

Investigating Algerian Efl Post-Graduate Students' Decision Making Styles Employed During The Research Process.

دراسة أساليب اتخاذ القرار المستخدمة أثناء البحث الأكاديمي لدى طلاب الدراسات العليا الجزائريين في مجال الانجليزية كلغة أجنبية

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Abstract :

Conducting a research is one of the fundamental aspects of graduation in the Algerian Universities. Throughout the research process, students should collect, analyze and evaluate different types of information and draw conclusions to reach the targeted aim. These processes require from the students to make use of high cognitive abilities including decision making skill, which is one of the most basic skills employed to face research confusions and to advance in the research process. Therefore, this study tries to explore the different decision styles used when making research. Through a volunteer sampling method, thirty two (32) EFL female post graduate students from different Algerian Universities responded to the administered research questionnaire and the Decision Styles' Inventory Scale, and an online interview is conducted with 8 male students. The study concluded with an emphasis on the importance of decision making strategy training and integrating it into research methodology syllabi.

Key Words:

EFL Students; Decision Making Skill; Decision Making Styles; Postgraduate Students; Academic Research.

المخلص

القيام بالبحث هو أحد الجوانب الأساسية للتخرج من الجامعات الجزائرية. طوال عملية البحث، يجب على الطلاب جمع وتحليل وتقييم أنواع مختلفة من المعلومات واستخلاص استنتاجات دقيقة للوصول إلى الهدف المنشود. تتطلب هذه العمليات من الطلاب الاستفادة من القدرات المعرفية العالية بما في ذلك مهارة صنع القرار التي تعد واحدة من أكثر المهارات الأساسية المستخدمة لمواجهة الارتباك أثناء البحث والتقدم في عملية البحث. لذلك، تحاول هذه الدراسة استكشاف أنماط القرار المختلفة المستخدمة عند إجراء البحث. من خلال طريقة أخذ العينات التطوعية، استجابت اثنتان وثلاثون (32) طالبة دراسات عليا في مجال اللغة الانجليزية كلغة أجنبية من مختلف الجامعات الجزائرية لاستبيان البحث ومقياس أنماط القرار، بالإضافة يتم إجراء مقابلة عبر الإنترنت مع 8 طلاب ذكور. اختتمت الدراسة بالتركيز على أهمية التدريب على إستراتيجيات اتخاذ القرار ودمجها في منهج البحث العلمي.

الكلمات المفتاحية

طلاب اللغة الإنجليزية كلغة أجنبية؛ مهارة صنع القرار؛ أنماط صنع القرار؛ طلاب الدراسات العليا؛ البحث الأكاديمي.

Introduction

Research has been defined by various authors in different fields as the scientific, systematic, logical and empirical investigation of knowledge to discover things which have not been already known, as well as to present valid answers to human questions (Kothari, 2010; Walliman, 2011; Dörnyei, 2007). Different authors explained the research process in terms of the following research steps: identifying research problem, research questions, defining variables, setting hypotheses, settling on the sample and population, deciding on research design, selecting the data collection methods and procedures, deciding on data analysis and interpretation procedures and drawing conclusions (see in Perry, 2005; Kothari, 2004; Walliman, 2011; Jupp, 2006; Dörneyi, 2007; Ahmad, 2015). These steps are indispensable as they constitute the scientific research characteristics that lead to conduct the research works in a reliable and valid manner.

Furthermore, when talking about the importance of research, one may think about the ability to answer the different research questions and to discover new stuff that is useful to the researchers' and scholars' community. However, the importance of the research in developing the researchers' abilities and skills cannot be denied. Walliman (2011) asserted that research also develops the researchers' abilities to understand, collect, interpret data and draw conclusions. Moreover, Kothari (2004) described the research as a practical training that develops the researchers' capacities when dealing with specific problems and enhancing their judgmental skills through learning how to make object and empirical research works. The same idea was expressed by Lester and Lester, Jr. (2005), who stated that research teaches investigative skills to researchers through learning how to look for the information in different sources, how to use their reason and logic and thus develop their critical thinking as they try to evaluate, analyze and give accurate arguments during the research process.

When moving throughout the research steps, researchers face moments of uncertainties, regret and confusion due to choices they made. These confusions lead them to stop or become reluctant to carry on the research process. This is why decision making is one of the crucial research skills that should be developed among researchers. Based on the significance of this skill, we believe that it is important to understand the way students make decisions in order to engage them in an investigative work.

Consequently, throughout this study we aim at exploring the factors affecting the Algerian post graduate students' decision making with reference to challenges, styles and thus, explaining the possible reasons of such situations. Therefore, this study is guided by the following research questions:

- What are the decision-making styles followed by the Algerian EFL post graduate students when making a research?

- What are the factors affecting the decision making styles of the Algerian EFL postgraduate students?
- What are the possible ways to develop post graduate students' decision making skill and decision making styles?

Background Of The Study

Decision Making Skill

Defining decision making had been the purpose of many research works in different scientific disciplines namely; Psychology, Cognition Sciences, Neuroscience, Economics and Management, and Politics and so forth. From general perspectives, decision making refers to the process of selecting from an assortment of alternatives. With respect to the cognitive standpoint, decision refers to the cognitive process that comes before making the decision; whereas decision making represents the application of that decision (Miyapuram & Chandrasekhar Pammi, 2013, p. 241).

From the psychological point of view, decision making process is related to problem solving (Beyth-Marom, Fischhoff, Quadrel & Furby, 1989), with the difference that the later is related to the process of finding solutions to a problem when the solution is not clear. Nonetheless, the former (decision making) deals with finding a solution to a problem where a set of solutions exist and the decision maker has just to choose among them (Adair, 2010; Newell & Simon, 1972 as cited in Beyth-Marom, Fischhoff, Quadrel & Furby, 1989). In economical and management fields, decision making relates to the outcome of the decision. A best decision maker in this field is the one who makes or predicts decisions that lead to valid results (Miyapuram & Chandrasekhar Pammi, 2013). Accordingly, decision making skill relates to the ability to face different alternatives and select one or more alternatives that lead directly or closely to the objective.

Decision Making Styles

Many research studies had been conducted to investigate the decision making processes. The way decision makers make judgments and decisions differ from a person to another and from a situation to another. Different factors appear and affect the individual's beliefs and values regarding decisions and decision making. As a matter of fact, this results in what is called "decision making styles".

Different definitions had been attributed to this concept. For example, Drive (1979) defined it as the habitual strategies and patterns used by people when choosing among alternatives or making decisions as termed by the author (cited in Scott & Bruce, 1995; Baval'ár & Orosovát, 2015). Moreover, Harren (1979) defined decision styles as the personal "mode of perceiving and responding to decision tasks" (as cited in Scott & Bruce, 1995, pp. 818-819). Other researchers (Hunt, Krzytofiak, Meidl & Yousry, 1989; Kennedy & Keen, 1974; Mitroff, 1983) related decision

Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

making styles to people's own ways of collecting, organizing and processing the information needed to make the decisions themselves (as cited in Scott & Bruce, 1995). Finally, Bayram & Aydemir (2017) said that decision making styles include the different approaches, actions and reactions employed when individuals are in front of a decision situation. The authors claim that the individuals might use different styles but only one is dominant.

Scott & Bruce (1995) focused on the categorization of cognitive styles initiated by Mitroff (1983) who classified them into sensory styles and logical styles. The same idea is shared by Kozhevnikov (2007) who considered decision making styles as part of cognitive styles (cited in Baval'ár & Orosovát, 2015).

Furthermore, Scott & Bruce (1995) reported the categorization made by Hunt et al. (1989) who divided the decision making styles into intuitive and analytic; and they reported also the work of Driver (1979) about the learnt habit style. Based on these aforementioned styles, Scott & Bruce (1995) constructed their five styles scale that includes: dependent, rational, intuitive, and spontaneous and decision making avoidance styles.

Bayram and Aydemir (2017), Curşeu and Schrujjer (2012) reported Scott and Bruce's (1995) five types of decision making styles which mainly include: *A rational decision making style* in which the decision makers tend to employ their logic and reasoning to systematically collect thorough information about the decision alternatives and to evaluate them systematically. Moreover, the second style is the *intuitive style* in which decision makers rely on their own intuition, instinct and presentiment. Besides these two, the authors report the *dependent style* which is based on the individual's reliance on others' opinions, pieces of advice and suggestions. *The avoidance style* is when the individuals avoid, pull, escape or postpone the decision process. At last, *the spontaneous style* is represented when the decision maker desires to make decision as quickly as possible (Scott and Bruce, 1995 as cited in Bayram & Aydemir, 2017; Curşeu & Schrujjer, 2012).

Scott and Bruce (1995) also mentioned that decision making styles are not related to personality traits, but they are behaviors learnt through habit and employed when facing a decision situation.

From another perception, Azeska, Starc & Kevereski (2017) reported four types of decision making employed by managers. These include principally: Directive, analytical, conceptual and behavioral.

Raffaldi, Iannello, Vittani and Antonietti (2012) categorized decision making styles into two types of decisions: the *analytical-systematic decision making style* in which decision makers plan unhurriedly for their decisions. The decision making process is based on the comprehensive, systematic and logical evaluation of alternatives. The second type is the *global intuitive style* in which the decision maker

reacts effortlessly and automatically to the decision situation. More importantly, the decision makers rely on their own instinct and gut feeling.

Moreover, French, West, Elander & Wilding (1993) defined the decision making style as the way a person follows during the decision making process. This way, it would be the same in different decision situations from different domains. Arroba's (1977) categorization of decision making styles included six (6) types: emotional, intuitive, rational, hesitant, compliant and no thought (as cited in French, West, Elander & Wilding, 1993). In their attempt to formulate decision making style scale, French et al. (1993) concluded six (6) styles including: thoroughness, control, hesitancy, social resistance, perfectionism, idealism and Instinctiveness. These six types have been deduced from different research works in the light of different psychological, behavioral and pragmatic research works including locus of control, asking for advice from others, research on intuition, logic and emotion (French et al., 1993).

Furthermore, the Decision Making Style Inventory (DMI) of Nygren (2000) measured three types of styles: *the analytical style*: in which decision makers search for the information and analyze the alternative; *the intuitive style* in which the decision makers rely on their instinct and gut feelings through the use of cognitive heuristics. Finally, *the regret based emotional style* in which the decision makers focus on the results to avoid any kind of regret or loss (cited in Gauthier, 2011; Mahmudi, Hasanzadeh & Ebrahimpoor, 2013).

According to the aforementioned different research works and studies, we can understand and demonstrate that decision making styles are represented through behavioral, cognitive and emotional strategies that differ according to several factors. However, the most repeated styles throughout these studies are: *the systematic* or also called analytical, logical, thoroughness where people tend to collect information about the decision alternatives, evaluate them, and then take action. The other is the *intuitive style* that focuses on the individuals' gut feelings and intuition. Different research works reported the style considering the people's *hesitancy* and willingness to ask for help, pieces of advice and suggestions to avoid achieving the unexpected results with regrets or lose at the end.

Research Methodology

Research Participants

The present research investigates the decision making styles of post-graduate students from different Algerian Universities. In pursuance of this aim, and using a volunteers sampling method to select the corpus, the tools to collect data were sent to most of the EFL post graduate groups via social media. 40 EFL post graduate students have responded to our research tools, from which we counted 32 female and 8 male students. The questionnaire and the scale were answered by 32 female

Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

volunteers; in addition, due to the limited number of male volunteers, we conducted an online interview with 8 male students who agreed to participate in our research work.

Research Design, Methodology and data collection tools

For the present research's aims, we opted for an exploratory research design where both a questionnaire and a scale were employed with the female students and the interview was conducted with male participants because of the above mentioned reason.

The research questionnaire comprises two sections: the first section dealt with the general introduction that explored the students' age and their specialty in the EFL domain. The second section entitled: research experience and decision making process through which we investigated the students' attitudes towards their previous and current research experiences and their attitudes towards decision making process during the different research steps.

The second tool employed in this study was the Decision Making Styles Inventory of Nygren (2000). This scale was constructed around 45 items in which the respondents should express their level of agreement in a six point scale (from strongly disagree to strongly agree). The scale measured three main styles: the analytical styles, the intuitive style and the regret- based emotional style.

At last, the interview was conducted with 8 male doctoral studies students from different Algerian Universities. The interview consisted of 8 questions that investigated four main areas: the students' experience during their Master research process, describing their decision making, the factors that might have affected their decision process and finally, their suggestions to develop the decision making process.

Research Results

The Questionnaires' Sample Results

Section 1: General information

This section has revealed that the age interval of the majority (75%) of the female participants ranges from 25 to 30; whereas 18.75% of the participants are more than 30 years. Finally, 6.25% of the participants' did not mention their age.

Concerning the participants' specialties, all of them are EFL students but enrolled in different specialties. The following table summarizes the frequency distributions of the specialties mentioned:

Table 1: Female Participants' Specialties

<i>Specialty</i>	<i>F</i>	<i>%</i>
American Literature and Civilization and English Drama	5	15.63
Educational Sciences, Didactics and Applied linguistics	16	50
Linguistics and Sociolinguistics	5	15.63
Language and communication	1	3.12
Language of specialty, culture and enterprise	1	3.12
No answer	4	12.5
Total	32	100

As we can see in table 1, half of the female students (50%) are studying educational sciences, didactics and applied linguistics. 15.63% are studying American Literature and Civilization and English Drama, and the same percentage (15.63%) is specialized in Linguistics and Sociolinguistics. Besides, 3.12% of them are specialized in language and communication, the same percentage (3.12%) study Language of specialty, culture and enterprise. Finally, 12.5% of the respondents have not mentioned their specialty.

Section 2: Research Experience and Decision Making Process

1. Have you already been engaged into a research activity

Table 2: Number of participants engaged in a previous research activity

	<i>Frequency</i>	<i>Percentage</i>
Yes	28	87.5%
No	4	12.5%
Total	32	100%

The majority of the students questioned (87.5%) have conducted research works before the doctoral project; whereas 12.5% did not conduct any research.

2. *Female Participants' description of their research experience (including challenges and benefits):*

All of our informants agreed that research is beneficial and leads to satisfying results. However, researchers have to overcome the different challenges throughout the research process. In this section we summarize the benefits and challenges the respondents reported:

A/ Benefits:

Benefits related to the research skills and abilities: this relates to the different research skills that the students had acquired throughout their experience. They report the followings:

Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

- They believe that the researcher must have clear and precise objectives which go hand in hand with a good time management.
- It permitted them to experience the domain of research from indentifying the topic of research which is a very difficult task, to choosing the methodology, designing the tools of research, gathering data and so on.
- Self-satisfaction and learning how to work hard and be active.
- Research is an opportunity to develop skills like communicating ideas and positions. It is also a way to improve understanding about a particular topic or domain.

Benefits related to the researchers and their affective side: this relates to the students ability to overcome the negative emotional experiences and enjoy the research work. The respondents mainly mentioned:

- They learnt a lot in terms of decision making and time management, in addition to overcoming pressure and stress.
- Learnt how to enjoy the research project when waiting for rewards and losses.
- They learned to be risk takers, how to be autonomous and build up that character of a researcher.
- They can do great job when they have a strong will.

Benefits related to interpersonal skills: this relates to the ability of the researcher to deal with inter-relations.

- Refining the relation with supervisors from whom they gain experience and guidance; yet, they have also learnt when to be less dependent on them.
- They could help and guide others in order to avoid the mistakes they have done.
- They learnt how to take into consideration the future readers of their research; they learnt how to write in order to be understood.

B/ Challenges:

Difficulties related to knowledge and sources

- Limitations in documentation, difficulties in getting to primary sources and getting access to the sample of research.
- The lack of research related knowledge and skill due to lack of training.

Difficulties related to skills and time managements

- Decision confusions and sometimes they find themselves stuck between two supportive approaches and when selecting keep thinking whether they chose the right thing or not. They usually get confused when searching for the suitable research topic, methods, finding the time to do research, always questioning the decisions they make.
- Research is challenging in terms of time constraints.
- They faced challenges when using SPSS.

- Challenges in reading a lot of books and articles and sometimes reading in many languages.
Difficulties related to research participants and supervisions
 - Lack of feedback from supervisor and inconsistencies in supervision sessions.
 - The most difficult stage about research was the data collection phase because the respondents had to involve non academic participants and it was hard to convince them to respond to their questionnaires.
 - Research participants may not help as they expected them to do and the data they waited may not be in that quality and may push them to amend their research.
Difficulties related the researcher themselves
 - A very daunting task which requires commitment and passion
 - Being away from home, family and their comfort zone
 - They were always hesitant and they wasted much time, they were scared that the jury panel may not like the outcome of the research or that the supervisor will intervene at the last moment.
3. *Decision making difficulties at different Research steps:*
Table 3: Decision making difficulties during the research process

The research Steps	F	%
Deciding about the Research Theme and Title	16	50
Deciding about the data collection Plan (including design, methods and tools)	20	62.5
Deciding about the data analysis methods	22	68.75
Deciding about the data interpretation procedures	14	43.75
Drawing conclusions	10	31.25
Total	/	/

According to the results displayed on the above table, we can notice that the majority of the students (68.75%) encounter difficulties when making decisions at the data analysis level; whereas 62.5% of the respondents face difficulties in the data collection phase. Moreover, 50% of them have difficulties when making decisions about the research theme and title, and 43.75% face problems when deciding on the appropriate interpretation method and procedure. Finally, 31.25% of the participants face difficulties when drawing conclusions from the data. In addition to the provided options, 3.12% (F=1) of the participants face difficulties at the level of the literature review (expressed in the follow-up question “others”).

Participants’ explanations:

The participants explain that decision making is a hard process because any mistake can lead them to re-do the work again and again. The main explanations provided are summarized in the following points:

**Investigating Algerian EFL Post-Graduate Students' Decision Making Styles
Employed During the Research Process.**

- They find much more difficulty in how to get to an answer at the end.
 - It is difficult and confusing to select the adequate method in the research because it is the most important step that leads to relevant results, they always fear of regret if wrong decisions are made.
 - The topic is the most difficult decision to make because all the research work depends on it and they always look for a perfect and updated topic. Concerning the data analysis methods, they are important to reach accurate results.
 - A good methodology is the most crucial part in a research work because all the researcher's steps will be determined according to it. Moreover, different data analysis and interpretation methods give research different orientation that is why when doing research, it is needful to select what is compatible with the research objectives.
 - All of the steps are critical when doing research, the final product has to be homogeneous and each move must be studied thoroughly before its implementation.
 - It is only through experience that they will enhance their decision making skills.
4. *Among the following options, which one (s) is (are) describing you when making decisions during the research process:*

Table 4: Participants' decision making:

<i>Students Decision Making</i>	<i>F</i>	<i>%</i>
They are complete and methodic	10	31.25
They are hesitant	13	40.62
They are dependent on others and they always consult others' opinions	4	12.5
They are relaxed and feel in control of their feelings during the decision process	5	15.62
They base their decisions on their intuition and their gut feelings	6	18.75
Their feelings are based on their ideals and principles	8	25
Their feelings are based on the practical difficulties of the option (s) to be selected	18	56.25
They keep searching for better options even though they find one option that produces acceptable results.	19	59.37
Total	/	/

We observe that the majority (59.37%) of the students keep looking for better options even though they find one option that produces acceptable results. Moreover, 56.25% of them say that their feelings are based on the practical difficulties of the option (s) to be selected when making a research. Furthermore, 40 % of the

respondents reveal their hesitation. 31.25% think that they are complete and methodic. 25% claim that their feelings are based on their ideals and principles. In addition, 18.75% report that they rely on their intuition and gut feelings. 15.62% declare that they are relaxed and feel in control of their feelings during the decision process. Finally, 12.5% say they are dependent on others and they always consult others' opinions

5. *Participants' precise description of their decision making process when conducting research:*

The participants' answers concerning their decision making styles are summarized in the following points:

- Their decisions require validation from the supervisors, however with time they grew to trust their own instinct with much of experience.
- Their own dependency will appropriately work with flexibility through consulting others opinions around the problem.
- They evaluate the whole situation and see the good and bad sides and check each time everything; if so, they usually do not regret.
- Their decision is based on making many options then choose one among them based on the aims they need to achieve, the most important point is to remember the difficulties they have already met.
- Their decisions are always wrong as they do not study carefully their ideas and they keep asking others who may not help in many cases.
- They make decisions regarding their research by consulting other works related to their topics.
- They think that if they have enough and convincing reasons that back up their choices, then it would be absolutely easy to make decisions.
- Though in-depth reading, they could decide alone on what, how and when to take action.
- They just select the most secure option among those they have.
- When they are not sure about something, they definitely consult their supervisor or reliable friends. But if they are sure that something must be right based on facts and principles so they take decision without hesitation.

**Investigating Algerian EFL Post-Graduate Students' Decision Making Styles
Employed During the Research Process.**

6. Factors affecting the participants' decision making strategies

Table 5: Factors influencing the participants decision making strategies

<i>The factors</i>	<i>F</i>	<i>%</i>
Their past experiences and their prior knowledge in research	22	68.75
Their beliefs about research	12	37.5
Other people's opinions	6	18.75
Lack of information about the decision options	6	18.75
Much of information about the decision options	9	28.12
The outcome of the decision (the selected option) to be made	14	43.75
The amount of the effort to be afforded when applying the selected option	15	46.87
Total	/	/

It is shown that 68.75% of the participants think that past experiences and prior knowledge in research affect their decisions. Moreover, 46.87% say that the amount of effort to make when applying the selected option affects their decision making. Moreover, 43.75% think that the outcome of the decision affects their decisions. Other factors include: their beliefs about research (37.5%), much information about the decision options (28.12%) and finally, lack of information about the decision options (18.75%) and other people's opinions (18.75%). The respondents mentioned, in addition to the aforementioned suggestions, making decisions by themselves according to scholars' suggestions in the literature, and they added time constraints as another important factor.

7. Participants' suggestions to develop the students' decision making skill and strategies in the research process:

Different doctoral students from different specialties declare that decision making is very important in the research process. They suggest that in order to develop decision making in academic research, researchers should be engaged in regular and continuous reading in addition to training in research and research methodology. More specifically, the respondents' suggestions are summarized in the following ideas:

- Providing them with enough information about all the different options they can meet.
- Students should be well prepared for doing research through being trained and equipped with decision making strategies by skilled teachers.
- Through continuous research related training, students will know how to imagine a real and logical research problem and how to use an appropriate methodology. The hypothesized suggested solutions will help them in the selection of the pathway along which they are going to proceed.

- Reading more about the topic and in the domain of the research to acquire more knowledge and develop their decision autonomy.
- The students should speak regularly with their supervisors, and should ask for others’ opinions and experiences.
- Developing critical thinking and asking lots of questions.
- Researchers need to carefully think about the research project as a whole piece. Clear plans should be drawn to know what to satisfy and meet every aim in the project before attempting to put any decision into practice.
- Planning for more interesting and extensive methodology sessions at university. Furthermore, planning for sessions by specialists to teach students in their first years on how to make decisions and how to overcome bad feelings and difficulties when conducting a research project.
- Being well-informed and knowledgeable about the research area to form solid grounds to decisions rather than random choices that are influenced by subjective feeling.
- Introducing decision making and strategies to their courses of methodology.
- Consulting expert researchers and through mutual dialogues between students and supervisors to gain self-confidence.

The Decision Styles Inventory’s Results

Table 9: Descriptive statistics of the participants’ decision making styles

<i>Decision Making Styles</i>	N	M	SD
Analytical Decision Making Style	32	4,15	1,84
Intuitive Decision Making Style	32	3,25	1,57
Regret Based Emotional Style	32	3,74	1,73
Valid N	32		

Table 9 demonstrates the descriptive statistics of the participants’ decision making styles. As we can observe, the dominant style of the post graduate students is the analytical decision making style (M=4.15, SD=1.84), then comes the regret based emotional style (M=3.74, SD=1.73), and finally the intuitive style comes at the end with a mean of 3.25 (SD= 1.57).

Interview with Male Students

Regarding the low number of male volunteers, an interview was designed to investigate their attitudes towards their decision making skill and the way they make decisions when conducting research. Therefore, the main results of the interview are briefly summarized in this section:

Participants' description of their research and decision making experience:

The participants said through the interview that they had already conducted research at their master degree. The research experience was an enjoyable and interesting process but full of challenges. It was hard and very demanding in terms of time and effort. Yet, it was an opportunity to gain and construct new knowledge. Different difficulties have been met including difficulties in methodology, difficulties with participants and difficulties when dealing with data. In spite of these challenges, many benefits have been noted. The participants reported that they became able to manipulate the progress of their projects, and that they acquired many skills too as how to organize their works in successful and disciplined manners.

The participants talked about the decision making when conducting research. One of the participants declared that: "... research is all about decision making. Over times, we were obliged to make a decision immediately even without any necessary data. Later, we were doomed to assume the consequences of these decisions".

The participants said that the first decision to make when starting any research was topic selection. The choice of the research topic is very important, so the researcher should choose a topic that meets research requirements (novelty, feasibility and validity). Moreover, making a decision can always be discussed with the respective supervisor since they are novice researchers and they lack experience "...after choosing the title, I believe it is necessary to do discussion sessions with knowledgeable people and experts in the domain of my research then do consistent and critical literature review before writing the proposal" as it is has been declared by one of the respondents.

The participants think that making spontaneous decisions can lead to non reliable results, and it may be a waste of time and effort. Therefore, it is highly recommended to discuss the decision with supervisors; yet, discussion should be after that the students make their mind concerning one or different alternatives. Some of the participant deplored the limited time period to make decisions and this lead to many problems. In addition, one of the participants maintains that most decisions are made by the supervisor.

Finally, the students explained that the most critical situations when making research decisions were throughout all the research phases because all the phases are interrelated. However, many of them argued that decisions related to the research title (theme), the data analysis methods and drawing conclusions from the data were the most challenging. The students explained how they struggled in making any decision about the title, the variables and what kind of relationship that should exist between the variables in addition to the population. Furthermore, the statistical procedures and the way to conclude things from the statistical procedures proved challenging too. Other students talked also about the difficulties at the data collection phase.

Description of the participants' decision making

The majority of the participants declared that they were most of the time hesitant, one of them said: "... given the different challenges encountered during research, I feel all the time afraid about whether this research would come to an end and reach its objectives". Therefore, since they are inexperienced in making research-related decisions, they said that discussing them with experienced people could be more helpful, as it is mentioned by one of the interviewee: "... so it is always preferable to discuss it with scholars who we think are reliable". Some others maintain that they relied on their intuition or just made a choice which provided a secure result because they were limited by time, another students argued: "... in situations where I do not have enough time to make up my mind on something, I just select the most secure option among those I have".

Other participants said that when making decisions they sometimes relied on the practical difficulties of the option to be selected, because choosing one alternative meant to employ more efforts and this was tiring from their point of view. Finally, two participants revealed that they searched for different aspects in the choices they had and studied the advantages of each aspect in order to make decisions which they would not regret later "... I generally take time to make any decision. I review the existing literature which might be beneficial".

Factors affecting their decision making styles

We asked the participants a question about the factors that may affect their decision styles. The students explained that they made choices based on their past experiences and their prior knowledge in the decision area. When they had enough experience or information, the participants maintained that their decisions guided them to reliable results and satisfactory ends.

Moreover, the students mentioned that sometimes the needed effort to be employed might affect their decisions and sometimes they felt bored when the decision process took a long time or needed more efforts, so they just ignored that option and chose the easiest decision. Furthermore, the participants said that their supervisors had a great impact on their decisions because maintaining a good relation with them was the first thing they learnt when making research, and thus, taking their pieces of advice and suggestions into consideration was indispensable.

Suggestions to develop decision making skill

The students maintained the importance of reading about research methodology to enhance their knowledge in this domain. Moreover, they focused on the significance of reading past research works, making analysis and comparing between what they believed worthy and what other researchers employed. Furthermore, the researcher should always ask for experienced people's points of view and compare their own decisions with theirs. In addition, the participants also

Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

said that practicality in research tasks would be helpful to the students to help them develop research habits.

Discussion And Recommendations

The academic research is one of the most important activities that prepare the students to professional life because the researchers acquire different skills and abilities through the investigation process. One of the most important and the most required abilities in real life is the ability to deal with different alternatives and make appropriate choices and decisions. The way of selecting decision alternatives should be analyzed and processed carefully. However, in some situations, individuals may need some quick and simple decision making processes that may fit the immediate situation.

Different research works had been conducted on decision styles (Azeska, Starc & Kevereski, 2017; Baval'ár & Orosovát, 2015; Bajwa, Batool, Asma, Ali & Ajmal, 2016; Bayram & Aydemir, 2017; French, West, Elander & Wilding, 1993; Gauthier, 2011; Mahmudi, Hasanzadeh & Ebrahimpoor, 2013; Raffaldi, Iannello, Vittani & Antonietti, 2012; Scott & Bruce, 1995). These studies have been developed to either explore these styles among participants or to correlate them with other constructs like personality traits, competitiveness, accidents' rate and so forth. Therefore, it is very significant and very helpful in human life in general and researchers in particular to know how, when and why to make decisions.

Decision making is said to highly correlate with personality traits because it plays an important role in decision making styles (Bayram & Aydemir, 2017). However, during the investigation, the researchers are caught in crossroads a real dilemma that urge them to make choices, select among different alternatives and make decisions in a systematic and scientific manner. All the decisions in the research process need to be thoroughly taken to avoid research bias or invalidity of the results. This requires the students to be rational and conscious throughout the research process. These two different views encouraged us to explore the adopted decision styles of postgraduate students when conducting an academic research.

Our study reveals that the female post graduates employed analytical and the regret based emotional styles more than the intuitive style during the academic research. The interviewed male students showed more hesitation and less analytical style. Furthermore, works from the literature that compared between male and female decision making recognize the existence of gender differences among the participants. According to Bajwa, Batool, Asma, Ali and Ajmal (2016), female students have a higher decision make ability more than their male counterparts. Furthermore, Bakewell and Mitchell (2006, p.1299) say: "males use a simplifying decision-making style to reduce the complexity of the shopping task and the time spent doing it". Though our results conform to what is explained in these studies; yet, due to the small number of the male students, we cannot assume the general

decision making style employed by male students and thus our results cannot be generalized to all male researchers.

Moreover, this study reveals that students face decision making difficulties at different research steps (especially at the data collection and analysis phases) because they fear to fail and/or regret a situation. Therefore, they are hesitant and dependent on their supervisors and specialists' guidance and counsels. In the opposite, the female participants expressed their preference to afford more of their time to the decision process rather than making quick decisions that they would regret later. Some male students said that in limited decision situations, choosing the most secured alternative must be the appropriate way to make decisions. Consequently, post graduate female students tended to decide on their decisions before engaging in any action. They tended to collect different information about the alternatives, consult others and ask experienced people for more useful details. Students explained that the regret level would be low even though the outcome was not encouraging because as they said "we did all we could do and what we had to do". In the study of Inman and Zeelenberg (2002), the authors found that regret when reaching poor outcomes correlated with whether or not the decision was justified (cited in Connolly & Zeelenberg, 2002). This conforms with our findings when the female students claimed that once they planned correctly for their decisions with justifications and arguments, they did not regret the unsatisfying outcome because they had done all they could in a logical way. Moreover, according to Dörnyei (2007), good researchers should keep thinking thoroughly and systematically and base their research on logic and rationality.

Finally, this study shows that the majority of both male and female post graduate students' decision making is influenced by their prior knowledge and experiences, the amount of effort to afford and their beliefs towards the research activity. This conforms to factors reported in some research works like Helms (1983) who cited the effect of experience and inexperience on decision making (cited in Guthrie, 1997). Add to this, Placek and Pearson (1998) reported the importance of knowledge in adolescent decision skills.

Based on this study, decision making skill is very important in the research process. Therefore, developing this skill should be a major concern. The results of this study recommend training students in research in order to help them be acquainted with the research activity and its different processes; and to provide them with the needed experiences and the required knowledge especially at the data collection and data analysis phases. More emphasis should be put on decision making strategy training especially in early levels to raise students' awareness and to guide them during the research process. In addition, we recommend further research on the effect of the personality traits and gender differences on decision making styles' selection during the academic research.

Moreover, further research studies are recommended to explore the males' decision making styles with larger samples and demonstrate whether there are

Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

differences between male and female decision making styles when undertaking a research.

Conclusion

This research study aimed at exploring the decision making styles employed by the Algerian EFL post graduate students when conducting a research. The study disclosed that the majority of the female students used analytical and the regret based emotional decision making styles. The interview results revealed that male students might tend to choose secured options in the decision process. However, due to the small size of the male sample, the results cannot be generalized to all male researchers. The most difficult decisions according to them are the ones made at the level of data collection and data analysis phases. The importance of research training is recognized throughout the study as it provides the students with enough knowledge and acts as an experience that acquaints them with the different research steps. Therefore, decision making strategy training should be integrated into the research syllabi to ensure forming high quality researchers.

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Investigating Algerian EFL Post-Graduate Students' Decision Making Styles Employed During the Research Process.

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