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Jubail Industrial College (JIC) Educational Quality Assurance and Management Procedures: Chemical and Process Engineering Technology Department as an Example

Mohamed Ibrahim Elzagheid *

Jubail Industrial College, KSA

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Abstract: The main goal of this paper is to briefly describe the educational quality assurance procedures of Jubail Industrial College and share its experience with other local and international institutions that are potentially interested in implementing similar quality assurance procedures in their various departments. This paper follows a document and descriptive method. Document analysis qualitative approach was opted. In essence, implementing quality assurance procedures within any educational institution ensures quality education and helps to maintain an organized structure. Internal quality assurance policies and practices guarantee that the quality of education in an academic institution is consistently monitored. This paper can be utilized by both academic planners and quality assurance personnel in academic institutions. The quality assurance procedures described in this paper are used to ensure the quality of education specific to the Jubail Industrial College; however, it can be applied in other academic institutions as well.

Keywords: *Quality in higher education, educational quality assurance procedures, JIC educational quality assurance procedures, quality assurance and quality procedures.*

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Introduction

Higher education provides an in-depth understanding and knowledge to the students with developing their capability to comment on existent issues. It is about learning more about less and not about learning less about more, as in the early stages of education. It increases the knowledge of an individual within a very specific area of specialization, but also gives him/her a wider perspective of the subject of specialization (Barnett, 1992). Higher education institutions produce qualified human resources (students) as a direct profit to the job market. Additionally, these institutions provide training and research environment for qualified researchers (faculty members) to develop the frontiers of knowledge, from which students benefit, through research publications. Thus, higher education institutions focus on improving quality of teaching, ultimately enabling a higher passing rate among the students (Barnett, 1992).

The quality of education in an institution is essentially one of the most emphasized factors by academicians, managers, and policy makers. 'Quality' as a term is under debate, a term that Pfeffer and Coote (1991) have referred to as a 'slippery concept'. Quality as a concept moves around a few central ideas: Quality as absolute, Quality as relative, Quality as a process, and Quality as culture (Mukhopadhyay, 2005). In the context of education, Kistan (1999) presented an admix definition of quality assurance, Figure 1.

| | | | | | | |
|------------|-------------------|----------------------|---------------------|----------|----|------------|
| Policies | that will | ensure/ assure | that the quality of | teaching | is | maintained |
| Attitudes | | demonstrate/ Certify | | | | |
| Means | | | | | | |
| Actions | | | | | | |
| Procedures | | | | | | |
| System | | | | | | |
| Attention | confirm/guarantee | education | enhanced | | | |

* Correspondence:

Mohamed Ibrahim Elzagheid, Royal Commision for Jubail, Jubail Industrial College, Saudi Arabia. ✉ elzagheid_m@jic.edu.sa



Figure 1. Admix definition of quality assurance

The main concern of quality of education in academia across the globe is to induce quality in teaching and learning. Bonser (1992) argued that quality assurance is the core component of policies and practices of educational institutions that provide special training to individuals who assume various roles in their organizations. The arising interest in higher education quality was due to the increase in the number of students attending higher education institutions; with this rapid growth at hand, institutions were inclined to address and improve their process of allocating capital within institutions, and the study programs that they offered (Brennan & Shah, 2000; Eaton, 2012; Stensaker & Maassen, 2015). Dill (2010) mentioned that there is a need of developing a new mechanism for external quality assurance because the traditional way of assessing academic quality was outdated as education systems and environments have changed. Harman (2000) also stated quality assurance in education has become not only a national issue but also regional and global. Njui (2018) added that effective quality management of any institution requires the integration of internal quality assurance within the institution's strategic plan and mission, and the development of a quality assurance-oriented culture in all aspects of the institution. This methodology is followed by the Jubail Industrial College, whereby the importance of quality assurance procedures in the Education and Training Affairs is considered as a crucial element to the development of students and staff members. Harman (2000) defined quality assurance as standardized assessment procedures adopted by higher education institutions to compare performance against objectives, and to assure quality of education within the institution. Essentially, the goal of quality assurance systems is to provide appropriate evidence to measure the quality of education in any given institution, and so to enable key stakeholders to be confident of the management of quality in the institution and the level of outcomes achieved. Therefore, designing and implementing new quality assurance mechanisms and systems require a considerable attention to ensure high quality education which in turn provides students widely respected and recognized degrees

Another interesting system approach is the Total Quality Management (Ulewicz, 2013), where the desired quality (excellence of graduates) is obtained through the full participation of all interested in the process. In this case, the main motive for action of the institution's management staff, faculty, and university is to satisfy the needs of interested sites and directing all activities on the acquisition and maintenance of such quality.

Jubail Industrial College (JIC) realized the importance of educational quality assurance procedures in monitoring all activities with the overarching goal of continuous improvement. This study aims at sharing JIC's quality assurance procedures at the Education and Training Affairs, with the hope of promoting and encouraging quality assurance and quality procedure initiatives throughout Saudi Arabia. As a result of the development of Education and Training Affairs (ETA) quality assurance procedures, there have been neither studies nor a brief description as to the overall state of quality assurance procedures at the JIC. This study aims to focus on the role of ETA quality assurance (ETA-QA) procedures plays in JIC, and the implementation of those procedures in the chemical and process engineering technology department.

ETA is a prominent body where most of the academic and training functions and activities take place. The college provides a high standard of the well-known North American educational and training style in the areas of engineering technology (chemical, electrical, and mechanical), information technology, and business administration. More than 7500 students and trainees (from petroleum, petrochemical, and chemical industries) benefit from these educational and training programs. JIC aims to shape Saudi Arabian graduates into multiskilled professionals and dynamic leaders. ETA at JIC adheres to and adopts the international standards set by different accreditation bodies such as ABET (Accreditation Board for Engineering and Technology), CCTT (Canadian Council of Technicians and Technologists), and ACBSP (Accreditation Council for Business Schools and Programs) in its programs. Additionally, the ETA designs and delivers technical education and tailored made special training programs of merit through its five academic departments General Studies Department, Mechanical and Manufacturing Engineering Technology Department, Electrical and Electronics Engineering Technology Department, Chemical and Process Engineering Technology Department, Management and Information Technology Department and Academic Planning and Scheduling Unit that supports the academic departments in scheduling and planning. It is important to mention that the quality procedures at JIC have streamlined complex activities and facilitated the accreditation of the academic programs that have been mentioned above. Thus, adopting JIC quality procedures in any institution will enhance productivity, efficiency, and quality of education and training.

Literature Review

Practices and approaches pertaining to quality assurance have been present in the manufacturing industry where such mechanisms have been put in place to check if the production of goods meets public demand and consumption (Dill, 2010). In higher education, the concept of quality assurance has been limited due to the academic freedom rationale (Lagrosen, Seyed-Hashemi, & Leitner, 2004). As universities' culture is often based on individualism (Colling & Harvey, 1995), it is usually difficult to apply quality practices that require teamwork to higher education (Boaden & Dale, 1992). However, the need of having suitable program accreditation has pushed many educational institutions to assure the quality of their existing education system. Ideally, quality in a university is achieved by carrying out the core functions effectively and efficiently. These core functions include teaching, research, and community service (Bowden & Marton,

1998). According to Wong (2012), demonstration of value and performance is important for any institution. He states that higher education organizations apply quality principles to private industries to assess quality initiatives.

Undergraduate students are considered the prime customers in universities (Maria Cubillo, Sanchez & Cervino, 2016), where they select and purchase educational services (Oosterbeek, Groot & Hartog, 1992). Mazzarol (2017) also argued that students' satisfaction only lasts for a short period of time. Parameswaran and Glowacka (2015) indicated that the performance of quality of service providers in higher education can be solely based on and measured by student satisfaction. Elassy (2013) mentioned that students' involvement in the QA process is very beneficial and may enhance the quality of their educational institution. Students' introduction to quality assurance and their participation in the quality assurance activities improves the QA process (Ryan, 2015). In the light of the growing diversity in the course offerings in the higher education institutions, students' choice is subtly affected by the level of quality assurance in an institution. Furthermore, Owlia and Aspinwall (2016) assumed that the satisfaction of the academic staff members is the main factor that shapes the accuracy of provided services.

Harman (2000) noted that quality assurance reflects public accountability and particularly satisfying taxpayers' value for money. Harman (2000) also concluded that quality assurance was influenced by certain pressures and tensions regarding the lack of employment faced by the growing number of graduates. Pressures and tensions ultimately lead higher education institutions to rethink and redevelop their visions and missions, and perhaps even their quality assurance models. Furthermore, Harvey and Green (1993) explored the nature and usage of quality assurance in relation to higher education. Furthermore, Schindler, Puls-Elvidge, Welzant, and Crawford (2015) highlighted the four different conceptualizations of quality: Purposeful, Transformative, Exceptional, and Accountable quality. The stakeholders involved when defining quality are providers, students, employers, and employees. Conclusively, when adopting QA it is important to consider the stakeholders and ensure the delivery of the four conceptualizations of quality. Future studies on quality assurance should pay attention to exploring the reasons why the external quality assurance schemes can (or cannot) lead to institutional improvements (Liu, Tan & Meng, 2015). A study conducted in Finland found out that external quality assurance may be time-consuming and possibly increasing the bureaucracy (Huusko & Ursin, 2010). On the other hand, Shah and Nair (2011) found that strategic planning along with external quality audit could improve the performance of the educational institution by time if academic staff members were involved in strategy implementation, reviews, and ongoing improvement. In the Saudi Arabian context, only one detailed general study on quality assurance in higher education was identified. Darandari et al. (2009) discussed how educational institutional growth in Saudi Arabia generated the need for quality assurance, and prompted the development of the National Commission for Academic Accreditation and Assessment. Therefore, describing JIC-QA procedures may increase the quality awareness among other colleges and universities in Saudi Arabia and encourage them to implement similar or related procedures.

Theoretical Framework

A common framework for quality assurance procedures that bears in mind all stakeholders including academic staff and students is required. There are many theories that inform practice in relationship to Quality Assurance in education. However, this paper derives its theoretical bases from the Human capital theory. The human capital theory (HCT) assumptions suggest that education or training has great potential for stimulating economic growth, progress in technology and productivity (Tittenbrun, 2017). Shabir, Abbas, Hamad, Iqbal, and Alamgir (2014) argue that there is a compelling indication of the relationship between technical education, training, funding, technology and preparation of graduates for work. The analysis of human capital assumes that individuals' decision on their education, training, health care is based on benefits and costs (Becker, 1993). The greatest evidence is that people earn on the basis of their education. The more educated are the people, the more money they tend to earn. This scheme can be clearly seen in the developed countries as well as in the developing countries (Becker, 1993). Therefore, countries achieve economic growth when they invest a substantial amount in their human capital (Becker, 1993) and educate their workforce to increase employment and sustainable economic development.

With the unwavering support of its parent organization, the Royal Commission for Jubail, JIC has a great responsibility in investing in its human capital. The study conducted by economic thinkers such as Becker, Shultz, and Heckman (Krasniqi & Topxhiu, 2016) shows that investing in human capital is a prerequisite for achieving sustainable economic development. Thus, the assumption of this theory is that education and training has a great potential for stimulating economic growth and progress in technology and productivity. As such JIC education and training would provide industry with good workforce if quality assurance and management procedures are maintained, and this, in turn, will simulate economic growth. In our scenario we will intend to describe JIC educational quality procedures and sum out how they are implemented and the outcomes of their implementation.

Methodology

Qualitative approach was opted to conduct this research (Silman, Gokcekus & Isman, 2012). This study attempted to look at the JIC educational quality procedures, how they are implemented, and the outcomes of such implementation. The data on the outcomes of the procedures' implementation are collected from the office secretary files, which were

gathered from programs' course directors, special program coordinator, Student Information System (SIS) coordinator and co-op coordinator, in the chemical and process engineering technology department and presented as an example. Simply, the following sub questions have guided the study:

1. What is the current situation of the JIC educational quality assurance procedures?
2. How these procedures are implemented?
3. What are the outcomes of their implementation?

This paper follows a document analysis and descriptive approach. Document description is one form of a qualitative research (Bowen, 2009), and this kind of research involves reviewing and assessing a given topic in this case JIC educational quality assurance and management procedures. O'Leary (2004) mentioned that researchers must take into account the perspicacity of the author and how much value is brought to the research when beginning document description and assessment. According to Loeb et al. (2017), descriptive assessment plays a crucial role in the educational research and stands on its own as a research product. The number of procedures described in this paper range between 4 to 10 as recommended by Eisenhardt (1989).

Description of JIC Educational Quality Assurance and Management Procedures and Their Implementation

This paper gives a brief description of selected ETA JIC quality assurance and management procedures, Figure 2, and their implementation that have a great impact on handling major tasks in JIC education and training affairs. Although these educational quality assurance and management procedures are implemented in all departments under ETA deputyship, the data shown in Tables 1-6 are collected from the chemical and process engineering technology department programs only. These programs include the chemical engineering technology program (abbreviated as CHET), the polymer engineering technology program (abbreviated as POLY) and the industrial chemistry technology program (abbreviated as INCT). The presented info shows clearly that the above discussed quality procedures have streamlined faculty evaluation and promotion, and also students' assessments, students' industrial visits, and co-op students allocation.

The selection was limited to the students' assessment, support, information system, and learning resources, and teaching staff quality assurance as per the European internal quality assurance standards and guidelines within higher education institutions (ENQA 2009). The description includes:

- Procedures for the evaluation, motivation, and promotion of the teaching staff: Probation Period Evaluation (PPE, QP 313), Annual Employee Performance Evaluation (AEPE, QP 314), Excellence Award (EA, QP 315), Academic Staff Career Advancement (ASCA, QP 320), and Academic Promotion (AP QP 372).
- Procedure for students' assessment, learning resources, and students' support: Academic Advisory (AA, QP 302), Co-op Training (COOP QP 375), and SIS coordination (SISC, QP 307).



Figure 2. Selected quality procedures of education & training affairs at Jubail Industrial College

Evaluation, Motivation and Promotion of the Teaching Staff Quality Procedures

The key element in the evaluation of the teaching staff in JIC is to identify possibilities for development and improvement and based on their achievements they are rewarded and promoted. The role of the college procedures, shown in Figure 3, is to ensure that faculty members involved in the teaching of students are qualified and skilled in their area of specialization as well as having good knowledge and understanding of the subject they are teaching. More details on how this is conducted at JIC are described below and the implementation data are shown in Tables 1 & 2.

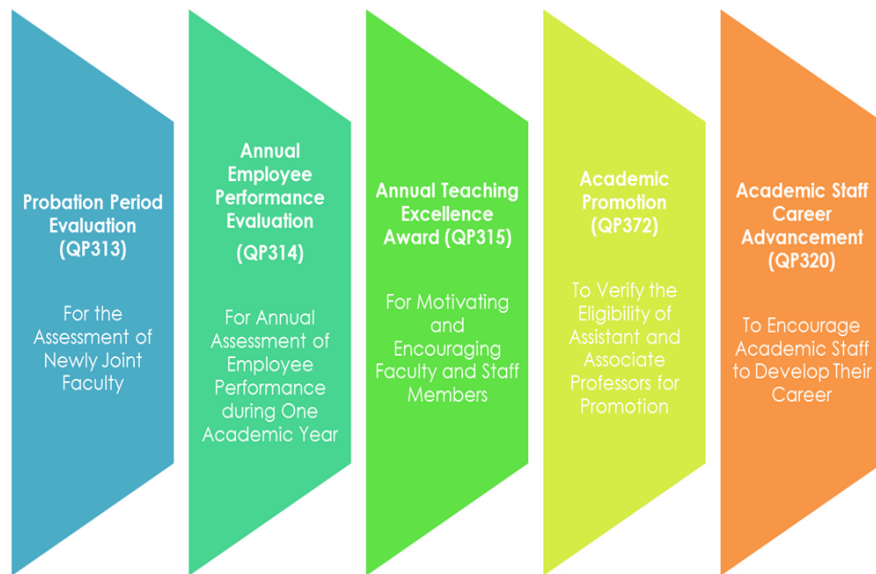


Figure 3. Education & training affairs quality procedures for evaluation and promotion

Probation Period Evaluation Quality Procedure (QP313)

The purpose of QP 313 is to assess whether a new faculty member is suitable and qualified for the job. The evaluation reports are based on in-class observation and outside class observations. These reports are completed and submitted to managing director's office during the probation period (three months period from the joining date) on a monthly basis. The evaluation is done independently and confidentially by the department chairman/director, department deputy, and course director of the concerned major, by means of three visits during the faculty probation. During the visits the faculty member is assessed on the basis of his English communication skills, classroom management, ability to encourage class participation, and availability of a clear lesson plan. The newly joined faculty is also observed outside the class for punctuality at work, ability to get along with fellow faculty, and capability to cope with JIC rules and regulations. After each classroom visit, the observer meets the faculty to go through the reported observations, gives him encouragement on positive scores, and feedback to improve in certain areas. After the meeting, an evaluation report is completed.

Annual Employee Performance Evaluation Quality Procedure (QP314)

QP 314 procedure is put in place to assure quality in the instructional and training commitment, and ensure that teaching runs smoothly, and all scheduled sessions are delivered in accordance with course objectives, descriptions, and subject requirements and to make sure that performance conforms to the staff assignment and the job description. The department chairman, department deputy, and course director jointly and mutually complete the "Annual Employee Performance Evaluation Forms". Teaching staff members are given back a grade according to their performance. Evaluation forms are then submitted to JIC Deputy, Education and Training Affairs, who occasionally might instruct the concerned department to reassess and change the evaluation and then he forwards the finalized ones to the Managing Director for approval. The Managing Director might request such evaluation grades to be changed, or form a special committee to re-evaluate any teaching staff members if needed.

Annual Teaching Excellence Award for Faculty and Performance Excellence Award for Admin Staff Quality Procedure (QP315)

The role of QP 315 is to motivate and encourage faculty and other staff members to contribute more, be actively involved and efficaciously participate in all academic activities. Every department nominates these faculty members who fulfill all the requirements for a teaching excellence awards whereas performance excellence award forms are filled out for administration staff based on the criteria concerned for both awards. Every chairman completes the "Teaching Excellence Award" forms for these faculty members who satisfy the above requirements, regardless of the number of nominees, ensuring that they are qualified and eligible for the aforesaid award. The forms are forwarded to the JIC Deputy, Education and Training Affairs, by week 15 of the second semester for approval. JIC Management studies the cases and approves those eligible faculty members in every department and gives financial awards to the selected faculty and staff members. The announcement of the said outstanding faculty members is made during the "Proud of You Ceremony" held at the end of the same academic year after the completion of the final exams of the second semester.

Table 1: Academic Evaluation and Excellence awards for Faculty and Staff Members of the Chemical and Process Engineering Technology Department

| Academic Year | Number of faculty members evaluated and their grade | | | | Academic Staff newly joined and under probation | Number of faculty members awarded from Chemical department | Comments |
|---------------|---|------|-----------|-----------|---|--|---|
| | Fair | Good | Very Good | Excellent | | | |
| 2017/2018 | 0 | 0 | 12 | 39 | 2 | 7 | The number of faculty members in the department has increased from 53 (2018) to 60 (2019) |
| 2018/2019 | 0 | 0 | 12 | 46 | 2 | 10 | |

Academic Promotion Quality Procedure (QP 372)

QP 372 document is created to ensure that the promotion requests of faculty members are comprehensively studied and evaluated prior to the submission to the College Council and to verify the eligibility of the applicant and availability of the required documents as per the criteria and requirements set by the Royal Commission (RC) Scientific Council. An applicant submits his application for promotion to his department chairman. The department chairman presents the application to the department council for discussion and recommendation. The completed application with all relevant forms and documents, after department council approval, is submitted to the College Deputy for Education and Training Affairs (ETA) who forwards them to the academic promotion committee (APC). The APC checks the authenticity of the documents and applicant's eligibility as per the criteria set by the Royal Commission Scientific Council. Successful applications will be submitted to the Deputy for Curriculum and Quality Assurance (CQA) by the Academic Promotion Committee. The Deputy for Curriculum and Quality Assurance will carry a final check of the application and forward it to the College Council for approval.

Academic Staff Career Advancement Quality Procedure (QP320)

QP320 procedure is implemented to encourage JIC academic staff and lab technicians that are not included in the academic promotion procedure QP 372 and to develop their career and contribute towards educational activities. Academic staff member can be considered for career advancement to a higher grade after four years, provided that his annual employee performance review is not less than "Very Good" for the last two years. The department chairman presents the application to the department council for discussion and recommendation. Complete applications with all relevant forms and documents are submitted to the College Deputy for Education and Training Affairs (ETA). The ETA College Deputy forwards the completed application to the Academic Promotion Committee (APC) which in turn checks the authenticity of the documents and applicants' eligibility as per the criteria set by the Royal Commission. APC sends successful applications with all relevant forms and documents to the Deputy for Curriculum and Quality Assurance (CQA) for a final check. The CQA Deputy forwards successful applications to the College Council for further processing and approval.

Table 2: Chemical and Process Engineering Technology Department Faculty and Staff Members Promoted by Royal Commission

| Academic Year | Number of Faculty Promoted by Royal Commission | Number of Chemical Department Faculty Promoted out of 8 | Number of Career Advancement Cases Approved by Royal Commission | Number of Chemical Department Approved Cases out of 12 |
|-----------------------|--|---|---|--|
| 2017/2018 & 2018/2019 | 8 | 4 | 12 | 4 |

Students' Assessment, Students' Learning Resources, and Students' Support

Student assessment and support procedures assess how the intended course's learning outcomes and supporting programs' objectives are achieved. In addition to their academic advisors and teachers, students use a range of resources to assist their learning. These resources vary from libraries, computing facilities, tutors, to short industrial visits and long co-op trainings. Jubail industrial college has implemented a set of quality procedures, shown in Figure 4,

to achieve the above mentioned goals. In the coming pages, our discussion will be mainly focused on those procedures. Their implementation data are also presented in Tables 3, 4, 5, and 6.

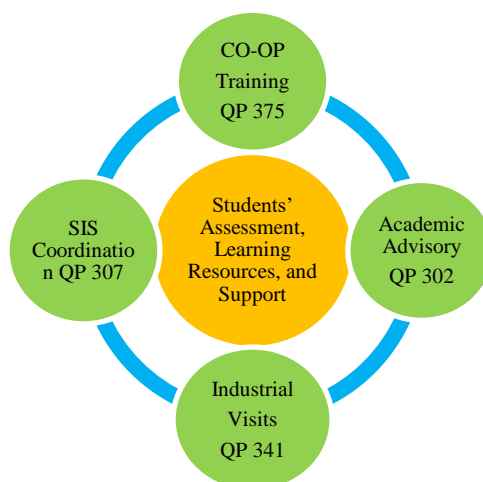


Figure 4. Students' Assessment, Students' Learning Resources, and Students' Support

Academic Advisory Quality Procedure (QP302)

QP 302 is meant to guide students in their academic choices towards achieving the requirements for successful completion of their degree and also in pursuing their career goals. Under this procedure, the advisor and advisee work closely together to achieve intended goals and objectives. The advisor offers assistance in the form of suggestions, questions, critiques, encouragement, and guidance to help students define and achieve their educational goals. Advisors also allot sufficient time for individualized assistance to enrich and enhance each advisee's academic pursuits and development and help him to develop realistic educational and career goals.

Table 3: Academic Advisory Provided to Advisees (Students) by Academic Advisors

| Academic Year | Average Number of faculty and academic staff acted as academic advisors per year | Average Number of students served per academic year | | |
|-----------------------|--|---|------|------|
| | | INCT | CHET | POLY |
| 2017/2018 & 2018/2019 | 49 | 165 | 283 | 169 |

Cooperative Training Program Quality Procedure (QP375)

QP 375 deals with students cooperative programs to ensure the efficient and successful operation of the cooperative (co-op) training program according to the college co-op training guidelines. It guides the students during their co-op training stages to ensure that they follow their plan correctly. The Cooperative Training Program lasts fifteen to eighteen (15-18) weeks and is distributed as follows:

- Twelve to Fifteen weeks of on-job training in the designated company/institution.
- One week for writing and submission of final report.
- Two weeks for the oral examination, grading, and finalization of the CO-OP grade in SIS system.

Table 4: Co-op Training Allocation for Chemical and Process Engineering Technology Students in Highly Reputable Companies

| Academic Year | Number of students assigned to companies for coop training | | | Companies and technology centers received our coop students |
|---------------|--|------|------|---|
| | INCT | CHET | POLY | |
| 2017/2018 | 5 | 26 | 9 | Dow Chemicals, Saudi Kayan, Sasref, Chevron, Sipchem, Sahara Petrochemical Company, S-Chem, United Petrochemical Company, Sadara, Marafiq, Shlumberger (STPC), Napco National, Satorp, SABIC, Sasref, Royal Commission, Sipchem, Dow Specialties Limited. |
| 2018/2019 | 31 | 79 | 35 | |

SIS Coordination Quality Procedure (QP307)

QP 307 is set to ensure that the info in the Student Information System (SIS) is updated and accurately entered by the SIS Coordinator. The SIS coordinator is provided with full access to all SIS screens, and carries out the following tasks:

- Enter, change, or update scheduling information for students and faculty members including reserved classrooms or labs, and new courses or amendment of current courses.
- Assist academic advisors when conducting students pre-registration or amending students' timetables.
- Assist course directors in filling out the scheduling forms or conducting any required transactions.
- Solve any problems encountered in the course registration form (CRF) as well as on the staff timetable.
- Complete, update, and follow up on academic staff information in the college staff screens and make all needed amendments after the completion of scheduling such as staff replacement or swapping, change of section time or location, opening new sections, consolidation or cancellation of sections, change of CRF.

Table 5: Chemical and Process Engineering Technology Department SIS Coordination Transactions during Registration Weeks of Academic Years 2018-2019

| Person in Charge | Average number of transactions per year | | Services provided |
|------------------|---|-----------|---|
| | 2017/2018 | 2018/2019 | |
| SIS Coordinator | 150 | 200 | Change of section, drop/ add courses, courses' selections |

Industrial Visits for Students Quality Procedure (QP341)

QP 341 procedure is designed to help students get acquainted with the industrial environment and enhance their practical training. The priority is always given to the prospective graduates and those pre-registering to the co-op program. Various levels can be consolidated in one visit provided that they are homogeneous and from the same discipline. The number of students in any visit must not exceed 30. Every academic advisor maintains a record or file to ensure that students fulfill the visit requirements, and the assigned number of visits are achieved. Visits are usually scheduled by academic departments from week 9 to week 14 of each semester.

Table 6: Industrial Visits by Chemical and Process Engineering Technology Department Students

| Academic Year | Number of faculty and academic staff involved | Number of students involved | | | Companies and technology centers visited |
|---------------|---|-----------------------------|------|------|--|
| | | INCT | CHET | POLY | |
| 2017/2018 | 19 | 43 | 49 | 36 | SABIC Technology Center, Tasnee Company, Dow Chemicals, Saudi Kayan, Sasref, Chevron, Sipchem, Sahara Petrochemical Company, S-Chem, Ingenia Polymers, United Petrochemical Company, Sadara, AR Razi Saudi Methanol Company, |
| 2018/2019 | 21 | 36 | 45 | 33 | Saudi Kayan, Sasref, Ingenia Polymers, Tasnee Company, Royal Commission Environmental Laboratory, Sipchem, Sahara Petrochemical Company, Sadaf |

Conclusion

Quality assurance procedures within any academic institutions are in essence beneficial, as they ensure quality in the educational process and keeps it well maintained. Internal quality assurance policies and practices are implemented by academic institutions themselves to monitor the quality of their education. Such procedures concentrate on academic program reviews, students' support, and self-evaluation. JIC has set a number of quality assurance procedures within deputyships, units, and departments. Those procedures monitor and assure the quality of the work within the college. As literature shows there is no one unique set of quality assurance and management procedures to follow. Each institution tries to establish quality assurance procedures for its own continuous improvement; the JIC ETA QA set of procedures can ultimately be an example that others can learn from to improve their quality of education.

Implementation of such QA procedures locally within Saudi Arabia or even in Gulf countries is good practice and has the potential to lead to the improvement of educational services in this part of the world.

Results

This paper has discussed only selected quality assurance procedures of the education and training affairs at JIC and elaborated on the implementation of the said procedures in the chemical and process engineering technology department as an example. Quality procedures helped to facilitate work in the department and improved follow-up and review processes. These procedures have also helped in streamlining students' industrial visits and co-op allocations. By implementing such procedures, faculty evaluation and promotion have become routine work without any difficulty.

Recommendations

- Academic institutions should have procedures within the range of quality and standards of their offered programs and they should commit themselves to spread the culture of quality.
- Academic institutions should have mechanisms for approval, periodic review, and monitoring of their programs.
- Students should be evaluated according to clear and consistently implemented criteria, rules, and procedures.
- Academic institutions should ensure that academic staff members have adequate qualifications and competences.
- Resources to support students' learning must be appropriate for each academic program.

Supplementary Materials

Original PDF copies of the above described quality assurance procedures are available upon request.

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Compliance with Ethical Standards

Conflict of interest: The author declares no potential conflicts of interest with respect to the authorship and/or publication of this article.

Informed Consent: All procedures reviewed in this article were in accordance with the ethical standards of JIC and has been approved by JIC management.

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