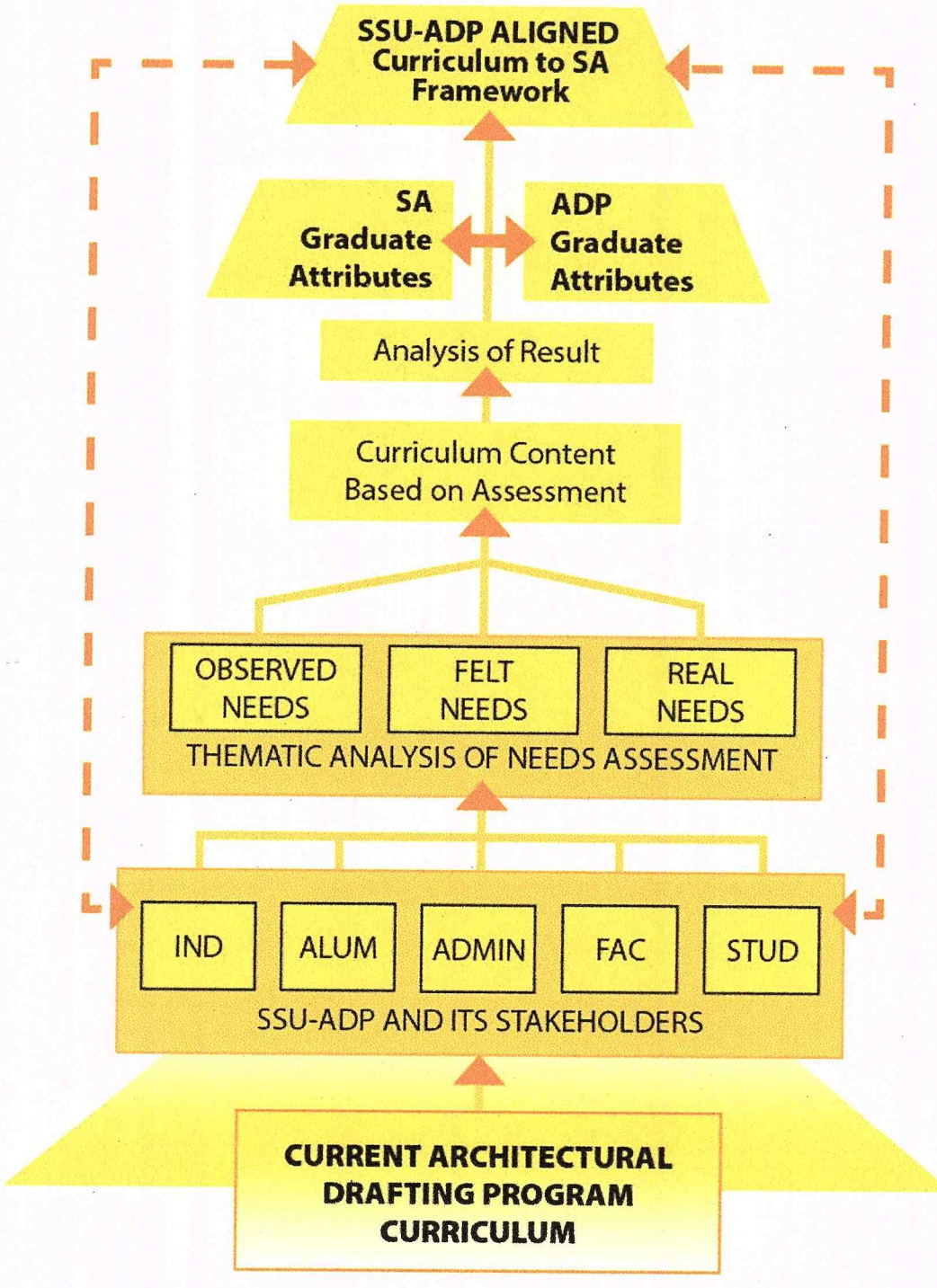

Figure 4. A Conceptual Framework of the Study

To determine the areas for development in the current ADP curriculum, each research question is detailed, as shown in figure 4. First being the program graduate outcomes of ADP, second being the desired student outcomes according to Sydney Accord framework, and third being the desired outcomes of each stakeholder, namely: industry, alumni, administrators, faculty and students.

This is followed by the three pre-identified needs assessment such as, (1) observed, (2) felt, and (3) real needs as described by each stakeholder represented in the upper tier showing pointed arrows to compare the responses.

Statements called learning outcomes are used to express what the students are expected to achieve and how they are expected to demonstrate that achievement. Learning outcomes are defined as statements of what a learner is expected to know, understand and/or be able to demonstrate after completion of a process of learning. (Bustos-Orosa, 2012)

Moreover, factors affecting the formation of the new curriculum were considered through results analysis from the conducted needs assessment. It was further presumed, with considerations from the different curriculum theories, that these needs impact the relevance of the curriculum illustrated by two directional arrows from the stakeholders.

Based from the analysis of the results, solutions, suggestions, and recommendations were formulated relative to the problems identified. These findings served as inputs in the development of a new Architectural Drafting

Program curriculum, aligned and integrated with Sydney Accord Framework through identified program graduate outcome.

Significance of the Study

As this study attempts to propose an aligned curriculum design, results could benefit the following:

Students. The major beneficiary of this study is the students of the Architectural Drafting Program. For the aim of the researcher is to elevate the desired outcomes of the program to fit with the changing world and challenge the capacities and skills of the would-be graduates. This study will help the students in the near future to have access to a globally competent program comparable to that of internationally accredited institutions.

Faculty. To the implementers of the curriculum, the faculty is the delivering unit in which the graduates can acquire the much needed knowledge and skills. This study will supply them with insight as to what needs should be reflected and acted on which will help the students in reaching their full potentials. Similarly, the study will help the members of the faculty to exercise their expertise accordingly serving as a challenge in advocating for a more competent delivery of knowledge which is a contributory factor in uplifting the growth of the local populace.

To the administrators. The result of this study is expected to benefit the administrators so that they may be guided in revising and streamlining

programs. This study could provide insights in becoming aware of the strengths and weaknesses of the existing Architectural Drafting Program, thus, providing possible means to improve the curriculum design.

Other stakeholders. This study will give information to the industry, alumni and other stakeholders a walkthrough on how to contribute in terms of program development being conducted in the University. By partaking in the needs assessment of this study, student's welfare will be based on real and actual needs of the real world.

To the future researchers. This material can be used as a reference for future studies that would venture to similar line of interest or topic particularly on curriculum development.

Scope and Delimitations

The study is primarily concerned with the current status of the Architectural Drafting Program's curriculum content which directly affects the performance and employability of the students of the program upon graduating from the university. The concern revolves around the fast transitioning of the workforce not only locally, but internationally with new trends, hence the need for enhanced and/or nurture new values, attitudes and skills for the graduates to be well-equipped in the real world.

This is in response to the global and national competition which often requires more than the standard attributes of a Drafting Technology graduate in

Samar State University. The researcher aimed to assess, reflect on and construct desired outcomes with defined preference leading to new capabilities and competencies of the Architectural Drafting Program's future graduates. To facilitate this rapid curricular renewal and fast tracking the changes, the researcher opted to align the current curricular make-up of the program to that of the internationally recognized Sydney Accord for engineering technology programs. This entailed a program that initiates capacity building to the graduates with emphasis on supporting the needs of a developing country, establishing a strong higher education system.

The respondents were 9 selected students in Architectural Drafting of the College of Industrial Technology for School Year 2016 - 2017; 2 faculty of the Architectural Drafting Technology Area; 1 Academic Administrators of the University; 2 Alumni of the Architectural Drafting Program; and 2 representatives from industry relevant to the said program. This totals to 16 key informants who participated in the data gathering phase of the study. This was conducted during the second semester of school year 2016-2017.

Definition of Terms

To better understand the content of the topic of the study, some terms are conceptually and operationally defined to serve as a common frame of reference for the readers.

Architectural Drafting. It is the technical design and expertise used in the application and integration of construction technologies in the building design process. (Dublin Institute of Technology). As used in the study, it is a program major under the College of Industrial Technology of Samar State University and the focus of the study.

Capabilities. This is the performance or achievement of the students resulting to human capitalization (WA: Rules and Procedures). As used in the study, they are the productivity of the students upon graduating from the degree course pertaining to soft skills.

Competencies. As defined in the study, this refers to a set of defined behaviors of the students which provide a structured guide enabling the identification, evaluation and development of the behaviors in individuals (WA: Rules and Procedures). As used in the study, they pertain to the student's skill, knowledge, ability, or qualifications or hard skills.

Course Learning Outcome. They describe learning that is significant and related to what the students will be expected to do in the "real world" (Aligning and Building Curriculum: Curriculum Resources, 2016). As used in this study, they are the defined content of the program graduate outcomes.

Curriculum. This refers to the knowledge and skills students are expected to learn (Aligning and Building Curriculum: Curriculum Resources, 2016). As used in the study, this term refers to the holistic content of the learning standards or learning objectives of the Architectural Drafting Program.

Curriculum Redirection. This term refers to the revision, modification and recommendation that may be introduced in the existing curriculum that is intended to address the aspirations and needs of the stakeholders (Aligning and Building Curriculum: Curriculum Resources, 2016). As used in the study, it is the process where the progression of the course is established.

Outcomes-Based Education. 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 (CHED Handbook on Typology, OBE, and ISA, 2014). As used in the study, it is the specific curriculum model where the ADP program is anchored on.

Program Graduate Outcome. Are statements that describe what learners will know and be able to do when they graduate from a program (WA: Rules and Procedures, 2009). As used in the study, it is the point of reference to which the curriculum direction of the program is derived at.

Rapid Curriculum Renewal. A curriculum development model emphasizing on fast-tracked modification of a curriculum suited to its immediate need. In this study (Aligning and Building Curriculum: Curriculum Resources, 2016). As used in the study, it is a curriculum theory being employed to facilitate changes in the curriculum design.

Stakeholders. Conceptually, this term refers to the people entrusted with the stakes of two or more persons. In this study, this refers to a group of people

involved in the Architectural Drafting Program, namely: 1) the industry, 2) the alumni, 3) the administrators, 4) the faculty and 5) the students.

Sydney Accord. It is a mutual recognition agreement (MRA) which pertains to four-year engineering technology programs accredited by its signatories in their jurisdictions since 2001 (From ABET: Accrediting Board for Engineering and Technology). In this study, it is the standard in which the ADP will be aligned to.

Sydney Accord Aligned Curriculum. In this study, this is the end-goal of the SSU-ADP with reference to the Accord's program outcomes in preparation for internationalization of skills leading to improved competencies and capabilities of the graduates.

Washington Accord. This is an international agreement among bodies responsible for accrediting engineering degree programs (From IEA: International Engineering Agreements 2009). In this study, it is the accord system for engineering professionals in which Sydney accord belongs to.

Chapter 2

REVIEW OF RELATED LITERATURE AND STUDIES

This chapter consists of the related literature and studies. In the view of the researcher's desires that the study's novelty and importance be assured, literatures will be read and reviewed. These resource materials will serve as basis and guidance in the completion of this study.

Related Literature

In the Philippines, the Commission on Higher Commission (CHED) supports the initiatives of HEIs to undergo voluntary accreditation of self-regulation and peer evaluation through giving incentives and greater autonomy therefore, accreditation is now viewed as a means of promoting educational excellence ("CHED Accreditation in the Philippines").

Accreditation is one way that Higher Education Institutions keep in conformity with the ever-changing standards. With the growing number of HEIs in the country and the demand for skilled workers in the global market, there is an urgent need to further enhance quality of education.

External monitoring of institutions (Jackson et al 2010) through accreditation and certification (Cottrell et al., 2009) are forms of Quality Assurance (QA) mechanism being facilitated to assess the level of quality and compliance to identified local and international quality standards like the

growing use of ISO 9001 which indicates that the concepts of quality being used are driven by the external requirements of the market (Jung et al 2013).

In the Philippines, engineering programs are accredited by the Philippine Technological Council under PACUCOA. The Philippine Association of Colleges and Universities Commission on Accreditation (PACUCOA) is a private accrediting agency which gives formal recognition to an educational institution in the Philippines.

In the case of engineering education, six countries represented by their engineering professional societies signed the Washington Accord (WA) in 1989 defining common standards for equivalency among their graduates of engineering programs. Full member signatories of the WA agree that graduates from their accredited engineering programs shall be mutually recognized across their countries as having met the academic requirements for entry to the practice of engineering, thus promoting mobility of professional engineers practicing across their borders.

The Philippine Technological Council (PTC) is the sole organization recognized by the Commission on Higher Education (CHED) and the body of engineering professionals in the country to be the sole signatory-applicant and representative of the Philippine jurisdiction to the Washington Accord. This recognition mandates PTC as the sole body in the country to accredit engineering programs in accordance with the terms and conditions of the Washington Accord-compliant Certification and Accreditation System for Engineering

Education. PTC is a provisional member of the Washington Accord. (IEA: Graduate Attributes and Professional Competencies, 2009)

The signatories to the Washington Accord recognized the need to describe the attributes of a graduate of a Washington Accord accredited program. At the International Engineering Meetings held in June 2003 at Rotorua, New Zealand, the signatories to the Sydney Accord and the Dublin Accord recognized similar needs. The need was recognized to distinguish the attributes of graduates of each type of program to ensure fitness for their respective purposes. There are three agreements known as Washington (for engineers), Dublin (for technologist) and Sidney (for technician) Accords covering mutual recognition in respect of tertiary-level qualifications in engineering. (IEA: Graduate Attributes and Professional Competencies, 2009) At the 2003 Rotorua meetings, the mobility fora recognized that many jurisdictions are in the process of developing and adopting competency standards for professional registration. It was therefore resolved to define assessable sets of competencies for engineer and technologist. While no comparable mobility agreement exists for technicians, the development of a corresponding set of standards for engineering technicians was felt to be important to have a complete description of the competencies of the engineering team. A single process was therefore agreed to develop the three sets of graduate attributes and three professional competency profiles. An International Engineering Workshop was held by the three educational accord in June 2004 to develop statements of Graduate Attributes and International Register

Professional Competency Profiles for the Engineer, Engineering Technologist and Engineering Technician categories.

One of the foundations of the international accrediting body of Washington Accord is the Sydney Accord which recognizes equivalence of educational base for Engineering Technologists. The term "engineering technologist" is used throughout the accord agreement to refer to practitioners engaged in Engineering Technology. Engineering technology academic programs are defined as the programs through which practitioners normally satisfy the academic requirements for the engineering roles currently known amongst the initial signatories in the different accords. (WA Rules and Procedures, 2016)

From Sydney Accord's outcome statements for Engineering Technician Education base, the roles of Engineering Technicians involve them in the implementation of proven techniques and procedures to the solution of practical problems. They carry a measure of supervisory and technical responsibility and are competent to exercise creative aptitudes and skills within defined fields of technology, initially under the guidance of engineering practitioners with appropriate experience. Engineering Technicians contribute to the design, development, manufacture, commissioning, operation and maintenance of products, equipment, processes and services. They apply safe systems of work. (IEA, 2009)

A course of education which can be recognized as underpinning a planned career as an Engineering Technician is expected to: (1) Provide a

foundation for progression and develop a positive attitude towards lifelong learning, from which the Engineering Technician will be able to develop a detailed understanding of the principles and a mastery of the knowledge and analytical skills required for engineering practice. Motivate students towards the practice of engineering and stimulate their learning; (2) Ensure that science and mathematics are taught within the context of real; (3) Engineering applications, integrating theory with current industrial practice and design requirements Develop awareness of the social, legal, economic and political contexts within which engineers and technicians operate, and (4) Contribute to the personal and professional development of students in the context of the applications of engineering, through the development of 'key skills'. (Washington Accord rules and procedures: June, 2016).

In the Accreditation Criteria and Process of Outcome-Based Education for Washington Accord, the Accreditation Board for Engineering and Technology (ABET) is the responsible accreditation agency in the United Sates and sets the accreditation criteria. There are similar professional agencies in Australia [3], Canada [4], Malaysia [5], United Kingdom [6], and also other countries. The Outcomes Based Education requirements for all of these engineering accrediting agencies are very similar. An outcome-based education (OBE) program generally includes the following activities: (1) Define educational objectives or goals: what graduates are expected to attain within a few years of graduation; (2) Define educational outcomes: what the graduates would be able to do at the time of

graduation; (3) Identifying the stakeholders and their involvement in articulating and evaluating the education objectives and outcomes; (4) A well-designed curriculum that will produce the desired objectives and outcomes; (5) Mapping of the curricular courses how they contribute to the educational objectives and outcomes, and (6) Development of continuous improvement educational processes for assessing and evaluating the degree of achievements of the educational objectives and outcomes for program improvements.

Curriculum change is the crux of educational reform. The need for school education to simultaneously contribute to the formation of new workers and citizens to be able to function in this context of rapid change has led to substantial governmental efforts towards educational and curriculum reform. Curriculum development may be perceived as the permanent search for qualitative improvement in response to changes in society. A thrust in the Philippine government to address this change is the statement of the Commission on Higher Education on Filipino and the Revised General Education Curriculum. CHED Memorandum Order (CMO) No. 20, series of 2013, otherwise known as the "General Education Curriculum: Holistic Understandings, Intellectual and Civic Competencies" is the policy cover for the revised General Education Curriculum (GEC), which offers greater flexibility than the current curriculum. The passage of the K to 12 Law enables such flexibility by freeing the GEC from Science, Mathematics, English, Filipino, Literature, Humanities and Social Studies subjects that are more appropriately

taught in Senior High School. In so doing, the Law paves the way for the exposure of undergraduate students to various dimensions of knowledge and ways of comprehending social and natural realities "that promise to develop in the process, intellectual competencies—critical, analytical and creative thinking and multiple forms of expression—and civic capacities demanded of members of community, country and the world". The interdisciplinary approach underlying the revised GEC hews closely to the higher education mission of "producing thoughtful graduates imbued with values reflective of a humanist orientation (e.g., fundamental respect for others as human beings with intrinsic rights, cultural rootedness, a vocation to serve); analytical and problem solving skills; the ability to think through the ethical and social implications of a given course of action; and the competency to learn continuously throughout life—that will enable them to live meaningfully in a complex, rapidly changing and globalized world while engaging their community and the nation's development issues and concerns".

In examining types of reforms in relation to globalization, and in particular changes in the world economy, Carnoy has identified three kinds of responses in the education and training sectors: (1) Competition-driven reforms respond to shifting demand for skills in both the domestic and world labor markets and to new ideas about organizing achievement of production and work skills; (2) Finance-driven reforms respond to cuts in public sector budgets and private company incomes, reducing the public and private resources available

for financing education and training, and (3) Equity-driven reforms attempt to improve education's important political role as a source of social mobility and social equalization.

Under the impact of globalization and the coming of the Information Age, there is a paradigm shift occurring to different curriculum and academic structure. Approaches and orientations have been shifted from objective-based/input-based to outcomes-based education. Program structures are being revised to facilitate student mobility, and set to meet global recruitment needs. (Chung, 2011)

Section 11 of the CHED CMO No. 46, series of 2012, states that the changing realities spurred by globalization underscore the shift in contemporary international education discourse from education to lifelong learning; and from education as transmission of expert knowledge to education as building learner competencies—including learning how to learn. This shift is more than a mere change of semantics. Proof is the UNESCO Faure Report written in 1972, where it is stated that the goal of (lifelong) education was expressed as "developing humane individuals and communities in the face of rapid change." By 1996, this goal was updated by the Delors' Report to take into account the forces of competition, cooperation and solidarity. The goal of lifelong learning since 1996 has, thus, focused on "retraining and learning new skills/competencies that would enable individuals to cope with the demands of a rapidly changing workplace" and a complex interdependent world.

In the regional context of the Philippines, the first of these three responses appears to be the most prevalent. The "human factor" or "human capital" is fundamental to economic activity, competitiveness and prosperity, whether manifested as knowledge and skills or in the less tangible forms of flexibility, openness to innovation and entrepreneurial culture. The competition-driven approach and the general labor market focus in educational reforms that are clearly reflected in the ASEAN 2015 and the thrust of the Commission on Higher Education to fast-track the OBE-dizing of programs and courses in higher education institutions.

Related Studies

The human capital theory argues that education increases individuals' employability and productivity. Education provides functional knowledge and marketable skills which include professional skills, language skills, and other life skills, and this gives highly educated people greater chances to employment and better opportunities to become productive. (Cai, 2012)

As discussed and concluded in Jimenez' (2007) paper, three key point were established, the first argument is that higher education can contribute to economic growth by supplying the necessary human recourses for a knowledge driven economy, by generating knowledge, and by promoting access and use of knowledge; the second argument is that higher education has the potential to increase access to education and in turn increasing the

employability of those who have the skills for a knowledge driven economy; and the third argument is that higher education could play a role in supporting basic and secondary education by supplying those sub-sectors with trained personnel and contributing to the development of the curriculum.

According to the UNESCO Guidelines for Quality Provision in Cross-Border Education, some of the challenges described are: (1) National capacity for quality assurance and accreditation often does not cover cross-border higher education. This increases the risk of students falling victim to misleading guidance and information and disreputable providers, leading to qualifications of limited validity; (2) National systems and bodies for the recognition of qualifications may have limited knowledge and experience in dealing with cross-border higher education. In some cases, the challenge becomes more complicated as cross-border higher education providers may deliver qualifications that are not of comparable quality to those which they offer in their home country, and (3) The increasing need to obtain national recognition of foreign qualifications has posed challenges to national recognition bodies. This in turn, at times, leads to administrative and legal problems for individuals concerned. (Vincent-Lancrin, 2015)

This quality culture is one of the most important factors that are to be considered not only for improving the processes in the education system but also to be leveraged on to increase enrolment, to reduce attrition rate as well as to

ensure graduates' employability. From Kaushik et al's (2010) point of view, this is because higher education has become more commercialized and is now treated as a market commodity and as education is becoming more service-oriented, students are viewed as products that are to be groomed well in view that they will be resources tapped by future employers.

Palmer et al (2008) explained that if a program obtains accreditation based on a stringent set of evaluation, the program is deemed to have met a certain standard of excellence. A global trend towards outcomes based accreditation has ignited the reengineering process to focus on key attributes that graduates should attain in order to blend in and contribute efficiently towards challenges at the work front.

The periodically program review exercise ensures that there is a good balance between academic rigor and the quality of graduates produced for the workforce. It ensures that tailored courses have kept in view the industry's needs and have synergized with developments and trends in technology. This move should provide young graduates the opportunity for better employment and room for development as they will have been prepared to adapt to the impact of rapid globalization, to blend and contribute towards the advancement in technological breakthroughs as well as to intensify the pace of the nation's growth and development, from the concluding results in the study of Basri, (2009).

It is therefore vital that tertiary education providers develop a system or tool that ensures that the stated outcomes are achieved and met. The result from the tool should assist the institution to revisit the program objectives for improvements.

Desha, et al (2009) discusses that a number of factors can influence the time-frame within which curriculum renewal is undertaken. In general, higher education institutions appear to have historically followed a standard process of curriculum renewal of approximately 15-20 years depending on the efficiency of the department. This process has tended to proceed through: 1) Ad Hoc (staff lead) curriculum renewal lead by staff initiatives and champions in a particular field, followed by 2) Flagship (market lead) curriculum renewal where courses on new content areas that are popular may be more formally established as 'flagship courses' within the program offerings, and 3) Integrated (institution lead) curriculum renewal where new content is gradually integrated across the program to meet emerging accreditation requirements.

According to Cohen et al (2007), radical curriculum reform is challenging because it requires time and widespread participation, which are fundamental challenges in the higher education institutional culture. Focusing on a radical curriculum reform process that engaged the university adds to the role of faculty in curriculum development by examining a collaborative effort not only among faculty but also among faculty and administration.

Curriculum must be responsive to the rapid social changes in order to equip the learners both to cope with and contribute to further social developments. The aim of curriculum change may be seen as a society's adaptation process or response to changes occurring within the education system or in society at large. The experience of such changes often corresponds to perceptions of existing inadequacies of the education system, particularly the content that it transmits. This may be made explicit in order to give curricular reform a motivation or rationale as stated in the study of Carnoy, 1999.

In the paper of Pukelis, et al (2009), curriculum is treated as a system of integral parts such as study outcomes, criteria of assessment of student achievements, study content, study forms and methods, study environment, requirements for teachers and students, etc. Intended study outcomes are an essential element, and their importance in the curriculum design and development can be revealed by the following issues: Study outcomes determine the logics of the curriculum; they influence the description and sequence of all other elements. The clearly defined study outcomes make it easier to understand the curriculum, its realization, evaluation and review. Study outcomes are derived from competencies, and this peculiarity makes them crucial in the creation of the system of easily comparable qualifications and diploma recognition. It is also an essential assumption for the development of a common European higher education area. Study outcomes demonstrate whether the curriculum is related to the labor market needs, and they reveal the level of

the cooperation between the academic community and external stakeholders. The priority to study outcomes is frequently described as a new approach to studying and teaching where active studying (constructivist) ideas are supported the shift to learning outcomes.

Raising the quality of higher education institutions is thus one of the motivations on why government agencies such as the Commission on Higher Education are constantly finding ways to address the issue. Reforms are being set in place such as rationalizing the structure of public higher education and improving higher education budget to ensure resource mobilization and cost effectiveness as discussed by Paqueo et al., (2012).

This is true to the statement of Camello, (2014) where the government also responds effectively to the changing needs and conditions of the present through system of educational planning and evaluation. Outcomes-Based Education provides another way in similar perspective of assessing the performance of the university students.

However, Pijano, (2010) posits that the amount of control CHED exerts is also a threat to the private voluntary nature of the accreditation system, which is one of its strengths. However, compliance to certain international standards and practices of most developed countries makes one organization from a third world country like the Philippines more trusted and regarded as forerunner in the field.

As a nation's economy runs on the knowledge and skills of its people, the requirements for skills evolve with external investment, technological advances and globalization. To keep pace with changes, people need to acquire skills to be productive and earn a living and all of these can be achieved through education. Therefore, the learning environments of higher education institutions must take cognizance of this in structuring their course programs. (Ramirez, 2014)

Loquias (2015) states that, the objective of the university to acquire more linkages with local and international industries is to narrow down the gap of job mismatch, making the networks of the university a vital part of the success of the students in employment. The skills needed by the engineering firms and manufacturing companies should be the basis of reviewing and revising the curriculum and integrating new trends from the latest information and innovation in science and engineering. The increasing number of graduates and the conscientious and meticulous employers pose challenges to the graduates in addition to other problems they may encounter in looking for employment.

Chavez (2016), confirms this from his study where the engineering graduates believed that community extension, linkages and research have the highest relevance to their job placement followed by student services, faculty and instruction while the organization and administration. The mastery of the subject matter of the teachers helped them achieved their full potential to let them experience the transfer of knowledge.

Aside from these, Lueth's (2008) findings reflect that the students described their learning experiences as interrelational. They perceived their experiences as transitional, and felt that their learning experiences aided in the production of outcomes. The findings were viewed within social constructivist and constructionist viewpoints and were contingent on Chickering and Reisser's model of student development. Since studio culture is generated partially by a student culture that encompasses interaction, these learning experiences are also affected by interaction. This study explored the meaning students make of their learning experiences in the design studio, which are affected by this interaction.

In this case, the study of Hazaymeh (2016) validates that a curricula be revisited and improved to meet the necessary skills and competencies expected of their graduates. A regular feedback system by the graduates also provides basis for continued improvement of instruction to be able to address the industrial needs.

In revising and redirecting, the study of Venes (2009), suggests that a sense of direction in developing and assessing possible Core curriculum content should be considered. The reasoning was that material that is necessary to all of the different Design programs would be likely material for a particular Core of a curriculum. From her study, the documented learning most valued by six different Design programs: Architecture, Landscape Architecture, Community and Regional Planning, Graphic Design, Interior Design, and Integrated Studio Arts, explores differences in lens and terminology, where it produced a process

that can be used to define a Core program which discusses differing approaches to interdisciplinary curriculum development, Design Process, and provides an overview of Core development.

Javier (2012) stated that as an educational institution it has to deliver the products and services necessary to achieve the outcomes it intends to produce. This is verified by Caguimbal (2013), in a statement that if students are to learn desired outcomes in a reasonably effective manner, then the teacher's fundamental task is to get students engage in learning activities that are likely to result in their achieving specific outcomes.

Learning however varies to the student's perception, as in the case of Culver's (2012) study where teachers did not utilize any deliberate design process when engaged in a design task in the curriculum redirection. From the student's point of view Engineering course was perceived as being synonymous with construction and that engineering design consists of trial and error. His participants envisioned their students succeeding in engineering due to their students' prior knowledge, not necessarily the actions of themselves as the teacher. With regards to receptivity, participants expressed apprehension and optimism along with fear and pessimism. Divergent factors also impacted the receptivity of participants.

As concluded in An's (2014) study, although OBE Instruction is being run through, there are critics who sometimes oppose OBE because of the burden it imposes on instructors and educational institutions – a burden that they regard

as unjustified by any evidence showing that OBE actually improves learning outcomes. The burden is spread across the entire educational institution, in the form of a new layer of assessment placed atop the old familiar one, a new bureaucracy responsible for the institution-wide collection and presentation of data, and the altering and curtailing of classroom instruction to make room for more intrusive testing. In view of the small number of evidence showing that OBE actually works, many regard this extra burden as an unjustified drain on academic resources.

However, this case can be positive, based on O'Connell's (2009) study where the study educators were provided with an opportunity to integrate or vertically transfer much of what they learn through their professional development activities. The primary means of achieving this was through the building of a mature professional learning community connected by technology providing the key components of coaching and feedback reducing teacher isolation. These communities led to increased teacher understanding of the strategies, stimulated change, and resulted in increased student achievement.

Laguador et al (2014) states that since most universities in the country are already undertaking some of the educational practices involved in OBE, what is needed is proper documentation of evidences of assessments and evaluation. This statement declares the stipulation of said evidences to ensure the effectiveness of the program educational objectives which will prove that the

graduates are really equipped with essential knowledge, values or behavior and skills that can contribute to the development of the community.

However, reiterating Dotong's (2015) concluding statement, he emphasized that it is not exactly being stated in the major criteria or standards of some international accreditations like ABET or the Sydney Accord to have an international community, but to operate like an international HEI beyond the national requirements. The four Philippine HEIs included in the QS WU Rankings actually do not have any of these cited program-based international accreditations but rather they have strengthened international networks, linkages and collaborations for the internship of their students and industry immersion for the faculty. Not to mislead, this statement does not exclusively and mutually associate the quality of the QS WU rankings to that of the performance of an HEI based on its membership to Sydney Accord or any other internationally recognized accords. Both are mutually not exclusive, and does not guarantee that one is better than the other, where QS WU rankings pertain to the quality of a particular university's research capability and the Accord Standard pertains to the quality of graduate in terms of competency.

Lastly, Dotong, et al's (2015) study concluded that any Quality Assurance mechanisms either locally or internationally recognized that is being utilized and adopted by the HEIs must reflect on the quality of their graduates which is one way of measuring the performance of an institution. Achieving excellence is a

never ending process of improving the quality of products and services which is bounded by measures of unobtainable goal of perfection.

Chapter 3

METHODOLOGY

This chapter presents and describes the research methodology applied to this study. It includes the research design, instrumentation, sampling procedure, data gathering procedure, and data analysis employed in processing the gathered data. The results of the methods were used in presenting a review in the existing curricular make-up of the Architectural Drafting Program.

Research Design

The study's methodological approach is qualitative in nature in the sense that the data gathering procedure was a more open-ended fashion while collecting relevant information from the key informants, using in-depth interviews to explore the emerging needs of the program stakeholders of SSU.

This method addressed the collection of responses of the different stakeholders which facilitated the needs assessment of the Architectural Drafting Program thus providing greater insight as to the development of a curricular redirection by aligning Samar State University Architectural Drafting Program subsequent to international accord framework. Essential descriptions of the key informants were collected in a qualitative approach using in-depth interviews to explore the emerging needs of the program stakeholders of SSU. A cohesive result from the responses of the key informant panel revealed multiple

participant meanings from a constructivist point of view through a contextualized process of construed analysis.

Instrumentation

Interview was the main source of data using supplementary instrument which is an interview guide for clarity of inquiring. This facilitated all the needed data, ensuring that no information was left out unquestioned that were pertinent to the completion of this research.

The interview was conducted in the first week of February upon securing approval from the concerned members of the stakeholders. Five stakeholders were considered, namely: the Industry, the Alumni, the Administrator, the Faculty and the Students.

The researcher used interview guide as supplementary instrument in gathering the data and information. Open-ended response form of questioning was employed which aided the researcher in data gathering, administered to the selected respondents in the needs assessment interview.

Sampling Procedure

In order to deeply understand and gather meaningful data for this study, the researcher opted for a purposive sampling technique, which was useful in the context of evaluation research and policy analysis (Palys, 2008). This involved the identification of the major stakeholders concerned in the designing, giving, receiving or administering the Architectural Drafting Program.

The main goal of purposive sampling technique, particularly maximum variation sampling, focused on particular characteristics of a population that are of interest. This enabled the researcher to answer the research questions while capturing a wide range of perspectives relating to the interest of the study, as well as gaining greater insights into a phenomenon by looking at it from different angles (Lund Research Ltd., 2012).

Due to the limited number of primary data sources who can contribute to the study, the purpose is not to represent the population but to gather exhaustively deeper and meaningful understanding on the elicited responses from the participants who represent a broad range of perspectives.

Snowball sampling was also applied to the initial participants who were able to identify additional participants with relevant contribution, particularly in the case of alumni tracking.

The number of respondents was limited to 16. These participants were subdivided into four categories for the needs assessment. These participants were referred to as key informants, who represented each of the respondent categories: (1) Industry, (2) Alumni, (3) Administration, (4) Faculty, and (5) Students

Since the sample does not represent the entire population; the likelihood of them being selected for membership was based exclusively on pre-determined criteria and exhibit a wider range of attributes, behaviors, experiences, incidents, qualities, situation, and so forth. This enabled the researcher to identify common

attributes that are evident across the informants. The following criteria were identified based on the standardized key informant technique by MN Marshall (1996). The number of informant per category was not limited and predetermined; informant selection was based on the exhaustion of the needed responses.

1. **Formal Role**. Their formal role should expose them to the kind of information being sought by the researcher.
2. **Knowledge**. In addition to having access to the information desired, the informant should have absorbed the information meaningfully.
3. **Willingness**. The informant should be willing to communicate their knowledge to the interviewer and to cooperate as fully as possible.
4. **Communicability**. They should be able to communicate their knowledge in a manner that is intelligible to the interviewer.
5. **Impartiality**. Key informants should be objective and unbiased. Any relevant biases should be known to the interviewer.

Composition of the Panels

Five major groups of panels were identified, and recruited key informants to partake in each of the areas namely: industry, alumni, administrators, faculty and students. In the case of the enlistment of interview panel, some membership were sometimes overlapping as in the case of one key informant who came to be a member of several panels, although recruited with one particular panel in

mind. Therefore, for the most part, the researcher analyzed the data from each panel in a holistic manner.

Panel A: The Industry

This panel includes business owners and person-in-charge of establishments locally and internationally; leads of relevant professional associations; and other industry-related personalities responsible for the enrichment of this research. The aim was to explore the views of those who have to regularly assess the quality of graduates of SSU Architectural Drafting Program, in the sense of gaining access to the desirable inputs and outputs of research questions and the panel's responses from employer-to-employee standpoint.

Panel B: The Alumni

This panel includes those from the public and private sector who took up the program degree major of Architectural Drafting. The aim was to explore the views of those who have undergone actual educational learning experience in SSU. This panel can be considered as constituent in the subject matter of this study and may be part of the commercial and corporate industry or the business sector.

Panel C: The Administrators

This panel consists of those who currently manage University programs. Such individuals have close involvement in the policy-making, curriculum direction, evaluation, assessment and supervision of the different programs

particularly the Architectural Drafting Program. This panel can be considered experts in the subject matter of this study and can greatly contribute to the desirable inputs and outputs of research questions and the panel's responses from institution-to-student-client standpoint.

Panel D: The Faculty

This panel includes members of the Architectural Drafting Program faculty roster including current and preceding affiliates. The aim is to explore the views of those who have to regularly assess the quality of the students of SSU Architectural Drafting Program, in the sense of gaining access to the desirable inputs and outputs of research questions and the panel's responses from educator-learner standpoint particularly in the performance of the students academically and proficiency.

Panel E: The Students

This panel includes members of student body of the Architectural Drafting Technology from first year to third year. The aim is to assess the needs and desires of the students in terms of facility, faculty teaching strategies and extra-curricular activities. Such individuals have close involvement in the experiential learning and educative process of the program and may most benefit from the outputs of this study.

Presentation of Key Informant Interviews

In any assessment conducted, dignity and privacy of the people in the interviews were respected.

The key informants from the different stakeholders participating in the evaluation of the needs assessment of the Architectural Drafting were informed about the purpose and the use of data and the limits of their privacy. The key informants were not forced to provide any information which could have made them feel uncomfortable or which could have violated any personal or cultural values and standards. Privacy applied to the recorded and transcribed data, as well.

Table 1
Key Informants of the Study

<table>
<tr><th colspan="5">KEY INFORMANT INTERVIEW RESPONDENTS</th></tr>
<tr><th>Industry</th><th>Alumni</th><th>Admin</th><th>Faculty</th><th>Student</th></tr>
<tr><td>BPO Company (Cebu)</td><td>3D Modeller (Cebu)</td><td rowspan="3"></td><td>Main</td><td>First Year</td></tr>
<tr><td rowspan="2">Fire Fighting Facilities Industry (Singapore/Qatar)</td><td rowspan="2">CAD Operator (Dubai)</td><td rowspan="2">Paranas</td><td>Second Year</td></tr>
<tr><td>Third Year</td></tr>
<tr><td>2</td><td>2</td><td>1</td><td>2</td><td>9</td></tr>
<tr><td colspan="5">Total Number of Key Informants: 16</td></tr>
</table>

Data Gathering Procedure

Data collection was set in natural setting and focused more on experiential and subjective aspect. These gathered data included narrative accounts and employ in-depth interview of the stakeholders by means of face-to-face,

electronic, and focus group discussions. This approach helped the researcher understand and describe the program's curricular implementation based on the elicited responses.

The procedure was clustered into two, school-based and industry based. School-based data gathering required the involvement of three categories, (1) the Administrators, (2) the Faculty, and (3) the Students. While the industry based involved the (4) Industry and (5) Alumni.

Permits from university authorities were secured to properly carry out the data gathering procedure with a non-disclosure waiver to protect the anonymity of the participants.

The researcher personally administered the interview to the respondents with interview guide to ensure high percentage of retrieval.

These interviews were arranged face to face, excluding the ones from the alumni and industry stakeholders, which were conducted via email. Video calling was also considered, but due to slow internet connectivity, instant messaging was employed. The researcher scheduled a convenient time and place for the interviews. Generally, the interviews for each stakeholder were conducted in one single day per session. After each interview, the researcher took time to make additional notes and organize the initial findings and impressions. As in almost all cases, the face-to-face interviews typically lasted for 20-30 minutes.

The key questions were designed in order to elicit more revealing information about research problem. Questions that drew upon the informant's expertise and unique viewpoint were asked. Probing questions was also used to encourage participants in reflecting more deeply on the meaning of their comments. At the end of every interview, the research provided opportunity for the key informant to give any additional information or comments.

Two methods were used to record the interview responses: note taking and audio recording. The researcher took notes during the interview as well as directly after. These notes are jot-down important responses and key statements presented by the key informants. The processed audio recording consisted of the interview questions, the responses of the key informants; prompts were also employed including follow-up questions each time the answers were limited to few verbal mutterings.

Data Analysis

The data gathered through the interview were analyzed and interpreted using appropriate qualitative measures and procedures. A thorough transcription was performed after each interview which generally took 4 hours per set.

Transcribed audio recordings were taken from the key informants from the guided interview among the panel of key informants with semi-structured face-to face and focus group interviews. This ensured that all possible

information from the panel is obtained. The researcher then categorizes the data according to emerging themes and made deductions from the results.

Although it does not indicate in detail how the categories or themes were established, the researcher used several existing inventory, conducted semi-structured interviews based on the inventory and made deductions from the coded data.

NVivo Pro software was applied to facilitate the swift progress of data evaluation through word tree analysis, enabling the researcher to form themes and codes.

Thematic analysis was used in evaluating the needs assessment for the first phase of the research methodology. The research methodology follows the six steps guide in thematic analysis, ensuring that the interpretation of the gathered data is accurate and valid.

1.1 Familiarization phase involved the transcription of raw data gathered from the conducted interviews aided by audio recordings and notes taken during actual interview sessions.

1.2 Code generation phase or data reduction of the transcribed interview, employed NVivo Pro where words are retained and or deleted for recurring patterns in the forming of codes.

1.3 Theme identification phase is the probing of the coded words in order to produce over-reaching themes in the data, these is derived from the key informant's responses.

1.4 Reviewing themes phase entailed reworking of initial themes and restructuring of the formed codes.

1.5 Defining and naming themes phase involved the identification of the themes' real meaning on the specific theme which formed an entire picture of the responses. These identified themes are raw aspects of the data captured interesting insight from the produced theme.

1.6 Producing the report phase provided meaningful contributions from the data, answering research questions in a manner that convinces the reader of the validity and merit of the analysis.

Chapter 4

PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

This chapter presents information gathered from a range of key informants who have direct interest and involvement in the assessment and evaluation of curricular needs of the architectural drafting program. In-depth interviews with individuals from different stakeholder groups, referred to as "panels" in this chapter, were conducted. Thematic analyses of these interviews are also presented.

Program Graduate Outcomes of CIT Architectural Drafting Technology

This section presents the data relative to the Program Graduate Outcomes of the College of Industrial Technology, the implementing department of the SSU-ADP.

The University and the College of Industrial Technology, after the OBE-dizing seminar workshop conducted last May 2015, came up with defined outcomes from the different institutional levels. These were implemented by June 2016 and are continuously being improved so to speak. Table 2 is the presentation of the different PGO's of SSU-ADP. Indicated are the 14 assembled graduate outcomes illustrating the institutional graduate outcomes common to all programs in all types of school which is based on CHED's Zonal Conference on the Presentation of a Sample Curricula which is adopted by the University.

The graduate outcomes coincides the University's graduate attributes and is also linked to the mission, vision and core values of SSU. Each level specifies the 7 graduate outcomes provided by CHED from the national level, 5 institutional graduate outcomes common to Samar State University graduates, and the 2 graduate outcomes specific to the College of Industrial Technology graduates.

Table 2
SSU Graduate ADP Outcomes and Attributes

SSU-ADP GRADUATE OUTCOMES AND ATTRIBUTE		
COMMON TO ALL PROGRAMS IN ALL TYPES OF SCHOOL	*ATTRIBUTES*	*LINK TO MV-CV*
1. Articulate & discuss the latest developments in the specific field of practice	Communicator	Excellence, Technology
2. Communicate effectively in writing, speaking and presenting using culturally appropriate language.	Communicator	Excellence
3. Work effectively in teams, in collaboration with other disciplines and multi-cultural teams	Team Player	Leadership
4. Practice the profession in accordance with existing laws, social, moral and or ethical responsibility.	Professional	Discipline
5. Act as responsible citizen and show pride of being Filipino by preserving and promoting Filipino historical and cultural heritage	Nationalistic	Discipline
6. Demonstrate competence to conduct research.	Competent	Excellence, Innovation Technology
7. Demonstrate competence and commitment to develop appropriate technological services in response to national, regional and local development.	Committed/ Service Oriented	Service, Technology

(Table 2 continued)

SSU-ADP GRADUATE OUTCOMES AND ATTRIBUTE		
COMMON TO SAMAR STATE UNIVERSITY GRADUATES	*ATTRIBUTES*	*LINK TO MV-CV*
8. Demonstrate ability to use innovative, creative and appropriate methods to meet the demands of the industry and/or labor market.	Technology Provider	Innovation, Technology
9. Demonstrate ability to sustainably manage the resources available in the community.	Resource Manager	Service Technology
10. Demonstrate ability to create scientific solutions and innovative concepts with creativity and critical mindedness.	Solution Provider Creative / Critical	Excellence Innovation
11. Demonstrate competence to translate challenges into opportunities.	Risk Taker	Excellence Innovation
12. Demonstrate ability to engage in life-long learning with a passion to keep current with local, national and global developments.	Life Long Learner	Excellence Technology
SPECIFIC TO THE PROGRAM (BSIT/BT/BiTECH)		
13. Demonstrate technical manipulative skills competence necessary in the performance of the job assigned to him by his immediate supervisor in the industry as well as ability to work effectively as industry production line worker.	Competent Service oriented Team Player	Excellence Service Discipline
14. Demonstrate ability to perform industry supervisory function as well as managerial skills for small entrepreneurial project.	Competent Resource Manager Solution provider Risk taker Communicator	Leadership Service Discipline

Desired Graduate Outcomes According to Sydney Accord

Several accrediting bodies for engineering qualifications have developed outcomes-based criteria for evaluating programs. The development of an engineering professional in any of the categories is an ongoing process with important identified stages. The first stage is the attainment of an accredited educational qualification, which is the (1) graduate stage. The second stage,

following after a period of training and experience, is the (2) professional stage. For engineers and engineering technologists, a third milestone is to qualify for the (3) international register held by the various jurisdictions. In addition, engineers, technologists and technicians are expected to maintain and enhance competency throughout their careers. (WA: Rules and Procedures, 2016)

International accords provide for recognition of graduates of accredited programs of each signatory by the remaining signatories. The Washington Accord (WA) provides for mutual recognition of programs for the engineering track. The Sydney Accord (SA) establishes mutual recognition of accredited qualifications for engineering technologists. These accords are based on principle of substantial equivalence rather than exact correspondence of content and outcomes.

For each attribute, statements are formulated for engineer and technologist using a common stem, with ranging information appropriate to each educational track. The resulting statements are shown in table 3.

Table 4 provides the components of the profiles of graduates for the two types of tertiary education engineering programs.

Table 3
Comparative Range of Problem Solving for Washington Accord and Sydney Accord

Attribute		Complex Problems (WA)	Broadly Designed Problems (SA)
1.	**Preamble**	Engineering problems which cannot be resolved without in-depth engineering knowledge, much of which is at, or informed by, the forefront of the professional discipline, and have some or all of the following characteristics:	Engineering problems which cannot be pursued without a coherent and detailed knowledge of defined aspects of a professional discipline with a strong emphasis on the application of developed technology, and have the following characteristics
2.	**Range of conflicting requirements**	Involve wide-ranging or conflicting technical, engineering and other issues.	Involve a variety of factors which may impose conflicting constraints.
3.	**Depth of analysis required**	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models.	Can be solved by application of well-proven analysis techniques.
4.	**Depth of knowledge required**	Requires research-based knowledge much of which is at, or informed by, the forefront of the professional discipline and which allows a fundamentals-based, first principles analytical approach.	Requires a detailed knowledge of principles and applied procedures and methodologies in defined aspects of a professional discipline with a strong emphasis on the application of developed technology and the attainment of know-how, often within a multidisciplinary engineering environment
5.	**Familiarity of issues**	Involve infrequently encountered issues.	Belong to families of familiar problems which are solved in well-acceptable ways.
6.	**Level of problem**	Are outside problems encompassed by standards and codes of practice for professional engineering.	May be partially outside those encompassed by standards or codes of practice.
7.	**Extent of stakeholder involvement and level of conflicting requirements.**	Involve diverse groups of stakeholders with widely varying needs.	Involve several groups of stakeholders with differing and occasionally conflicting needs.
8.	**Consequences**	Have significant consequences in a range of context.	Have consequences which are important locally, but may extend more widely.
9.	**Interdependence**	Have high level problems possibly including many component parts or sub-problems.	Have parts of, or systems within complex engineering problems.

Table 4
Comparative Profiles of Graduates for Washington Accord and Sydney Accord

Component		Differentiating Characteristic	For Washington Accord Graduate	For Sydney Accord Graduate
1.	**Engineering Knowledge**	Breadth and depth of education and type of knowledge, both theoretical and practical	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems	Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to defined and applied engineering procedures, processes, systems or methodologies.
2.	**Problem Analysis**	Complexity of analysis	Identify, formulate, research literature and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences.	Identify, formulate, research literature and analyze broadly-defined engineering problems reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialization.
3.	**Design/ development of solutions**	Breadth and uniqueness of engineering problems i.e. the extent to which problems are original and to which solutions have previously been identified or codified	Design solutions for complex engineering problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	Design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

(Table 4 continued)

Component		Differentiating Characteristic	For Washington Accord Graduate	For Sydney Accord Graduate
4.	**Investigation**	Breadth and depth of investigation and experimentation	Conduct investigations of complex problems using research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.	Conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.
5.	**Modern Tool Usage**	Level of understanding of the appropriateness of the tool.	Create, select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to complex engineering activities, with an understanding of the limitations	Select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to broadly-defined engineering activities, with an understanding of the limitations.
6.	**The Engineer and Society**	Level of knowledge and responsibility	Apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional engineering practice.	Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice.
7.	**Environment and Sustainability**	Type of solutions.	Understand the impact of professional engineering solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.	Understand the impact of engineering technology solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.

(Table 4 continued)

Component		Differentiating Characteristic	For Washington Accord Graduate	For Sydney Accord Graduate
8.	**Ethics**	Understanding and level of practice	Apply ethical principles and commit to professional ethics and responsibilities and norms of engineering practice	Understand and commit to professional ethics and responsibilities and norms of engineering technology practice.
9.	**Individual and Team work**	Role in and diversity of team	Function effectively as an individual, and as a member or leader in diverse teams and in multi-disciplinary settings.	Function effectively as an individual, and as a member or leader in diverse technical teams.
10.	**Communi-cation**	Level of communication according to type of activities performed	Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.	Communicate effectively on broadly defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions
11	**Project Management and Finance**	Level of management required for differing types of activity	Demonstrate knowledge and understanding of engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.	Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments
12	**Life-long learning**	Preparation for and depth of continuing learning.	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.	Recognize the need for, and have the ability to engage in independent and lifelong learning in specialist technologies.

These graduate attributes form a set of individually assessable outcomes that are the components indicative of the graduate's potential competency. The graduate attributes are exemplars of the attributes expected of graduate from an accredited program. Graduate attributes are clear, succinct statements of the expected capability, qualified if necessary by a range indication appropriate to the type of program.

The attributes are intended to assist signatories and provisional members to develop outcomes-based accreditation criteria for use in their respective jurisdictions. Also, the graduate attributes guide bodies in developing their accreditation systems with a view to seeking signatory status.

Graduate Outcomes and Attributes Matrix

To meet the minimum standard of competence a person must demonstrate that the graduate is able to practice competently in their practice area to the standard expected of a reasonable Professional Engineer/Engineering Technologist/Engineering Technician. The extent to which the person is able to perform each of the following elements in his/her practice area must be taken into account in assessing whether or not he/she meets the overall standard. (IEA, 2009)

The assembled summary of outcomes and components Sydney Accord Graduate outcomes is shown in table 5.

Table 5
Sydney Accord Outcomes and Component

GRADUATE OUTCOMES AND ATTRIBUTE COMPARISON	
Sydney Accord Graduate Outcome	**Component**
1. Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to defined and applied engineering procedures, processes, systems or methodologies.	Engineering Knowledge
2. Identify, formulate, research literature and analyze broadly-defined engineering problems reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialization.	Problem Analysis
3. Design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.	Design/ Development of Solutions
4. Conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.	Investigation
5. Select and apply appropriate techniques, resources, and modern engineering and IT tools, including prediction and modeling, to broadly-defined engineering activities, with an understanding of the limitations.	Modern Tool Usage
6. Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice.	The Engineer and Society
7. Understand the impact of engineering technology solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.	Environment and Sustainability
8. Understand and commit to professional ethics and responsibilities and norms of engineering technology practice.	Ethics
9. Function effectively as an individual, and as a member or leader in diverse technical teams.	Individual and Team Work
10. Communicate effectively on broadly defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions	Communication
11. Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments	Project Management and Finance
12. Recognize the need for, and have the ability to engage in independent and lifelong learning in specialist technologies.	Life-Long Learning

Desired Outcome Requirements of SSU-ADP from the Industry

Career and Employment based on Industry and Alumni

Normally, a graduate of Architectural Drafting follows the generic employments such as CAD operator, drafter, design technician, mechanical engineering technician and sometimes project manager.

From the interview responses, generally, a draftsman's main job duty is to create technical drawings based on given specifications and calculations. Draftsmen typically work with professionals in their field, such as architects and engineers, who provide the product or structure's details. The draftsman incorporates these specifications into drawings and plans that may be used in the manufacture, maintenance or repair of the product or structure. Although some employments in the industry vary, as in the case of a BPO industry where the job qualification is not exclusive on architecture, engineering or drafting but nursing and accounting graduates, the work included is for the most part on 3-dimensional modeling and would generally be intended for technical-design specific undergraduate degrees.

Often, draftsmen use CAD systems to create, save and view their drawings and plans. Depending on the project, draftsmen may need to use more traditional drafting methods, such as drafting pencils and T-squares, to create their drawings. Besides creating drawings, other duties of a draftsman can include calculating structural strength, assessing building capacity limits and estimating construction costs. This is the case for the Alumni key informant, were

traditional and CAD are required to accomplish a task. Meaning, the degree of proficiency does not always select the more modern media in carrying out a work-related task.

According to the U.S. Bureau of Labor Statistics (BLS), in 2008 the majority of employment opportunities for draftsmen were in the fields of construction, architecture and engineering. Almost a quarter of all drafters were employed in the production of industrial machinery and consumer products.

The nature of employment also varies in every company. In the case of the key informant response from Qatar and Singapore, the companies of the informants are concerned on fire fighting mechanisms. Another case from the Industry informant in a US-based BPO offshore company, the job required 3-dimensional modeling of roofing systems using aerial views collected from maps applications. Moreover, a fresh graduate informant was able to work in a furniture and fixture design industry to no lesser than Kenneth Cobonpue design studio.

These only illustrate a very varied field of employment possibilities for the Architectural Drafting graduates. Although the student informants revealed limited and usual expectation upon graduation, the reach of field from the alumni and industry informants is very diverse. Such potential careers should be included in the formulation of new course learning outcomes not only to better equip the students but to enable them to be well-rounded in terms of skills application in various design fields and technology based fields in the industry.

Program Content Responses from Admin, Faculty and Student

In-depth assessment of the program should be planned out in order to gather adequate information for the redirection of the program. Curriculum outcomes must align with the emerging needs of the students as supported by the responses. These needs may have little to no value if the response is interpreted verbatim and as is, but the code which emerged reveals students' concern for quality of course content, efficiency of knowledge and skills transfer and inequality in terms of resources and facilities. All are contributory to the holistic development of the student as they track the Architectural Drafting Program. Intents of the faculty and administration further acknowledge these deficiencies by program identity misconceptions, mentoring and facilities and the lack thereof.

Formative Program Evaluation

In Wall's (2014) 9-step Program evaluation model, a summative evaluation, sometimes called outcome evaluation, was conducted for the purpose of documenting the results of the program. Specific goals of a program are identified and the degrees of accomplishment of those goals are documented.

The summative evaluation conducted on the program's status revealed conditions which were used in the needs assessment for the subsequent planning of changes in the Architectural Drafting Program. Introduction of possible new program interventions are identified as reflected in the following tables which present questions addressing the summative evaluation process.

Much to the desire of the researcher to accomplish the task of providing insightful reference from the different stakeholders, there are limitations as to the responses of the key informants. However, through careful analysis on the thematic coding from the interviews conducted, these responses are deduced to reveal inferences. These stakeholder interview questions are translated from the formative evaluation questions as stipulated in the following tables.

Table 6
Formative Evaluation of ADP

FORMATIVE EVALUATION OF ADP
Questions Pertaining to the Architectural Drafting program design
1. Is the program being implemented as it was designed? R1-admin: *The technology area is handled by competent faculty with knowledge and background of the major. For several years, it has been proliferated to graduates who contributed to the cluster of professionals who succeeded in their field. As indicated by the alumni who casually visits from work vacations. Now most of these graduates worked not only locally, but also abroad. So I guess I would say it was properly implemented as confirmed by these alumni who now practice their field.*
Identified Description: Alumni who now practice in their field/proliferation of SSU-CIT graduates to the cluster of professionals **Subtheme:** Making meaningful contributions/Application of skills in the industry **Code Category:** Career Opportunities
2. Do the students or clients understand the program's concepts? R1-student: *Drawing ma'am about building house, construction. (drawing gihap ma'am. Building house construction, ito ma'am)* R2-student: *Techniques on how to make planes. Something about plans. (laughs) (Mga techniques…kun paano paghimo planes [/perspective/], sugad hito ma'am. Basta mga plano)*
Identified Description: Techniques on how to make plans/Building houses and construction **Subtheme:** Application of skills in the industry/Possible futures **Code Category:** Graduate Opportunities

(Table 6 continued)

3. What are the misconceptions about the program? R1-student: *The course is a stepping stone for Architecture.* R2-student: *We are inferior to the Architecture students.* R3-student: *My sister told me that we will only draw boxes and squares.*
Identified Description: ADP is a bridge course/inferior against similar courses **Subtheme:** Loosely translates to narrow understanding of the course **Code Category:** Expectations/Hopes/Concerns
4. Are all program implementers implementing the program in the same way? R1-student: *Chemistry is the difficult one. (ma'am chemistry ma'am an makuri)* R2-student: *Our mathematics, ma'am, because the process is not really explained. But now our math, it's the teacher's major. Topics are explained in details so we understand, all of us understand and we operate [/cooperate/], it's easier.* R3-student: *Something that we find difficult about our subject is the teacher.* *These statements loosely translate to varying instructional methods which may affect the student perception regarding certain concepts of the program. These concepts may be specific or general and could have a temporary or lasting impact to how the program objectives translate to student capacity and competence.
Identified Description: Varying instructional methods/ different concept models / skills orientation **Subtheme:** wanting experiential learning **Code Category:** capacity and competence building / advancement
5. What aspects of the program do not seem to be working as well as you intended? R1-faculty: *The recurring difficulties we are always faced with are the lack of facilities. Since some students cannot afford to buy the materials, the transfer of lessons and concepts can be challenging.* R2-faculty: *There are limited training programs in terms of latest trends in drafting and design.* R1-student: *Computers...and computers without any signal. (Computers ngan an computers nga waray liwat signal.) Weak. (maluya)* R2-student: *Comfortable space. Tables, chairs. (komportable ba ma'am. Mga komporatable nga pwesto, lamesa, lingkuran)*
Identified Description: Lacks facilities and materials **Subtheme:** Deprived curriculum implementation **Code Category:** Deficiencies
6. Do program implementers need additional training on the program? R1-faculty: *There are limited training programs in terms of latest trends in drafting and design*
Identified Description: Limited training programs in current trends **Subtheme:** Deprived faculty development **Code Category:** Deficiencies

(Table 6 continued)

7. Are there any negative outcomes surfacing? R1-faculty: *Deteriorating quality of entrants from secondary school. This may be explained by the lack of introduction of basic drawing skills unlike the older curriculums in secondary where technology subjects are not anymore implemented.* R1-admin: *There is really no national representation of the technology areas in the national level. This situation subdivides and creates several standards in different institutions particularly in standard practices in terms curriculum implementation.* R1-alumni: *From graduation, there is a deficiency in advanced software application knowledge most especially in big companies where latest tools are always used.* *These statements loosely translate to faculty retooling, upgrade in facilities and overseeing the curricular status of the Architectural Drafting Program.
Identified Description: Deteriorating student performance in school/No common representation or standard in the technology area/deficiency in industry software applications **Subtheme:** Faculty retooling **Code Category :** Deficiencies
8. Do local employers think our students are prepared for the world of work? R1-industry*: The trainees (ADP OJT Program) are flexible and trainable. They follow work protocol and are respectful.* R2-industry: *Concerned employee is respectful and can be trusted in terms of job output. Design-wise, tasks can be accomplished with minimal supervision.* *R1-alumni: The skills I have learned from my course are applicable to my work. Basic tools manipulation and operations are still used and my knowledge in CAD helped me a lot.*
Identified Description: Trainees are flexible and trainable/respectful and can be trusted in terms of job output. **Subtheme:** Workmanship qualities **Code Category :** Efficiency
9. To what extent do teachers incorporate career development activities as part of their classroom instruction? R1-student*: We use CAD in making our plates. It is difficult but we manage.* R1-faculty: *Extra-curricular works are also implemented in the classroom as part of their design skills training. For instance when there is a school involvement activity that requires the drafting area's expertise, the students are tapped as recruited manpower.* R1-alumni: *The skills I have learned from my course are applicable to my work. Basic tools manipulation and operations are still used and my knowledge in CAD helped me a lot.*
Identified Description: Using CAD in plate-making/being adept with CAD/ extra-curricular design skills contribution **Subtheme:** Sense of accomplishment/Being well-rounded **Code Category:** Reaching/Learning

(Table 6 continued)

10. Do our students contribute to society in a positive way after graduation? R1-alumni: *Working with a lot of drawing problems and knowing how to solve them helped me to be patient in what I do. I don't feel obligated to fast-track what I'm doing because I know I need to do my best to accomplish the task. I struggled in the process of learning CAD but it helped because it made me realize I can learn something only if I practice.* R2-alumni: *At first he was reluctant since the software is unfamiliar to me. It was not the usual autocad and manual drawing and has different interface than what I am used to. But with the help of the training I was still able to learn. It's all a matter of time.* R1-industry: *The employee is capable of working within limited time with limited supervision. He can work on his own and can improvise whenever needed without going overboard.* R2-industry: *The OJT left probably because of the complexity of the software being used. It was really unexpected since I have encountered a lot of students from the school. This one is just a rare example. Most are usually dependable.*
Identified Description: struggle in the process of learning/reluctant but willing to learn/ capable of working within limited time with limited supervision/ Most are usually dependable. **Subtheme:** Varying work experiences **Code Category:** Positive/negative work ethics

The answers from these inference questions led to the development of a mapped out matrix based on the three graduate outcomes of SSU-ADP. The researcher developed these guide questions based on the Architectural Drafting Program's Formative Evaluation to support the basis for the alignment of the graduate outcomes from the existing graduate outcomes of the program, in comparison to the Sydney Accord graduate outcomes.

From the coded responses gathered from the informant interview, emerging themes were established and identified as plotted in table 7.

Table 7
Thematic Analysis Summary of the Formative Evaluation From the Stakeholder Responses

IDENTIFIED DESCRIPTION (Process/Action Coding)	SUBTHEME (Initial/Open Coding)	CODE CATEGORY (Focused Coding)	THEME (Axial Coding)
- Alumni practicing in their field - Proliferating SSU-CIT graduates to the cluster of professionals	- Making meaningful contributions - Application of skills in the industry	- Career Opportunities	Learning Environment (Faculty-role in curriculum implementation)
- Identifying techniques on how to make plans - Building houses and construction	- Application of skills in the industry - Possible futures	- Graduate Opportunities	
- Varying instructional methods - Differing concept models - Getting oriented with skills	- Wanting experiential learning	- Capacity and competence building - Advancement	
- Lacking facilities and materials	- Deprived curriculum implementation	- Deficiencies	Implementation Shortfall (Materials and resources in curriculum implementation)
- Wanting training programs in current trends	- Deprived faculty development	- Deficiencies	
- Trainees are flexible and trainable - Respectful and can be trusted in terms of job output.	- Workmanship qualities	- Efficiency	Totality of Learning Experience
- Using CAD in plate-making/being adept with CAD - Extra-curricular design skills contribution	- Sense of accomplishment - Being well-rounded	- Reaching - Learning	
- Struggling in the process of learning - Unwilling but prepared to learn - Working within limited time with limited supervision - Most are usually dependable.	- Varying work experiences	- Positive/negative work ethics	

The Identified Descriptions are the general reflections of the key informant's responses which were categorized according to the occurrence or similarity in response for each question. These are basically common attributes

such as key informant experiences which vary from course enlistment until employment.

From the descriptions, process or action codes were organized into Subthemes or initial open codes where the responses are narrowed down further to frequent and significant codes. These are basic themes where meanings are collected from the key informant response descriptions which are not contextually apparent. The next phase is the categorization of each subtheme into focused codes. These codes are basically the organizing theme which substantiates the responses into forming a global theme. The final coding is the last step considered in the thematic analysis. Based on the singled out code category, it appeared that three global codes from the axial coding emerged as shown in table 8.

Table 8
Summary of Themes

EMERGING THEMES (GLOBAL CODE)
Learning Environment (Faculty-role in curriculum implementation)
Implementation Shortfall (Materials and resources in curriculum implementation)
Totality of Learning Experience

All the responses of the key informants from the different questions for each panel of stakeholders point out to these global codes, which can be traced back to the curriculum implementation of ADP.

The first code which falls under Learning Environment refers to the role of the faculty in the implementation of the curriculum where all the learning of the student is carried out. This involves all planned learning for which the implementing institution (SSU) is responsible. This is a crucial section in the curriculum implementation for it is the fundamental make-up of the program which determines the possible future of the ADP student, not only in school while in college, but also after graduating from the course. This may help the student in capacity and competence building, leading to career advancement.

The next global code is the Implementation Shortfall which refers to the deficiency in materials and resources. This in itself is detrimental not only to the ADP students, but the program itself. In every curriculum implementation, facilities and equipment should always be considered in order to properly execute the intended goal and objective of a course or program. The lack of resources therefore indicates poor implementation, since all the areas in the realization of the curriculum process should be delivered in a holistic approach.

The last global code is the Totality of Learning Experiences which generally refers to the responses of the key informants regarding their educational and professional experiences. These responses were divided into positive and negative viewpoints from the different panels, specifically to the industry.

A standout is the isolated case from the key informant response where the lack of confidence in the operation of particular software resulted to

abandonment of job based on the industry panel. This unprofessional trait can be traced back to the second global code about Implementation Shortfall. It could either be lack of interest from the student or could also be lack of training in terms of software manipulation, therefore resulting to inferiority or lack of self esteem from the student leading to struggle in the work environment.

This negative feedback however is made up for by the positive key informant responses relating to work ethics, generally in values and attitudes. Most of the industry and alumni responses corroborates in statements where positive attitude in the workplace is demonstrated as to the case of the industry key informant where flexibility and trainability is emphasized as a trait apparent to the employee/OJT.

These identified themes point toward the entire picture of the current ADP curriculum setting. Although these are only from 16 key informants, the rich responses exhausted from each panel gave way to the identification of gaps in the program. In this case, it reflects the implementation process of the ADP where all areas of the curriculum should be looked into.

Aligned and Integrated PGO of SSU-ADP & SA Framework

From the fourteen identified program graduate outcomes of the Architectural Drafting Program, only ten ADP outcomes coincided with that of the Sydney Accord Graduate outcomes. From twelve identified graduate outcomes, ten attributes corresponded, but only six matched to the outcomes and

attributes required by the Sydney Accord. the remaining four fell short to what was required, and two outcomes was not met by the ADP graduate outcomes as illustrated by the highlighted areas in table 9.

The plotted tables point out that the standards of the ADP need to be raised higher in order to satisfy the minimum requirement in the graduate outcomes to that of the Sydney Accord. These attributes are the minimum requirement stipulated in the provision for the Sydney Accord signatories in identifying a graduate's professional competency and its substantial equivalent to the knowledge profile and professional competency profile of the Accord.

Table 9
Comparative Profiles of Graduate Outcomes and Attributes for SSU-Architectural Drafting Program and Sydney Accord

GRADUATE OUTCOMES AND ATTRIBUTE COMPARISON	
SA Graduate Outcome / Component	**SSU ADP Graduate Outcome / Attribute**
1. Apply knowledge of mathematics, science, engineering fundamentals and an engineering specialization to defined and applied engineering procedures, processes, systems or methodologies.	No matching defined attribute/outcomes
Engineering Knowledge	
2. **Identify, formulate, research literature and analyze broadly-defined engineering problems ~~reaching substantiated conclusions using analytical tools appropriate to their discipline or area of specialization.~~**	**Demonstrate competence to conduct research.** **Demonstrate ability to create scientific solutions and innovative concepts with creativity and critical mindedness.**
Problem Analysis	**Competent/ Solution Provider/ Creative / Critical**
3. Demonstrate understanding of the societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to engineering technology practice.	No matching defined attribute/outcomes
The Engineer and Society	

(Table 8 continued)

4.	**Understand the impact of engineering technology solutions in societal and environmental context and demonstrate knowledge of and need for sustainable development.**	Demonstrate ability to sustainably manage the resources available in the community.
	Environment and Sustainability	**Resource Manager**
5.	**Understand and commit to professional ethics and responsibilities and norms of engineering technology practice.**	**Practice the profession in accordance with existing laws, social, moral and or ethical responsibility.**
	Ethics	**Professional**
6.	**Function effectively as an individual, and as a member or leader in diverse technical teams.**	**Work effectively in teams, in collaboration with other disciplines and multi-cultural teams**
	Individual and Team work	**Team Player**
7.	Design solutions for broadly-defined engineering technology problems and contribute to the design of systems, components or processes to meet specified needs ~~with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.~~	**Demonstrate ability to use innovative, creative and appropriate methods to meet the demands of the industry and/or labor market.**
	Design/ development of solutions	**Technology Provider**
8.	Conduct investigations of broadly-defined problems; locate, search and select relevant data from codes, data bases and literature, design and conduct experiments to provide valid conclusions.	**Demonstrate competence to conduct research.**
	Investigation	**Competent/ Solution Provider**
9.	Select and apply appropriate techniques, resources, and modern engineering and IT tools, ~~including prediction and modeling, to broadly-defined engineering activities, with an understanding of the limitations.~~	**Demonstrate technical manipulative skills competence necessary in the performance of the job assigned to him by his immediate supervisor in the industry as well as ability to work effectively as industry production line worker.**
	Modern Tool Usage	**Competent, Service-oriented Team Player**

(Table 7 continued)

10. **Communicate effectively on broadly defined engineering activities with the engineering community and with society at large, by being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions**	- **Articulate & discuss the latest developments in the specific field of practice** - **Communicate effectively in writing, speaking and presenting using culturally appropriate language.**
Communication	**Communicator**
11. **Demonstrate knowledge and understanding of engineering management principles ~~and apply these to one's own work, as a member and leader in a team and to manage projects in multidisciplinary environments~~**	**Demonstrate ability to perform industry supervisory function as well as managerial skills for small entrepreneurial project.**
Project Management and Finance	**Competent Resource/Manager** **Solution provider/Risk taker** **Communicator**
12. **Recognize the need for, and have the ability to engage in independent and lifelong learning in specialist technologies.**	**Demonstrate ability to engage in life-long learning with a passion to keep current with local, national and global developments.**
Life-long learning	**Life Long Learner**

Curriculum Mapping of SSU-ADP and SA

From the comparative matrix of the two graduate outcomes and attributes, it has been identified that these apparent similarities have concerns. The first concern curtails the SSU-ADP in terms fulfillment of the requirement in each number of attribute being compared as seen in the 4 areas with limitations (see attribute 2, 7, 9 and 11) in table 7. The second concern is the scope of these attributes and outcomes in terms of its distribution in the course content of SSU-ADP. This can be considered as a weakness for the scarcity of outcomes/attributes distribution in the mapped out course content translates to

gaps in terms of exact and actual implementation of these outcomes/attributes to the program as seen in the following tables.

Table 10
Plotted SSU ADP Program of Studies to Sydney Accord (First Year)

PROGRAM OF STUDIES SSU-ADP	SA GRADUATE OUTCOMES											
FIRST YEAR	ENGINEERING KNOWLEDGE	PROBLEM ANALYSIS	DESIGN/ DEVELOPMENT OF SOLUTIONS	INVESTIGATION	MODERN TOOL USAGE	THE ENGINEER AND SOCIETY	ENVIRONMENT & SUSTAINABILITY	ETHICS	INDIVIDUAL & TEAM WORK	COMMUNICATION	PROJECT MANAGEMENT & FINANCE	LIFE-LONG LEARNING
FIRST SEMESTER												
DRAFTING FUND. & ROOM PRACTICES	O	O	O						I			
TECHNICAL DWG.												
STUDY & THINKING SKILLS										I		
SINING SA PAKIKIPAGTALASTASAN										I		
INDUSTRIAL MATHEMATICS	I			I								
GENERAL CHEMISTRY AND METALS	I			I								
BASIC COMPUTER WITH INTERNET					I							
PHYSICAL FITNESS AND GYMNASTICS												
NSTP												I
SECOND SEMESTER												
ADV. DRAFTING STANDARDS & PRACTICES	O		O	I		O	O	I	I			
ADVANCED TECHNICAL DRAWING												
STUDY AND THINKING SKILLS 2										P		
KASANAYAN SA PAKIKIPAGTALASTASAN										P		
COLLEGE ALGEBRA	I	I										
CHEMISTRY OF MATERIALS	I	I			I							
GENERAL SOCIOLOGY						O			I			I
FUNDAMENTALS OF GROUP GAMES									I			
NSTP									I			I

LEGEND: I – Introduced; P – Practiced with supervision; D – Demonstrated; O - Opportunity

Table 11
Plotted SSU ADP Program of Studies to Sydney Accord (Second Year)

PROGRAM OF STUDIES SSU-ADP	SA GRADUATE OUTCOMES											
SECOND YEAR	ENGINEERING KNOWLEDGE	PROBLEM ANALYSIS	DESIGN/ DEVELOPMENT OF SOLUTIONS	INVESTIGATION	MODERN TOOL USAGE	THE ENGINEER AND SOCIETY	ENVIRONMENT & SUSTAINABILITY	ETHICS	INDIVIDUAL & TEAM WORK	COMMUNICATION	PROJECT MANAGEMENT & FINANCE	LIFE-LONG LEARNING
FIRST SEMESTER												
BASIC ARCHITECTURAL DRAFTING 1	P	I	O	O	O	O	O		P			
PROJECT DESIGN	P											
TECHNICAL WRITING AND BUSINESS CORRESPONDENCE										D		
INTRODUCTION TO LITERATURE										D		D
PHYSICS-MECHANICS AND HEAT			O	I								
TRIGONOMETRY		I		I								
GENERAL PSYCHOLOGY									I			D
GROUP SPORTS									I			
SECOND SEMESTER												
BASIC ARCHITECTURAL DRAFTING 2	P	I		D	O	O	O		P			
ADVANCED PROJECT DESIGN	P											
WAVE, MOTION, SOUNDS, OPTICS AND ELEC.			O		O							
PHILIPPINE GOVERNMENT AND CONSTITUTION								I				P
ART APPRECIATION												P
BASIC STATISTICS		P		P	O							
INDUSTRIAL ORGANIZATION AND MANAGEMENT						O		O	P		P	
FUNDAMENTALS OF DANCES									D			

LEGEND: I – Introduced; P – Practiced with supervision; D – Demonstrated; O - Opportunity

Table 12
Plotted SSU ADP Program of Studies to Sydney Accord (Third Year)

PROGRAM OF STUDIES SSU-ADP	SA GRADUATE OUTCOMES											
THIRD YEAR	ENGINEERING KNOWLEDGE	PROBLEM ANALYSIS	DESIGN/ DEVELOPMENT OF SOLUTIONS	INVESTIGATION	MODERN TOOL USAGE	THE ENGINEER AND SOCIETY	ENVIRONMENT & SUSTAINABILITY	ETHICS	INDIVIDUAL & TEAM WORK	COMMUNICATION	PROJECT MANAGEMENT & FINANCE	LIFE-LONG LEARNING
FIRST SEMESTER												
ADVANCED ARCHITECTURAL DRAFTING	D	P	O	O	O	O	O		D			
ENTREPRENEURSHIP AND BUSINESS PLANNING							O		D		D	
SHOP LAYOUT AND SUPERVISION			O		O	P	O	D	D	D	D	
INDUSTRIAL PSYCHOLOGY AND WORK ETHICS						D		D	D	D		D
FUNDAMENTALS OF RESEARCH	P	P	O	P	D			D	D	D		
PHILOSOPHY						D		D		D		D
FUNDAMENTALS OF COOPERATIVE					D			D	D	D	D	
SECOND SEMESTER												
ADVANCED ARCHITECTURAL DRAFTING (CAD)	D	D	P	O	D	I	I		D			
PERSONAL MANAGEMENT					D	O		D		D		D
LABOR LAWS AND SOCIAL LEGISLATIONS				D		O	O	D	D	D	D	D
RIZAL'S LIFE, WORKS AND WRITING												D
BASICS ECONOMICS, W/ TAXATION AND LAND REFORM									D	D	D	D
PROJECT FEASIBILITY STUDY	D	D	D		D	D		D	D	D	D	

LEGEND: I – Introduced; P – Practiced with supervision; D – Demonstrated; O - Opportunity

Table 13
Plotted SSU ADP Program of Studies to Sydney Accord (Fourth Year)

PROGRAM OF STUDIES SSU-ADP	SA GRADUATE OUTCOMES											
FOURTH YEAR	ENGINEERING KNOWLEDGE	PROBLEM ANALYSIS	DESIGN/ DEVELOPMENT OF SOLUTIONS	INVESTIGATION	MODERN TOOL USAGE	THE ENGINEER AND SOCIETY	ENVIRONMENT & SUSTAINABILITY	ETHICS	INDIVIDUAL & TEAM WORK	COMMUNICATION	PROJECT MANAGEMENT & FINANCE	LIFE-LONG LEARNING
FIRST SEMESTER/SECOND SEMESTER												
ON-THE-JOB TRAINING	D	D	D	O	D	D	O	D	D	D	D	D

The plotted program studies of the ADP in relation to the SA graduate outcomes indicate the 4 areas in which each outcome should satisfy. For each content in the program, the outcome is plotted whether it is introduced, practiced with supervision, demonstrated or an opportunity for application/implementation.

It can be seen that not all of the outcomes from the Sydney Accord is satisfied across the program content. Deducing from the plotted outcomes and content, it concludes the lack of implementation in terms of graduate outcomes for the program. These, however, are just desired outcomes for the program. The problem foreseen is whether these plotted outcomes are being practiced and executed realistically.

Alternative Curriculum Model

Prior to the attempt in the curriculum redirection after the alignment of outcomes, four areas of the outcomes-based education were considered. These areas are the Institutional Program Outcomes, the Institutional Values, the Interventions and Initiatives and the Learning Environment. From Bustos-Orosa's framework for the OPB or outcomes performance-based, these four areas are important before any revision or redesign of a program. All things considered, a holistic approach of a student's environment starts at the institution to be able to come up with a well-rounded graduate as illustrated below in figure 5.

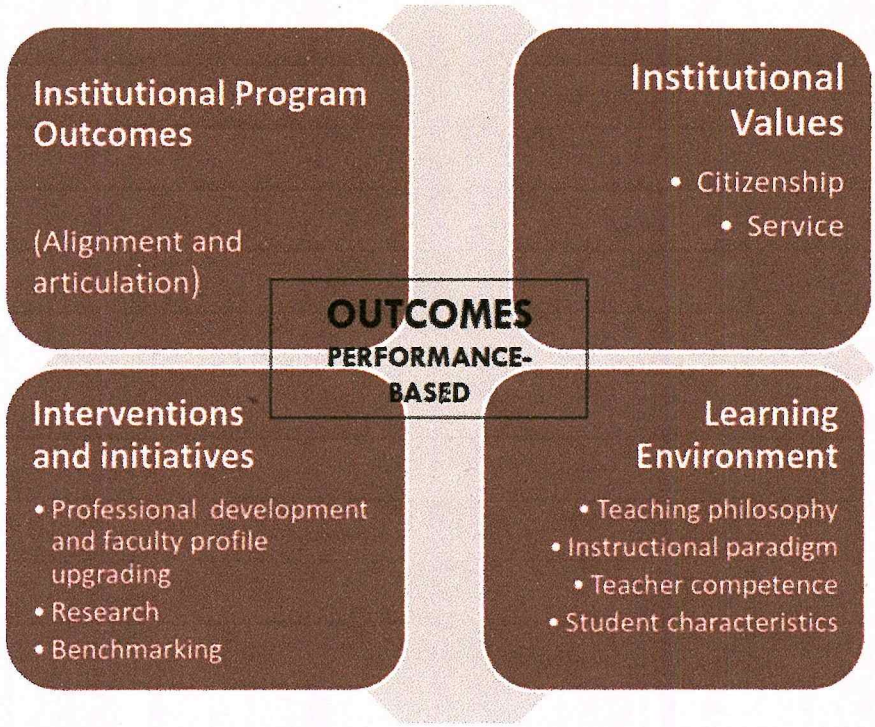

Figure 5
Instructional Improvement for Outcomes Performance-Based Framework

Once there is a clear concept model of the intended performance outcomes, curricular design follows immediately. This concept is taken still from the Outcomes-Based Education Model which details the intended learning outcomes from the institutional perspective, down to the intended outcomes of the lesson. With this design, it is ensured that the specific learning outcomes are connected and consistent to the university's learning outcomes to deliver utmost impact to the kind of graduates the program intends to produce as illustrated in figure 6.

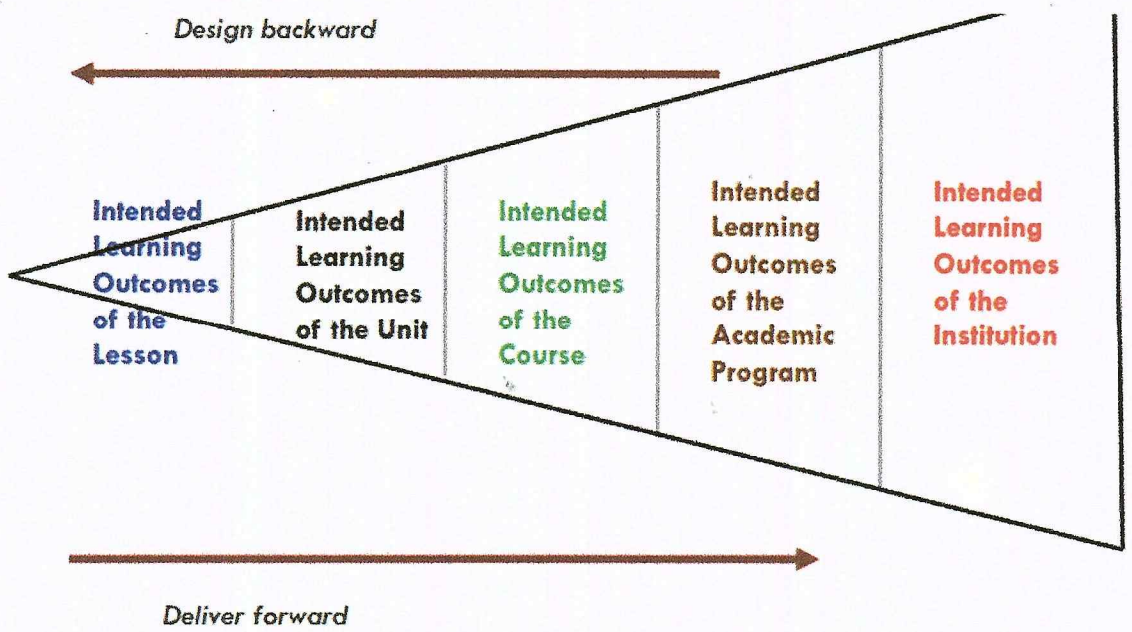

Figure 6
Design Direction of Outcomes

From these outcomes guide, the researcher was able to establish a model which fits the need of the ADP curriculum. This curriculum model is based on Saylor, Alexander and Lewis or SAL Model, which puts emphasis on goals and objectives, curriculum designing, curriculum implementation, and curriculum evaluation. This is in conjunction with the needs from student and society, the Model is expected to provide a foundation for an understanding of its contribution to the renewed curriculum. Theoretically, the design and development of curriculum in programs are based on constructive inputs from the stakeholders. These stakeholders can assist academicians and academic administrators by providing important items that may be salient for the student development in order for them to acquire competency through effective and comprehensive program implementation and review. It is therefore a need for

the participating stakeholders to have a consensus on designing viable as well as reliable outcomes for the improvement of the program. This curriculum model can therefore be used in three different, but important ways:

1. The Model offers a process for the complete development of a curriculum;
2. A faculty may focus on the curricular components of the Model to make program decision; and
3. Instructional components development from facilities, content, and faculty.

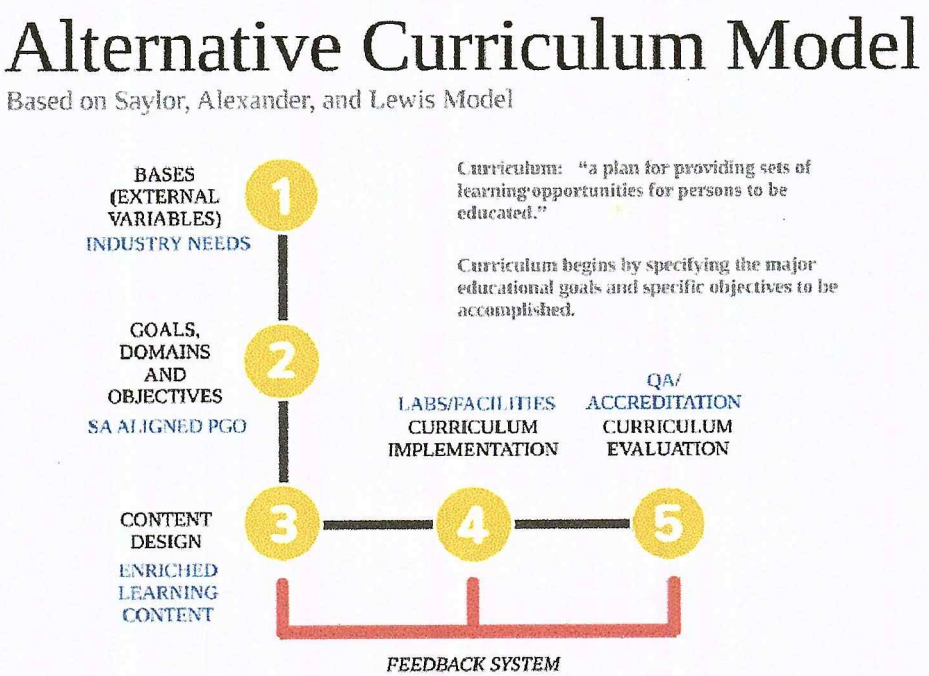

Figure 7
Alternative Curriculum Model: SAL Model
(Saylor, Alexander and Lewis Model)

Chapter 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Summary of Findings

This chapter presents information gathered from a range of interviewed key informants who have direct interest in the assessment and evaluation of curricular needs of the architectural drafting program. In-depth interviews with individuals from different stakeholder groups, referred to as "panels" in this chapter, were conducted. From the thematic analysis of these interviews presented in the previous chapter, conclusions were derived.

Five major groups of panels were identified and recruited key informants to partake in each of the areas namely: industry, alumni, administrators, faculty and students. In the case of the enlistment of interview panel, some membership was sometimes overlapping as in the case of one key informant who came to be a member of several panels, although recruited with one particular panel in mind. Therefore, for the most part, the researcher analyzed the data from each panel in a holistic manner.

This panel included business owners and person-in-charge of establishments locally and internationally; leads of relevant professional associations; and other industry-related personalities responsible for the enrichment of this research. The aim was to explore the views of those who have to regularly assess the quality of graduates of SSU Architectural Drafting

Program, in the sense of gaining access to the desirable inputs and outputs of research questions and the panel's responses from employer-to-employee standpoint.

Key informant responses were converted to coded matrix and translated to the formative alignment of the current Architectural Drafting Program to integrate and assimilate to the Sydney Accord Framework using the accord guidelines. Aligned matrix revealed that of the 12 SA graduate outcomes, the ADP fulfilled 11. From these 11, only 6 presented an absolute match and 5 fell short to completely attain the outcomes. These shortfalls point out to the revision of the graduate outcomes ADP is currently using. Further, program content mapping from the plotted matrix identified that not all the curriculum content satisfy the aligned outcomes of ADP to SA as shown in Tables 10-13 on page 75-77. Although these matrices shows parallelism of the 6 ADP and SA matches, these only identifies with the 10 graduate outcomes common to institutions, and general programs of the university. The remaining 11th *(Demonstrate ability to perform industry supervisory function as well as managerial skills for small entrepreneurial project)* and 10th *(Demonstrate ability to engage in life-long learning with a passion to keep current with local, national and global developments)* outcomes common to CIT-ADP does not even fully satisfy the accord graduate outcome.

Conclusions

To be able to satisfy the industry needs, not just locally, but internationally, the CIT-PGO should be raised to be able to compete. Although it does not factor out that there have been and there are still, alumnae working internationally, the grappling of the work requirements are sometimes felt. These, based on the observance and results of the study are unsighted in the administrator and faculty side. Although the two are much concerned and are greatly motivated to accommodate the needs of the students, there are important components like varied and advanced design software acquisition, and communication skills that needs attention. These mentioned components are the common problems which emerged from the key informant responses.

From the desired outcome requirements of the Architectural Drafting Program stakeholders, it is found out that some of the responses from the thematic analysis based on the interviews from these stakeholders are concurrent to the PGO's of the CIT-ADP. However, it was also noted that there are varying factors in the case of the vicinity of the stakeholders. For those who are locally affiliated, most of the emerging requirements fall directly to the CIT-ADP PGO, where skills like manipulation of tools, understanding of design operations, workmanship, and competence.

From the student's point of view, the need for program content improvement and the need to have an identity were found out, identity in the sense that they want to have a distinction from the other similarly lined courses

such as architecture. With their concern mostly stemming from inferiority, a need to emphasize their difference from the other similar courses and the possible work opportunities they can obtain after they completed their degree. The responses from the key informants suggested that most of the students enrolled in the course are not aware, prior to their enlistment. Therefore, the program should also include the dissemination of career opportunities, pathways and options upon graduating from the course, a campaign where the Architectural Drafting Technology program is publicized for a wider range of awareness.

There are advantages and disadvantages to becoming a Signatory of the Sydney Accord. Furthermore, if the institution elects to become a member in the near future, it would be a step towards global approach in terms worldwide coverage for the graduates of the Architectural Drafting Program. In this context it is difficult to achieve such task. A regional, national and international analysis of stakeholder network is greatly needed to be able to come up with a design that would make the membership a reality.

In addition, before such steps should instigate, the current status of the program should be further enhanced in terms of the key stakeholder's responses in the needs assessment. This study is rather promotional and campaigns for a needed enhancement of the Architectural Drafting Program.

As in the case of Baking et al's study, their graduates of Architecture, Education and Engineering graduates expressed agreements that the course content of their program influenced their productivity to a great extent. This

assessment about the depth and breadth of the course content further reinforces that the program content should be reviewed match the industry demand and for an improved implementation of the course content through adequate facilities and the likes. Further, the outcome of Baking et al's study suggested on curriculum enhancement and physical infrastructure build-up are in order to keep the graduates abreast with the fast growing requirements of industries and other service providers in terms of knowledge, attitude, and skills. These findings are parallel to the result of the informant's views, where facilities; infrastructure for drawing and computer laboratories; and advanced course content is needed as felt by the informants.

Recommendation

The following recommendations are suggested which are anchored on the results of the study.

1. There is a need for thorough analysis of the current SSU-ADP program graduate outcomes. From the findings of the study, although numerous PGO's from the Sydney Accord were identified to be aligned to SSU-ADP, the stakeholder needs from the interview does not correspond to the outcome stated in the PGO. It further indicates that there is a mismatch as to the ideals of the PGO and to the graduates the program is producing.
2. There is a need to redesign the current SSU-ADP curriculum in order to properly match the curriculum in terms of content, facilities and advanced instruction to that of the identified needs coming from the stakeholders, and to the requirements of the Sydney Accord PGO.

3. There is a need to conduct further study on the phase by phase execution of the new curriculum as to the level of implementation of the program in terms of a holistic approach. This should coincide with the requirements of the program needs from the instructional content, to the learning environment, the resource materials and the learning experiences of the students of the SSU-ADP to comply with the gaps felt in the industry.

To reiterate Dotong's (2015) concluding statement, he emphasized that it is not exactly being stated in the major criteria or standards of some international accreditations like ABET or the Sydney Accord to have an international community, but to operate like an international HEI beyond the national requirements. The four Philippine HEIs included in the QS WU Rankings actually do not have any of these cited program-based international accreditations but rather they have strengthened international networks, linkages and collaborations for the internship of their students and industry immersion for the faculty.

As an ending statement, the outcome of this study does not impose the immediate membership of the university to the international accrediting body of the Sydney Accord; rather it is a micro look as to what possible steps the university ought to take in the designing and redirection of new and existing programs. The process may be tedious and at best labor some, but the outcomes are definitively beneficial to the kind of graduates the university wants to produce.

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APPENDICES

Republic of the Philippines
SAMAR STATE UNIVERSITY
COLLEGE OF GRADUATE STUDIES
Catbalogan, Samar
Telephone Numbers: (055)-543-8394/(055)-251-3
Website: www.ssu.edu.ph

February 4, 2016

TO:

Dr. Jose S. Labro
Vice President for Administrative Affairs, SSU

Dr. Ronald L. Orale
Director, Research & Extension Services, SSU

Dr. Valente Villanueva
Professor, *College of Arts & Sciences, NWSSU*

May I ask you to be a member of the committee to evaluate the attached Thesis title/s?

Please give your comments and suggestions which you will discuss with the proponent.

Thank you for your cooperation.

Very truly yours,

MARILYN D. CARDOSO, Ph.D.
Vice President for Academic Affairs/
Dean, College of Graduate Studies

EVALUATION/RECOMMENDATIONS

Title number 1 is more preferred.

02-09-2016

✓ Consider studying how the BSIT-Drafting & other Drafting courses be upgraded comparable to demands internationally

Republic of the Philippines
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January 6, 2016

MARILYN D. CARDOSO, Ph.D.
VP for Academic Affairs/
Dean, College of Graduate Studies
This University

Ma'am:

I have the honor to submit for approval the following research problems for my Masters in Technician Education (major in drafting) thesis, preferably number 1:

1. Educating for creativity: Visual Arts and its implication to Drafting and Architecture courses in SSU
2. Assessment of Computer Aided Design skills of Drafting Technology students in Samar State University in relation to their practicum performances
3. Development of a simplified instructional module in Technical drawing for 1st year college students
4. Integrated team-assisted learning and feed-backing in drafting technology: a proposed program of instruction

Your favorable action on this matter is highly appreciated.

Sincerely,

MARY ANN Y. ABALOS
MTE Student

RECEIVED
DATE: 1/6/16
TIME: 3:05 PM

Republic of the Philippines
SAMAR STATE UNIVERSITY
COLLEGE OF GRADUATE STUDIES
Catbalogan City
Tel. No. (055) 251-2139
http://www.ssu.edu.ph

October 27, 2016

DR. RONALD L. ORALE
VP for Planning Research and Extension
This University

Sir:

I have the honor to submit for approval a thesis title for my Masters in Technician Education (major in Drafting Technology). This is in effect to the suggestion of the panelist during the approval of thesis problems last June 18.

"Aligning SSU Architectural Drafting Program
Subsequent to the Sydney Accord Framework"

Hoping for your favorable response, thank you and good day!

Sincerely,

MARY ANN Y. ABALOS
MTE-Drafting Student

Approved:

RONALD L. ORALE, Ph.D.
VP for Planning Research and Extension
This University

Remarks:

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Catbalogan City
Tel. Numbers: (055)-543-8394 (055)-251-2139
Website: www.ssu.edu.ph

ASSIGNMENT OF ADVISER

October 28, 2016

Sir/Madam:

Please be informed that you have been designated as adviser of **MS. MARY ANN Y. ABALOS,** candidate for the Master's degree in Technician Education, major in Drafting Technology who proposes to write a thesis paper entitled:

""Aligning SSU Architectural Drafting Program Subsequent to the Sydney Accord Framework"

Thank you for your cooperation.

Very truly yours,

VICTORIA M. TAFALLA, Ph.D.
Dean, College of Graduate Studies

CONFORM:

ALEX A. CARDOSO, Ph.D.
Adviser

1st copy – Dean's Office
2nd copy – Adviser
3rd copy – Researcher

FORMATIVE EVALUATION QUESTIONS

Pertaining to the Architectural Drafting program design

1. Is the program being implemented as it was designed?
2. Do the students or clients understand the program's concepts?
3. What are the misconceptions about the program?
4. Are all program implementers implementing the program in the same way?
5. What aspects of the program do not seem to be working as well as you intended?
6. Do program implementers need additional training on the program?
7. Are there any negative outcomes surfacing?

Pertaining to the Architectural Drafting Graduates

1. How successful is the program design in preparing students to use positive social skills with their friends, family and co-workers?
2. Do local employers think our students are prepared for the world of work?
3. To what extent do teachers incorporate career development activities as part of their classroom instruction?
4. Do our students contribute to society in a positive way after graduation?
5. Does the course content help students improve their career maturity?

INTERVIEW GUIDE

Stakeholder Interview Questions (Students)

1. Can you describe how you first became aware of the Architectural Drafting program?
2. How do you view your course?
3. What do you think is the program all about?
4. What are your expectations from the program?
5. What do you think about your course major subjects?
6. What do you think about your course minor subjects?
7. What do you need in your course?
8. What, if anything, would you change about the course?
9. What skills have you developed so far?
10. What skills do you wish to develop after you graduate?

Stakeholder Interview Questions (Faculty)

1. What teaching strategy do you usually employ to deliver the subject content?
2. Can you identify your usual evaluation method?
3. What do you think about the subject content and the given time-frame per semester?
4. What do you think are the skills the students learn in school that will benefit them upon graduation?
5. How do you feel about new trends in teaching?
6. How do you address these trends?

Stakeholder Interview Questions (Admin)

1. What are your views in terms of faculty and student performance?
2. How do you usually evaluate the faculty?
3. What are the required qualifications of the faculty handling the program?
4. How does the college utilize the feedback data for ADP, coming from the OJT office?

Stakeholder Interview Questions (Alumni)

1. Can you tell me about your work experiences after graduation?
2. What is the nature of your work?
3. What specific models/software do you work on?
4. What similar skills did you use at work that you developed when you were still studying?
5. What trainings could you suggest should be implemented when you were still studying?
6. What, if anything, would you like to change about the course?

Stakeholder Interview Questions (Industry)

1. How are the trainee/employee in terms of promptness and function?
2. What are the trainee's/employee's qualification in relation to the job description entailed in his/her respective work station?
3. Is the trainee/employee reliable and imbues a sense of responsibility with his/her superior or peers?
4. How the trainee's/employee's working relationship with his/her superiors or peers?
5. How are the trainee's/employee's in terms of virtues like integrity and honesty in all aspects of his/her work?
6. How does the trainee's/employee's attitude towards criticisms and towards superiors?

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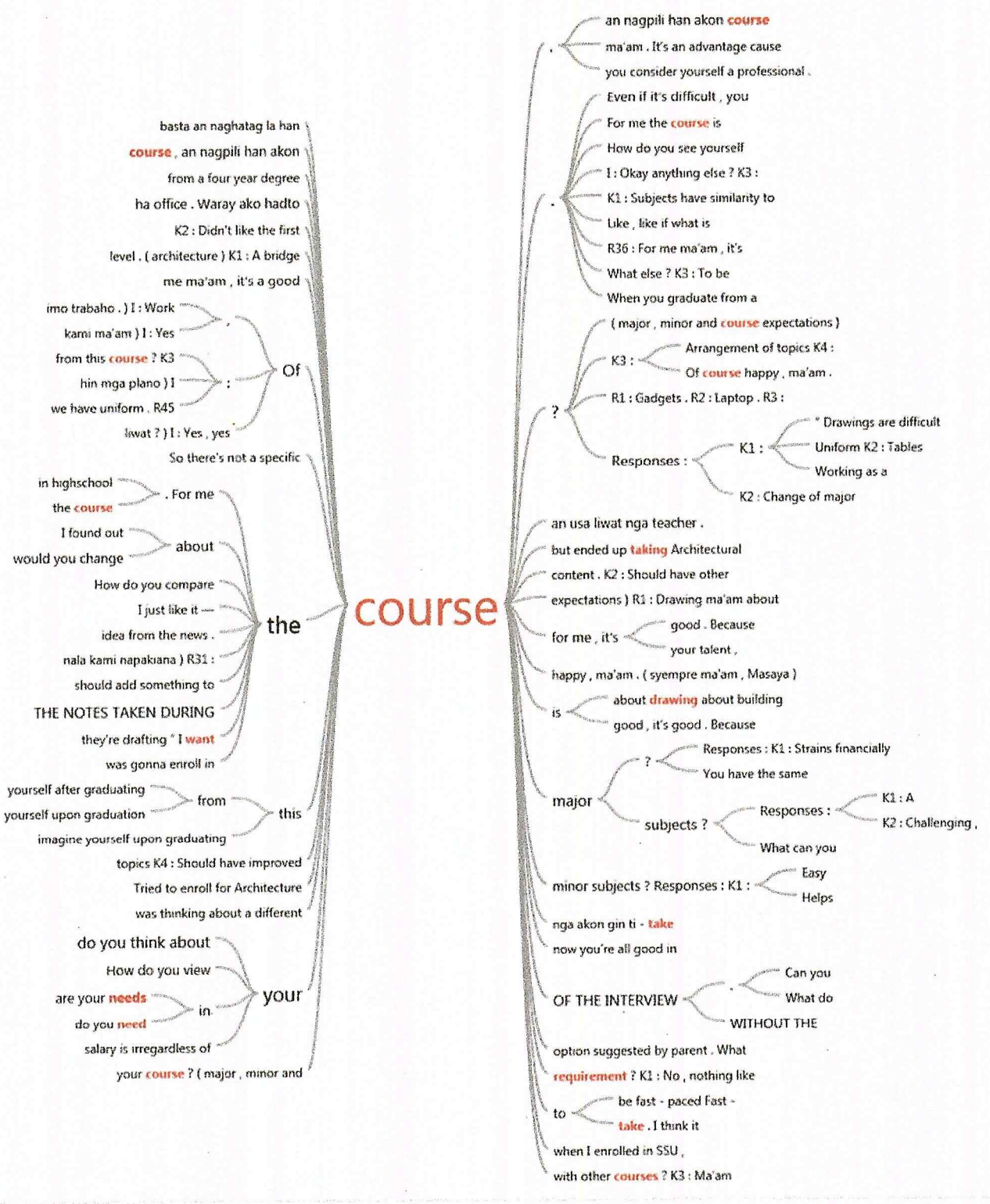

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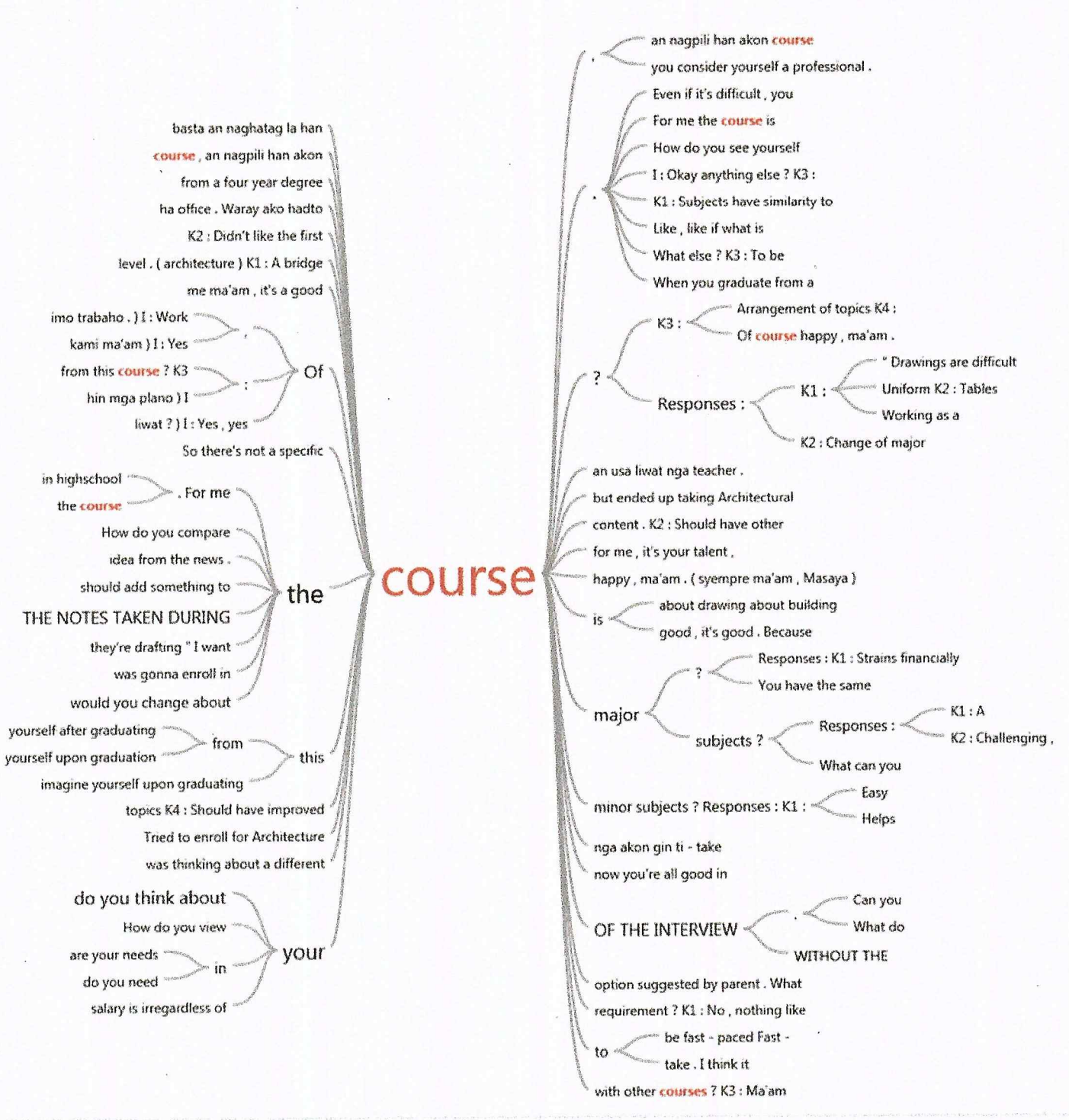

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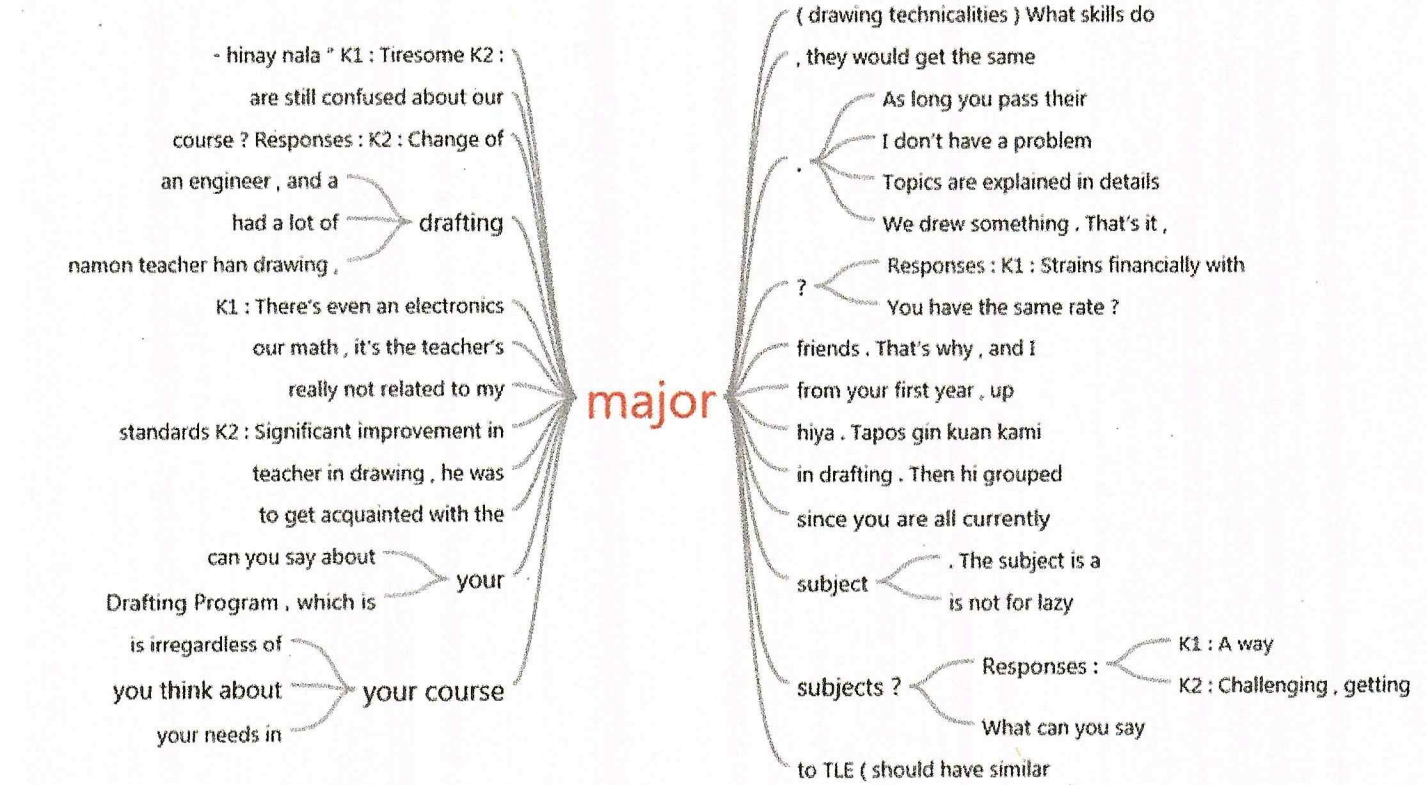

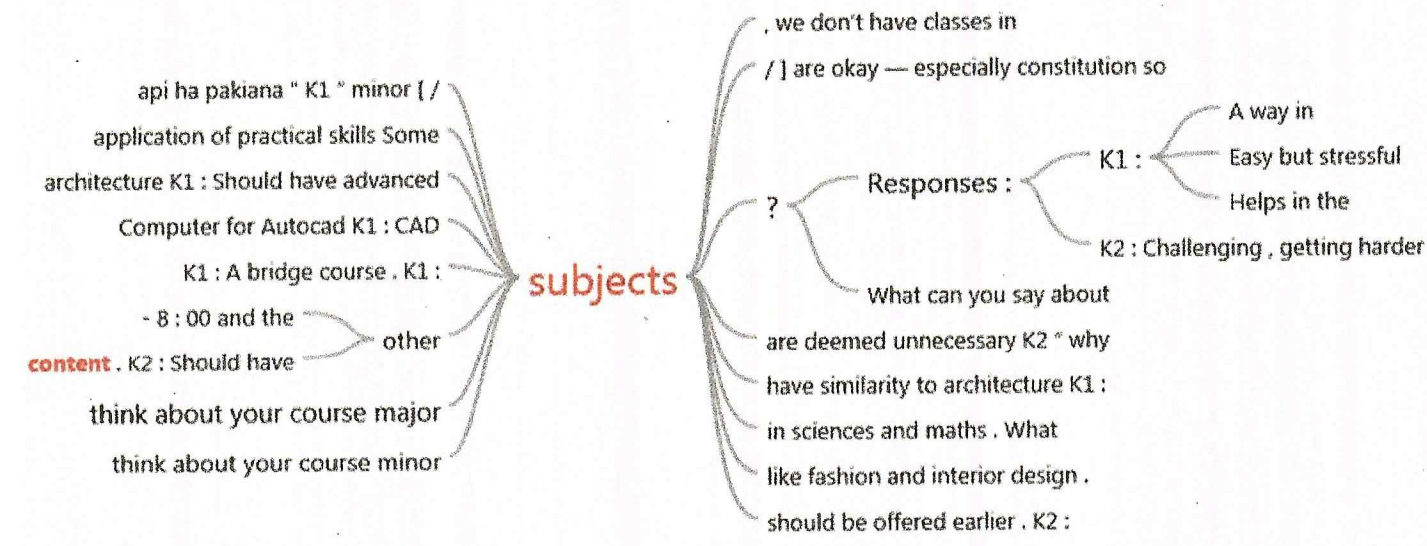

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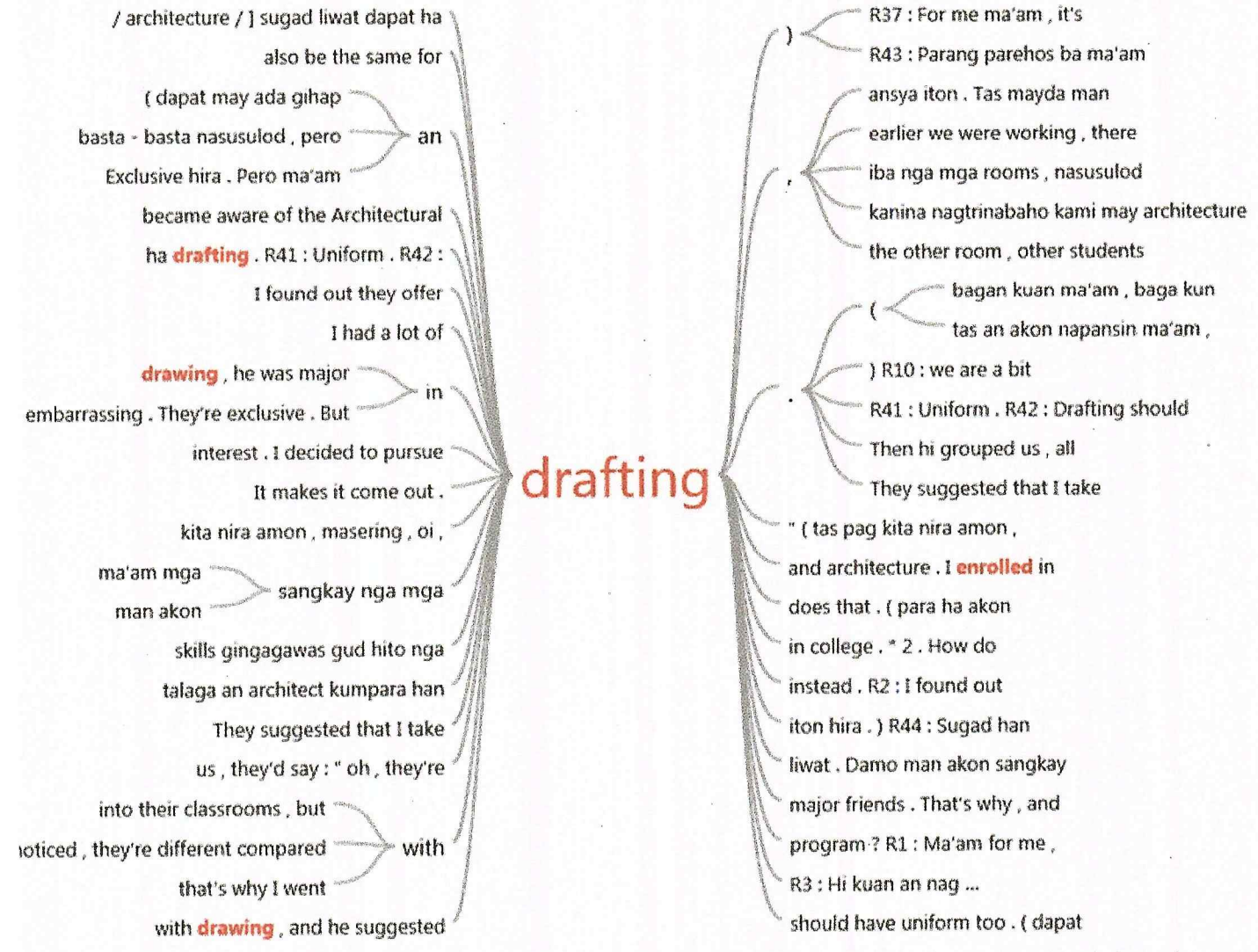

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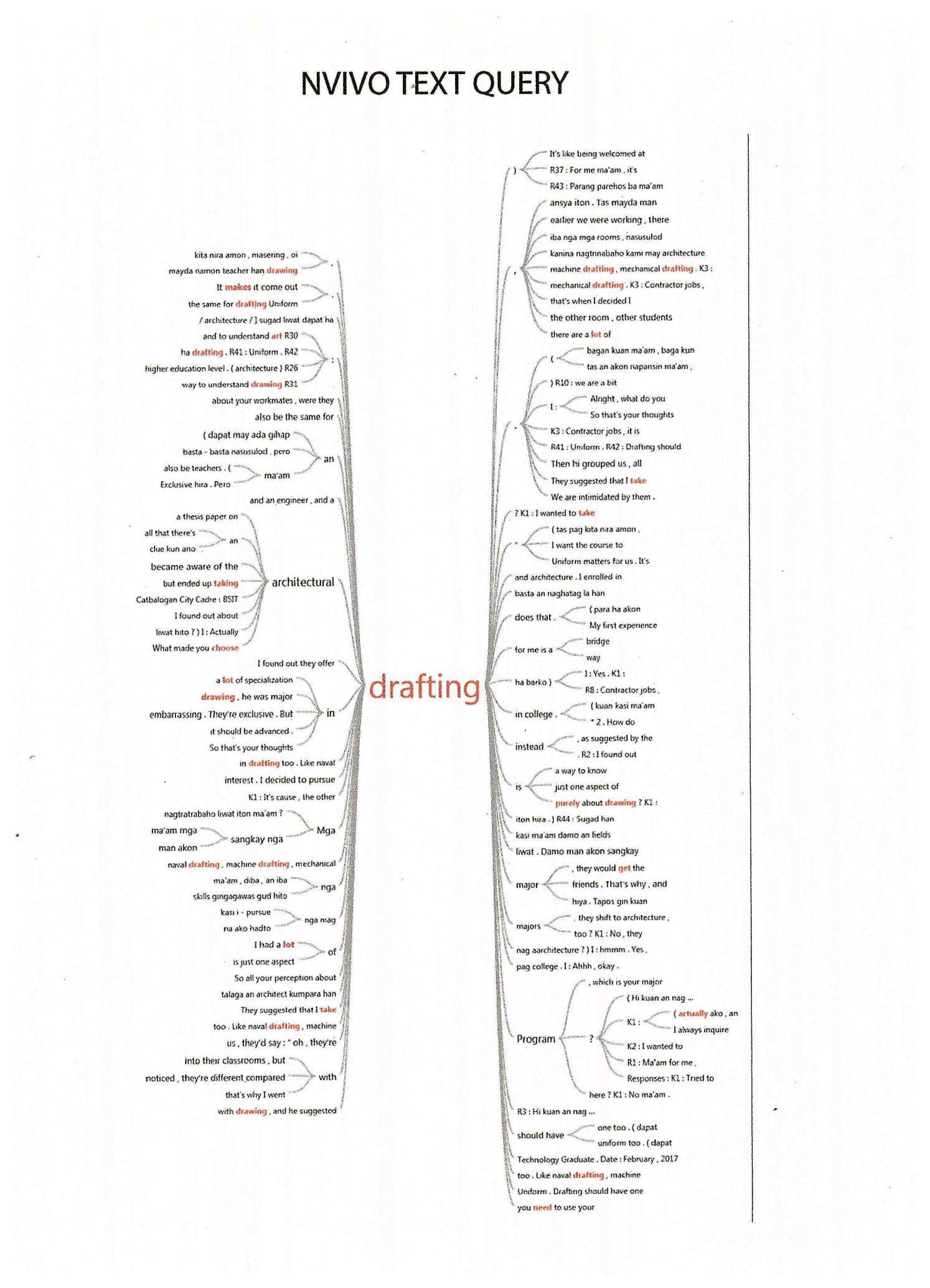

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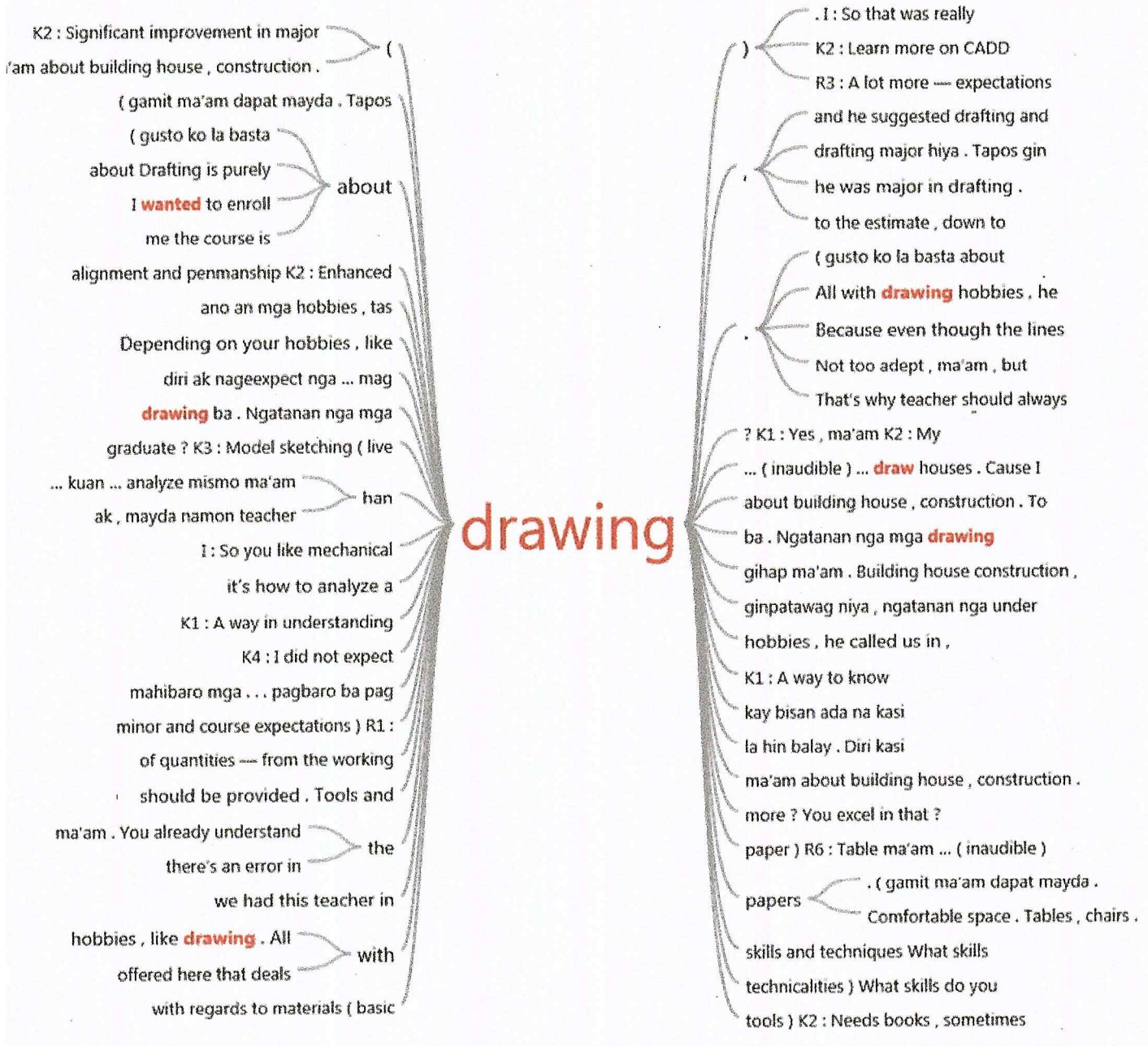

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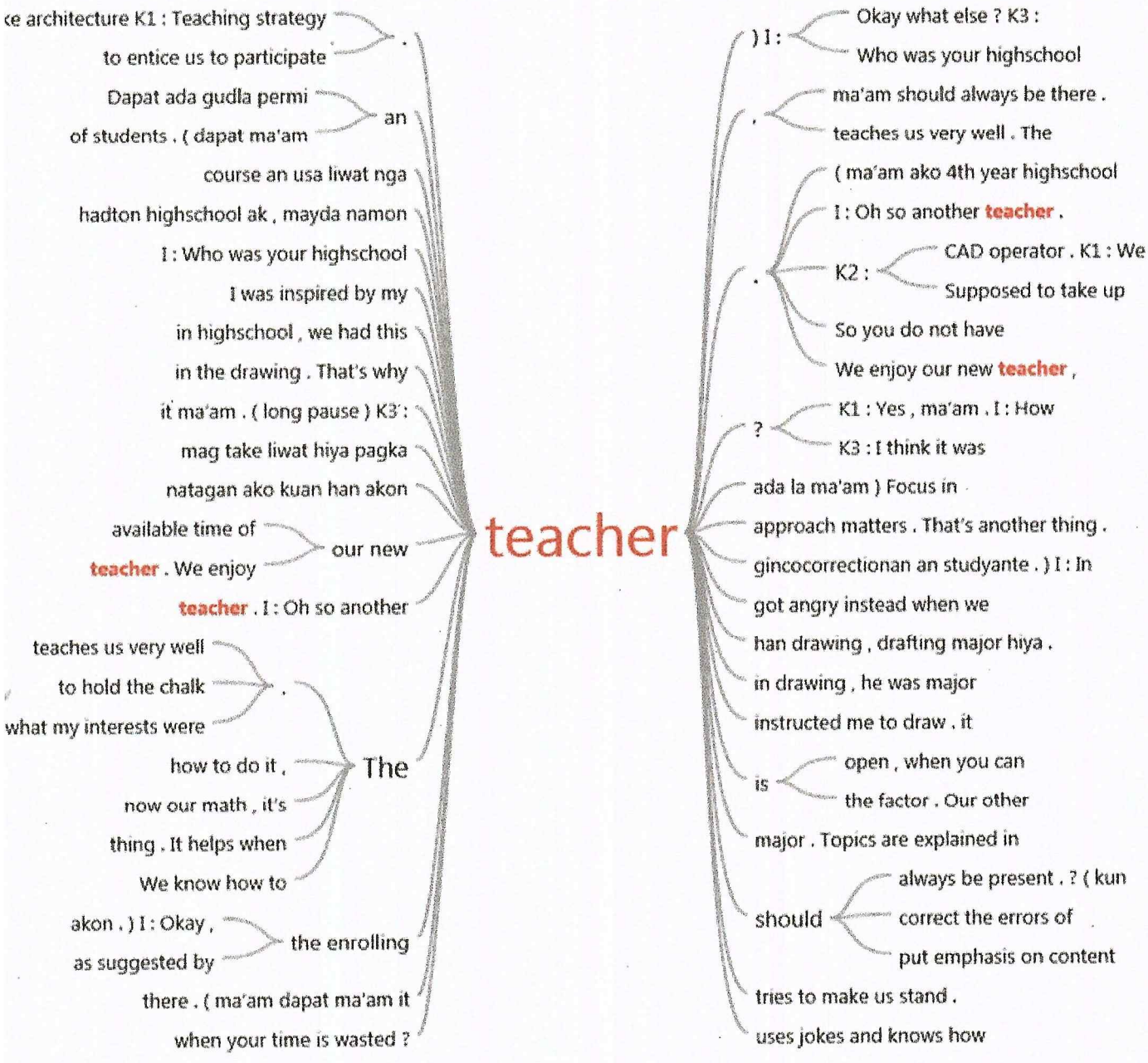

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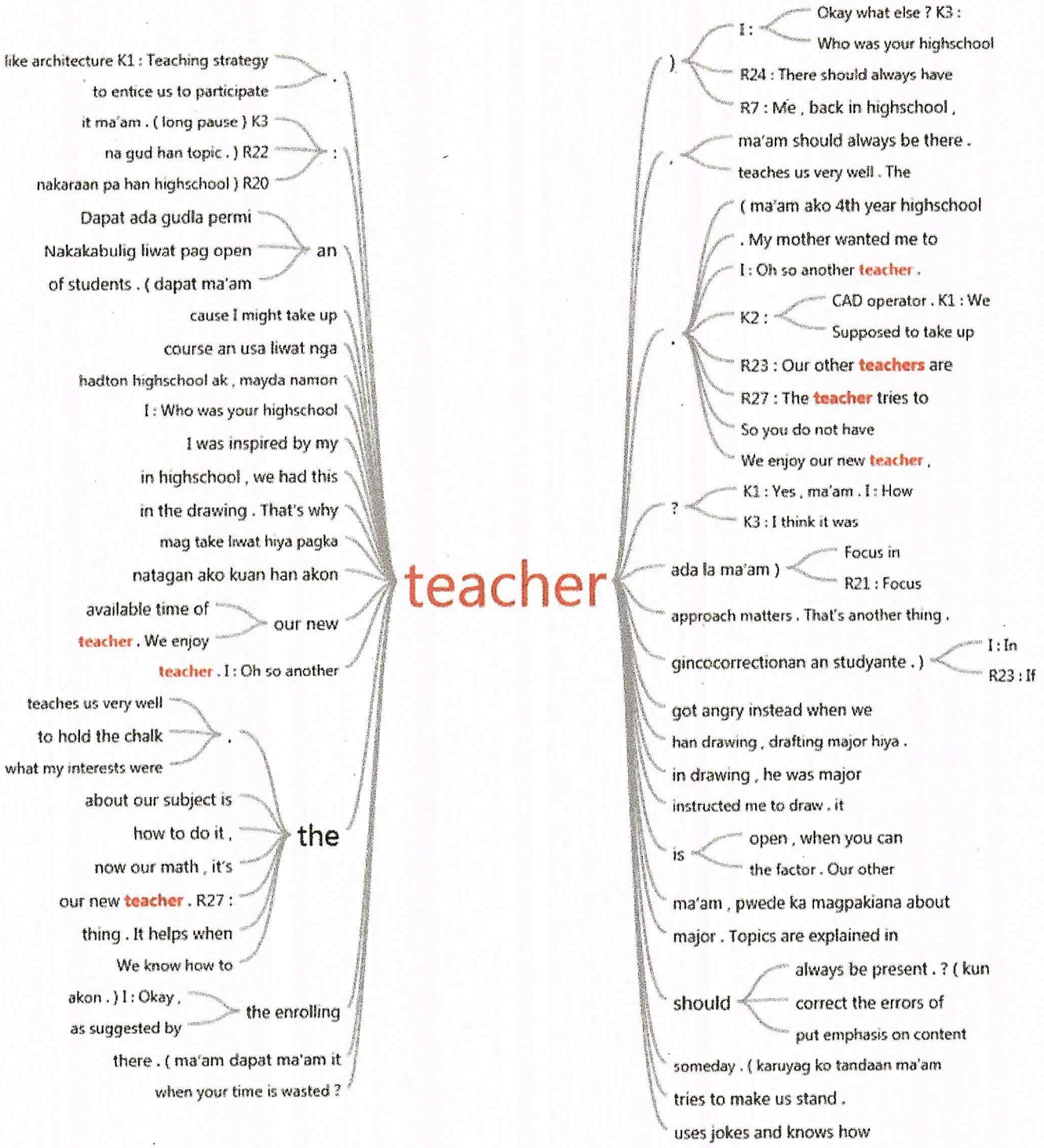

CURRICULUM VITAE

CURRICULUM VITAE

Name	:	MARY ANN Y. ABALOS
Address	:	Brgy. Guindapunan, Catbalogan City
Date of Birth	:	February 16, 1986
Place of Birth	:	Catbalogan, Samar
Present Position	:	Instructor I - Samar State University
Civil Status	:	Married

EDUCATIONAL BACKGROUND

Elementary	:	**Catbalogan I Central Elementary School** Catbalogan, Samar 1992-1998
Secondary	:	**Samar State Polytechnic College** Catbalogan, Samar 1998-2002
Tertiary	:	**University of San Carlos – Technological Center** Talamban, Cebu City
Degree Course	:	**Bachelor of Fine Arts** *Major in Advertising Arts* 2002-2006
Supplementary Studies:		**Professional Education Units (21 Units)** Samar College Catbalogan, City 2012 – 2013
Graduate Studies	:	Samar State University Catbalogan City
Pursued Studies	:	**Master in Technician Education** *Drafting Technology*

POSITION HELD

Graphics Designer : **Marketing Department**
Harbour City Dimsum House, Co. Inc.
Cebu City, 2006 – 2008

Graphics Designer : **R&D, Marketing Department**
Anita's | CGBC, Inc.
Cebu City, 2009 – 2011

Instructor I : **College of Industrial Technology**
Samar State University
Catbalogan City, 2012 – to present

SEMINARS ATTENDED

Training Workshop on Survey & Qualitative Research: Research Center for Culture and the Arts, SSU, Catbalogan City (October 21 & 24, 2016)

International Scientific Information Publication: SSU Research & Development, SSU, Catbalogan City (January 25, 2016)

Excellence Teaching Towards Outcomes-Based Education Seminar Workshop: SSU, SSU AVC, Catbalogan (May 9-13, 2015)

Google for Education Seminar (Gone Google): SSU Research & Development, SSU, Catbalogan City (February 9-10, 2015)

Research Writing Seminar: SSU Research & Development, SSU, Catbalogan City (July 8-9, 2014)

12th PACUIT National Conference: PACUIT, University of Southern Philippines, Davao City (April 28-30, 2013)

Basic Integrated Theatre Arts Workshop: SSU & National Commission for Culture and the Arts, SSU, Catbalogan City (July 21-23, 2013)

Seminar Workshop on Teaching Innovation: SSU, SSU-AVC, Catbalogan City (May 28-30, 2013)

11th PACUIT National Conference: Colombo Plan Staff College & Cebu Technological University, Cebu City (April 17-19, 2013)

Seminar on Textbook Writing: SSU & Mutya Publishing House, SSU, Catbalogan City (March 13-14, 2013)

Research Write Shop Seminar: SSU R&D, SSU Catbalogan (June 26, 2012)

Personal Awareness and Leadership Seminar: Power Speak, Inc., Cebu City (December 3-5, 2010)

The Building Blocks of Marketing Seminar: HCDHCI, Cebu City (July 19, 2007)

Work Attitude & Values Enhancement Program Seminar: HCDHCI, Cebu City (July 11-12, 2007)

Internal Customer Service Seminar: HCDHCI, Cebu City (May 31, 2007)

Customer First Seminar: HCDHCI, Cebu City (October 25, 2006)