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Factors affecting Bologna process course registration in Architectural Engineering Department-Salahaddin University

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ABSTRACT:

Developing the traditional higher educational system towards the bologna process is considered the instruction for reshaping the higher education system in Kurdistan. This transformation faced crucial difficulties in terms of course selection in Kurdistan universities. This study aims to explore thoughts, obstacles, and difficulties that face students in terms of course selection. Further, it tries to formulate an equation of operative factors that affect course selection in a bologna process system. The rationale behind applying the bologna process in Kurdistan is related to creating a common higher education area which intended to increase mobility and inclusive comparability of programs within similar higher education institutes in the region and European Union universities. More precisely, the intention is to indicate how the Bologna process course selection has affected what goes on in the classroom by comparing select aspects of studying in both pre-and post-Bologna times at Salahaddin University College of Engineering. The methodology of this study is a questionnaire-based cross-sectional survey of a random selection of architectural engineering students plus intensive interviews with experts in the field of architectural engineering. Regression analysis is applied to indicate the most operative factors among predictors (course factors, social factors, and individual factors). Results specify that these factors have an equivalent consequence on course selection and positively affect the student's academic performance, on the other hand, the bologna process is one of the effective factors in improving Kurdistan's higher education as a comprehensive accreditation system.

Introduction

What is Course registration?

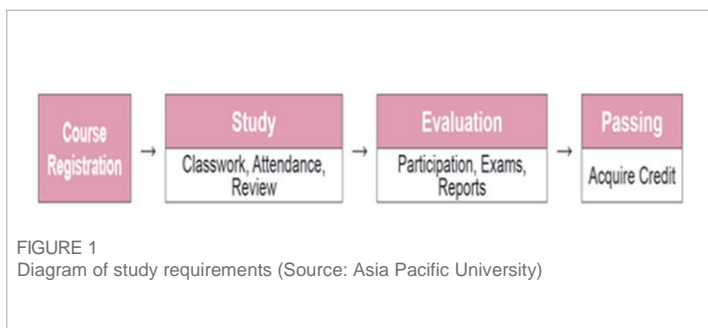
Based on the Law Insider dictionary Course Registration means the registration of a course enrolled by a student throughout his candidature at the University while subject registration is a process for students to secure their place and subjects for the designated semester. Course registration is the procedure by which each student registers for a particular class based on the declaration of intent. It is a repetitive process that is conducted at the start of each semester. Students should register for the Study Program, which is going to be presented by the University at a certain time. It is the most significant portion of course planning, and completely essential to attend classes, receive credit, and graduate.

Transfer and Accumulation System (ECTS) as a uniform method to measure and equate the workload of students in higher education. (Kok and wagender,2023; Rajab,2023; Zahavi and Friedman 2020).

After the registration process, students are requested to select courses before every semester. Course selection is a process of choosing subjects that support interested fields of study and shed light on future working conditions. Students need to recognize their desire and have clarity about the course that marks their future.

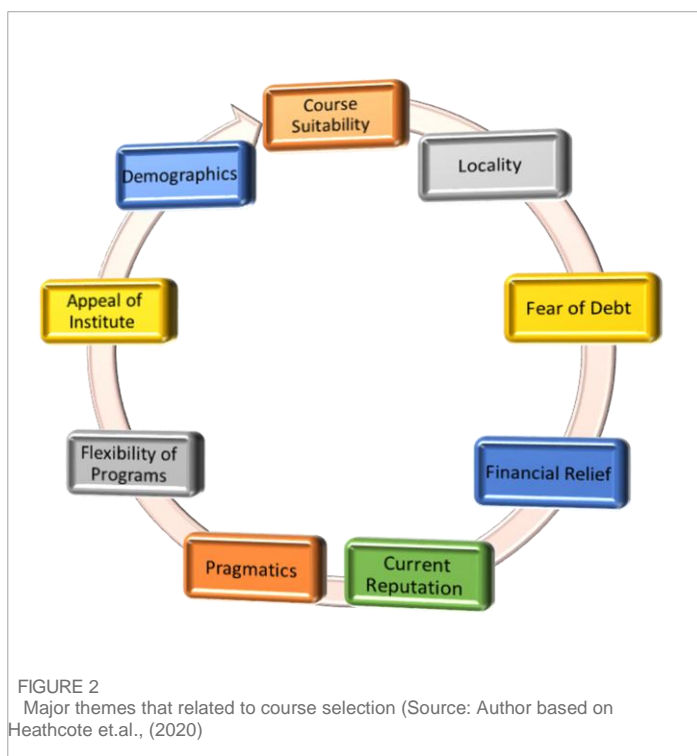
Factors Affecting Course Selection

Course registration is a mission that students face during the academic semesters. The registration process will ensure that all students can participate in the process to schedule the course (Faraj, B. & Muhammed, A. (2021). The Bologna process system in the College of Engineering /Salahaddin University is designed to support students in creating suitable decisions by providing them with printed catalogs. These booklets include data about each available course containing passing rates, average grades, and the number of students in each subject. On the other hand, an online registration system provides the features of activity registration, attendance controlling, badge management, and calendar organization, before starting any semester, data about each available course including passing rates, average grades, and the number of students for each subject will be declared in college website (course description) as well as departments notice boards. The mobility of staff and students is one of the essential basics of the process, increasing international cooperation between individuals and institutions, enhancing the quality of higher education and research, and creating opportunities for personal growth (Enders. J., et al (2006); Crosier, D., L. Purser and H. Smidt (2007); Reichert, S. (2009). Credit base is Bologna processes scenario toward openness, transparency, and quality assurance and it is an opportunity for young fresh graduates to find out suitable work choices.



It is interesting to note that in the College of Engineering Salahaddin University, the course registration system supports the students to gather information about a particular course and then they can register themselves in a specific course. The registration systems will run a wider registration base with more information. It offers online presentation products, and titles the activity module allows users to quickly set up registration processes, classes, activities, and events.

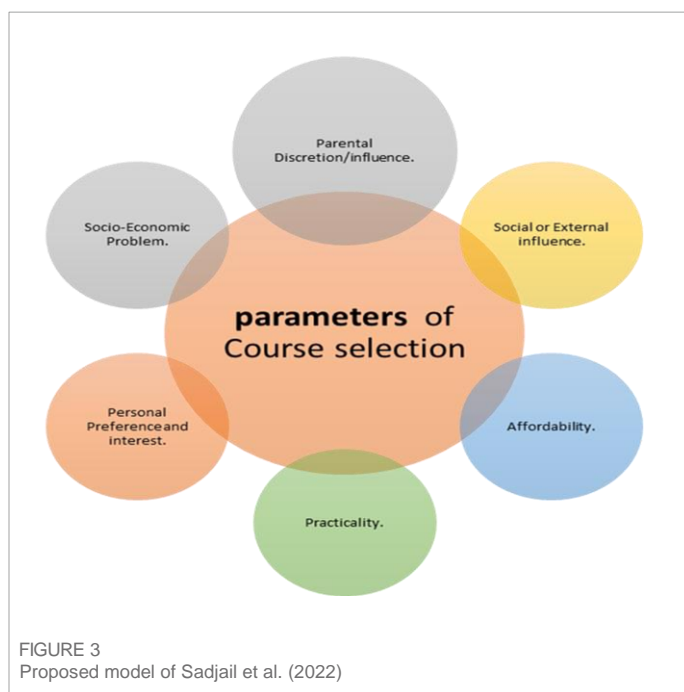
The main idea behind establishing the Bologna Process is interrelated to fortify the competitiveness and attractiveness of European higher education. It aims to raise student mobility and employability through the overview of a system based on undergraduate and postgraduate studies. The Bologna Process presented the European Credit



In studying the most relevant models, Heathcote et al., (2020) indicate nine major themes that related to course selection. These subjects (figure 2) can be formulated as follows: - course suitability, locality, fear of debt, financial relief, current reputation, pragmatics, flexibility of programs, appeal of institute & and demographics.

In parallel, Sadjail et al. (2022) suggest another model regarding factors influencing *students in choosing their college course*. The model includes six parameters as clarified in (Fig.3). The study concluded six parameters that influence course selection. These parameters can be classified as parental discretion influence, social influence, and affordability. practicality, personal preference, and socio-economic issues.

Whereas Al-Sarem,2017 clarifies that course selection can be refined in a model of three pillars which are course factors, social factors, and individual factors as clarified in Figure 4. The study reveals that students have a chance to register for a specific course based on several sub-factors which affect either negatively or positively on the students' performance. Naz et al., 2014 indicate that



most of the decisions are dependent on ability, education, teacher advice, level of counseling with peers, and even the cultural and familial background of friends. While Cat Reynolds believes that after the first semester, students will begin to make more informed and independent course choices based on parameters (figure 5): - the difficulty of the course, who's the lecturer, College requirements, Schedule and Course availability, and personal interests (Dean.M.,2018; Echchabi, A., & Al-Hajri, A.,2018).

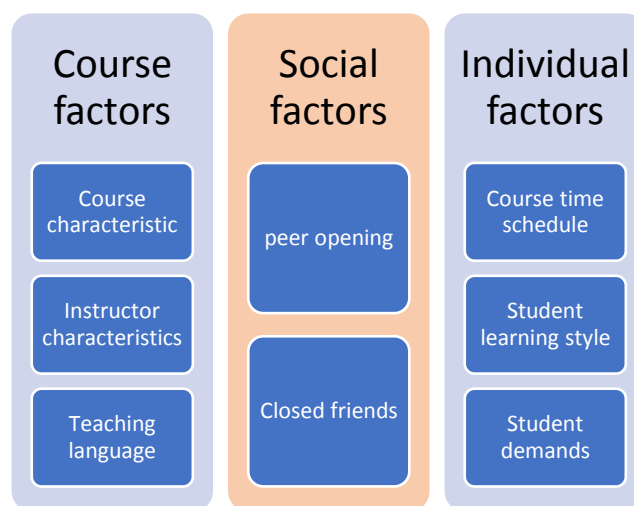
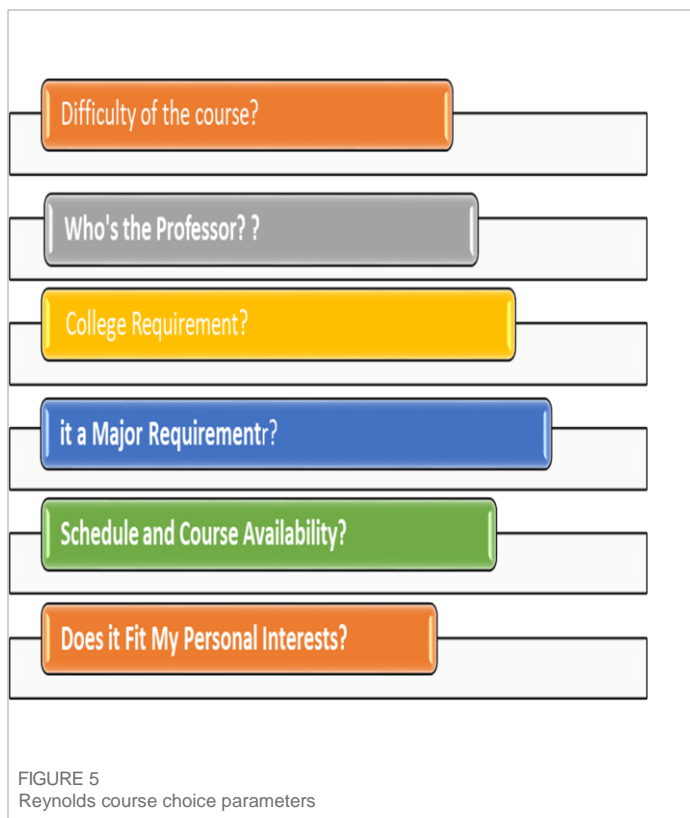


Figure 4. Al-Sarem Model regarding course selection



It is interesting to note, that the first year Course selection at Salahaddin University/college of Engineering is a simple task as the university advisors will guide the students to select suitable choices by providing them with organized and investigated data about each available course including pass rates (figure 6), average grades, the number of students who have registered for the course or reviewed the course favorably and the number of subsequent courses for which the selected course is a prerequisite.

The applied software system (as a cooperation between the private sector and university experts) shed light on previous data that organizes course registration and all necessary data from spring 2016 till now. The program will ensure the delivery of accurate results and reduce academic advisor's duties.

Research problem

Applying the bologna process system in Kurdistan faced many difficulties. One of these challenges is course selection due to altered factors in the educational environment that may affect student's performance. Based on the above, the research question can be articulated as follows: -

SEMESTER AND EXAM REGISTRATION 2021-2022

1. Student should register at the beginning of each semester.
2. Dropping module will not affect the student records.
3. Self-funded Students should pay the semester fees prior to the start of each semester.
4. Students who have not paid the total semester fees cannot register for exams.
5. Student should register for an exam during the designated exam registration period.
6. Student can withdraw from registered exam one week prior to exam date.
7. To register to an exam, the student should fulfill the requirement pre-specified by the module professor. Otherwise, the exam registration will automatically be cancelled.

FIGURE 6
Salahaddin University registration regulation

Q1 What are the considerable factors that affect course selection?

Q2 Which factor has the most influence on course selection in the case of Salahaddin University?

Q3 What is the affiliation between student motivations and choice of study program?

Q4 Are course selection procedures will enhance obtaining job opportunities?

Research methodology

This study is a questionnaire-based cross-sectional survey of a random selection of Architectural Engineering students. The core of this research is to build a framework that aims to help and support the students during the registration process and course selection. During the registration period, at Salahaddin University students should determine which courses will be taking or dropping within the available registration system. For the study, a structured questionnaire survey was conducted to generate statistics. Therefore, the survey is a self-administered questionnaire with multiple choices of questions. The data from the questionnaire aim to be divided into two broad analyses which are descriptive analysis and regression analysis.

Descriptive analysis: to explore the phenomenon of shifting educational systems from an ordinary semester-based system to a bologna system and its effect on student achievements using frequencies, means, and standard deviations.

Regression analysis: The general purpose of multiple regressions in this study is to test the relationship between independent or predictor variables ((course factors, social factors, and individual factors) and a dependent or criterion variable (The objectivity of course selection).

This survey in Google form distributes the link of the questionnaire to the respondents of higher-level architectural students (3rd,4th, and 5th-year students), and the second group consists of teaching staff who are currently working at Salahaddin University. Therefore, a total of 112 survey forms were distributed to be treated statistically. A total of 76 filled questionnaires were returned and available for analysis. The advances in the technological online survey will support the idea of developing user-friendly web-based questionnaires.

Results and discussion

1.Descriptive Analysis

To clarify the main objective of this study following research questions are formulated to find the effects of student perceptions on course selection at Salahaddin University/college of Engineering. This section will illuminate the main aspects of course selection based on respondents' perspectives and experts' points of view.

The positive opinion of respondents was the main finding of this research as they clarified that the main purpose of traditional higher education is to pass on the values, manners skills, and social practices to the next generation which is necessary for their existence while the reform of modern education (bologna process) is a key toward successful learning mobility, cross-border academic collaboration and the common acknowledgment of study periods. On the other hand, enhancing the quality and relevance of learning and teaching is also a core mission of the Bologna Process

International competitiveness: The qualitative results show that more than half (53.9 %) of the

respondents believe that the bologna process is one of the effective factors in improving Kurdistan's higher education while most of the academic staff (through the direct interview) clarify that applying such concepts without strong infrastructure bases will lead to a state of chaos and decrease its international competitiveness. They believe that technological and management capabilities are the main factors towards International competitiveness. Moreover, the Bologna Process as a comprehensive accreditation system will guide universities to implement an outcome-based education system which is necessary to be developed in the Kurdistan education system. This scenario will create a real learning environment for the students and prepare them to face a challenging world after graduation.

Motivation choice of study program: Results show that less than half (42.1%) of the respondents agreed that the process of course selection positively affected their academic performance, whereas 36.8% came to an agreement that course selection has no impact on academic achievements and only 3.2% of the respondents believed that there is no relation between academic performance and course selection. In this regard, most of academic staff simplify that course selection is a procedure that assists students to obtain new skills and expand their technical proficiency. These courses also give the lecturers superiority in terms of information growth as they reflect an attitude of a resourceful learning environment.

Job opportunity: Most of the respondents especially in the architecture department believe that course selection will guide them to get a job after graduation because gaining knowledge, skills, and experience in the universities will increase the chance of receiving a job in the local market. It is obvious that by gaining additional skills in communication and problem-solving and achieving goals, graduate students can find more opportunities in the Kurdistan marketplace and also increase their confidence. In contrast, the fact is that approximately 63% of college graduates are unemployed or working in a job

that doesn't require a bachelor's degree. Researchers in the field of architecture engineering reveal that a promised learning environment increases students' attention and focus, endorses meaningful learning experiences, encourages higher levels of student performance, and motivates students to practice critical thinking skills. It is interesting to note, that learning helps students become more open-minded by evolving a growth attitude toward adaptable strategies in workplaces. The first step to choosing a career is figuring out what your skills are and what you studied in university.

Traditional system versus Bologna process system: The traditional (annual or semester-based education systems) in Kurdistan universities depend on accumulating subjects that have been recorded in the department curriculum (Faraj, B. and Muhammed, A.,2021). Hence, students are forced to take all requested subjects to fulfill department requirements to obtain a degree. Course selection was rarely found in a few subjects within overall program subjects. Traditionally Higher Education in Kurdistan universities was the imparting and acquiring of knowledge through teaching and learning. Traditional Formal education refers to the process by which lecturers instruct students in courses of study within universities. The main purpose of traditional higher education is to pass on the values, manners skills, and social practices to the next generation which is necessary for their existence. This type of education is mostly imparted to the students using oral presentations with less practical work. The students simply sit down together and listen to the professor or assistant professor who will recite the lesson. The reform of modern education (bologna process) is a key toward successful learning mobility, cross-border academic collaboration, and the common acknowledgment of study periods. On the other hand, enhancing the quality and relevance of learning and teaching is also a core mission of the Bologna Process. The qualitative results show that two-thirds (67.1 %) of the respondents prefer the bologna process

scenario while only (26.3%) of respondents desire to study in classical courses and only (6.6%) haven't decided yet which system is proper. Student-centered learning provides students with two objectives: the first is related to what material they learn and the second objective is interrelated to how they learn it. This approach will involve students as leaders and decision-makers in their own learning environments. It means that students propose their research, suggest a solution, connect their ideas to university lecturers, and evaluate their progress. On the other hand, lecturers will guide this process, but the content, effectiveness, and motivation are related to the students themselves.

The positive and negative impacts of the bologna process: Based on the below statement (Bologna' aims to facilitate and promote greater mobility so that students will acquire the skills employers are looking for, such as cultural maturity, increased confidence, and language skills (Zare. A and Shekarey, A.,2010; Shallal, M.,2019). This statement means that the Bologna process contributes to openness, transparency, mutual recognition, quality assurance, and clear adherence to credit. The Bologna process helps universities prepare graduates for work in a gradually competitive environment. It is main positive pillars are Quality Assurance, credit transfer, and mobility with credits for individual modules at specific levels, depending on the year of study, first, second, third, etc. The total number of credits for a Bachelor's degree is usually somewhere around 180-240 ECTS. Most of the respondents think Bologna carries huge benefits. But the only negative impacts of the bologna process can be reflected as a unification of university programs (Songan, P., et.al,2010). The process of merging programs under one umbrella will interpreted as a standardization of university education and guides toward missing institutional autonomy. The risks are that some of the private universities play fast and loose with these frameworks and offer courses that undermine the spirit of Bologna. Quality evaluation (Participation in the Bologna Process): Student participation in quality evaluation is one of the

key elements of Bologna Process success. Normally most of the students at Salahaddin University participate in quality assurance practice by evaluating the performance of teaching staff through a democratic voting system. This process aims to spread a culture of quality higher education and to increase students' competence in the field of quality assurance. Results indicate that students can be classified into two categories: the first is related to students as key institutional actors while the second is considered as consumers of higher education. In this regard, the quality assurance system in Kurdistan universities is built on the attitude of improving the educational process and including the mandatory elements of internal, and external quality assurance.

Working conditions for academic staff: The main duties of the academic teaching staff at Salahaddin University can be considered as the enhancement of the learning environment through instruction and scientific committees that support the university mission. In principle, members of the teaching staff are responsible for effective classroom teaching, academic advising, participation in departmental committee works, curriculum development, and continued scholarly activity through research (Sabir, R., et al,2013). After applying the Bologna process respondents noticed that academic workloads increased dramatically which led to less freedom to follow their research interests and the overall picture provided by the respondents gives the impression that the pressure on academics has increased after applying the Bologna process, especially office work.

2. Multiple Regression Analysis

This investigation is applied to predict the dependent variable based on its covariance with all the concerned independent variables and articulate an equation that characterizes the best prediction of The objectivity of course selection. The collective effect of the independent variables formulates the mathematical formula of the study. Hence, the multiple regression analysis was employed to determine the variance of each component of course selection factors. Three parameters were used as independent variables, and The

objectivity of course selection was set as the dependent variable. The recommended model was performed by determining the collective effect of the independent variables namely, (1) course factors, (2) Social factors, and (3) Individual factors toward the overall perception of the objectivity of course selection. In light of the above, a regression model was developed to settle the relationships between variables. The model is as follows:

$$\text{Course selection} = \beta + \beta_1 \text{ course factors} + \beta_2 \text{ social factors} + \beta_3 \text{ individual factors} + \varepsilon$$

Where, Course selection = The objectivity of course selection

β = constant

ε = standard error

The model summary is presented in Table 1 and the summary of multiple regression analysis is presented in Table 1. Therefore, the R² for this model is 0.758 (Adjusted R²= 0.748), indicating that the house façade modernity factors explained 75.8% of the variation toward the objectivity of course selection

In terms of importance, the course factors ($\beta = 0.451$, $p = 0.000$) and the "Social factors" ($\beta = 0.317$, $p = 0.000$) have significant positive associations with the objectivity of course selection. These results reveal that the "Course factors" parameter is the most influential in interpreting the objectivity of course selection because every unit of change in this parameter is associated with a 0.541 change in the objectivity of course selection. While every unit of change in the "Social factors" parameter is related to a 0.317 and every unit of change in the "individual factors" parameter is related to a 0.234 change in the objectivity of course selection.

Table 1. Model Summary of Multiple Regression Analyses between Dependent and Independent Variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.870(a)	.758	.748	.32604

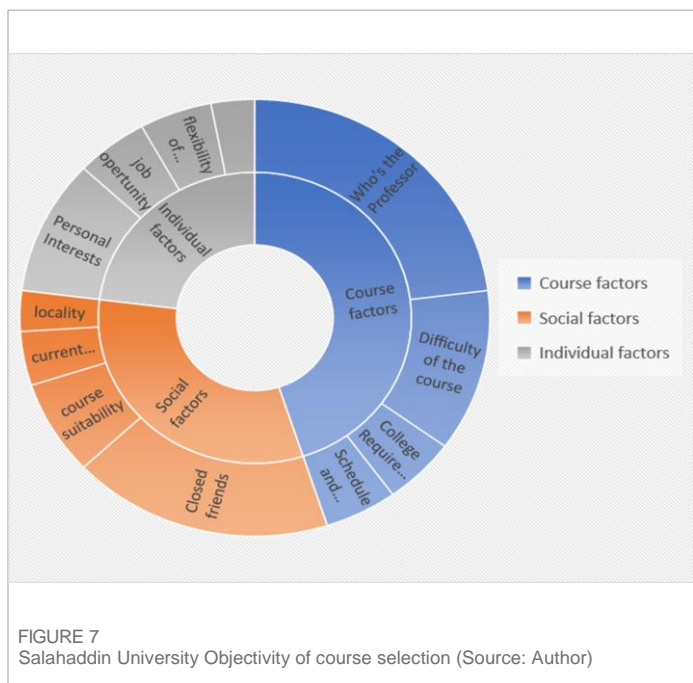
Predictors: (Constant), course factors, social factors, individual factors
Dependent Variable: objectivity of course selection

Table 2. Highlights the results from the multiple regression analysis.

	β	Std. Error	Standardized β	t	p
(Constant)	0.101	0.195		0.517	0.607
Course factors	0.541	0.067	0.501	6.722	0.000
Social factors	0.317	0.084	0.299	3.798	0.000
Individual factors	0.234	0.061	0.254	3.831	0.000
$R^2=0.758$	Adjusted $R^2=0.748$	Significance $F=.000^*$			

*Significance at the 0.05 level

The beta values represent the unique contribution of each variable and formulate the final equation of the model which is as follows: Objectivity of Course selection = 0.101 + 0.234 Individual factors + 0.317 Social factors + 0.451 Course factors + 0.195



Conclusions

The adoption of the Bologna Process path in Kurdistan universities will not be successful without providing a scientific educational base with a strong infrastructure. Based on the findings, two kinds of student categories can be nominated which are: students as key institutional actors as well as consumers of

higher education. In this regard, the quality assurance system in Kurdistan universities is built on the attitude of improving the educational process toward openness, transparency, recognition, quality assurance, and a clear commitment to credit. Results indicated a special particularity of course selection in architecture department students of Salahaddin University as they concentrated on three sub values which related to the professor, close friends, and obtaining job opportunities. In light of the above results, the study reveals that the personality of teaching staff has a great impact on course selection by young generation students whereas going to the university in groups as social interactive has another impact in selecting courses due to schedule and duration of the courses. Finally, students think twice before selecting any course that affects getting job opportunities in the future. These three parameters are the most notable factors in terms of course selection at Salahaddin University. Hence society represents the social structures and organization of the people who share those beliefs which differ from one university to another.

The results of the multiple regressions statistically enhance the proposed model. It revealed that the course factors, social factors, and individual factors are the most influential in interpreting the objectivity of course selection respectively. Every unit of change in these factors is associated with a significant positive change in the objectivity of course selection. Accordingly, these factors could significantly predict the objectivity of course selection at Salahaddin University.

The Bologna process helps universities prepare graduates for work in a gradually competitive environment. The study reveals that Bologna carries huge benefits. However, the only negative impacts of the Bologna process can be reflected in a unification of university programs. The process of merging programs under one umbrella will be interpreted as a standardization of university education and guides toward missing institutional autonomy. The risks are that some of the private universities play fast and loose with these frameworks and offer courses that undermine

the spirit of Bologna.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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