

The Personal Characteristics of University

Lecturers in Libyan Universities

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ABSTRACT

This thesis was undertaken to investigate students' perceptions of the personal characteristics of university lecturers in Libyan universities. These perceptions were investigated using three measures. These included two scales translated for the first time from English into Arabic: the 'Index of Learning Style' (Felder & Solomon, 1988); and Goldberg's personality scale (Goldberg, 1999) to measure students' learning styles and personality types; and the main study questionnaire developed by the researcher ('the personal characteristics of university lecturer's questionnaire'). The main sample in the current thesis comprised 431 students from a Libyan public university (Sebha University). This sample was divided into four groups focusing on four aspects of the research: (1) group 1 was focused on determining the personal characteristics which students believe that a good university lecturer should have; (2) group 2 aimed to identify characteristics seen by students as insignificant for being a good university lecturer; (3) group 3 aimed to ascertain the students' perspectives on the extent to which these characteristics were observed in their best lecturers; and (4) group 4 was also focused on determining through the students' perspective the extent to which these characteristics were observed, but in the lecturer who they preferred least.

The findings of the current research highlighted characteristics that students believe are significant for a good university lecturer, and those that were perceived as less significant for a good university lecturer. These findings were related to the demographic characteristics of the student sample, to their learning styles, and to their personalities.

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DEDICATION

This thesis is dedicated to my father, Abughrara, to my beloved mother, Mariamah, to my wife Zakiya, and to all my family

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CHAPTER 1: INTRODUCTION

1.1 Study Background

The purpose of this chapter is to outline the background information of the present research which explores the current research problems and illustrates the importance of using students' perceptions of the personal characteristics of university lecturers in Libyan universities. At the end of this chapter, the aims and questions of the research will be stated and an outline of the thesis will be provided.

University teacher evaluation has long been one of the commonest components of higher education in most developed countries, owing to the significant role teachers play in improving and developing the educational process (Okoye, 2008), and the use of students has become the most widely used method of teacher evaluation, in spite of the multiplicity of other methods. These include videotaping in classrooms, classroom visitations by colleagues or department heads, the teacher him/herself, administrators and the use of trained observers (Rushton & Murray, 1985; Marsh & Roche, 1997; Beran & Violato, 2005). However, although the focus of most Arab universities is on teaching as the main function of university lecturers (Wheeler, 2002), the importance of evaluation of lecturers and the participation of students in this process to improve and develop the university system was not evidenced in most universities in the Arab world (Jamlan, 1995; Fellah, 1997). Nor is it mentioned in most Arab universities' regulations, with regard to 'person specifications' for lecturing roles, as they simply stress the need for candidates to possess a certain degree (Mohammed, 2005). For example, most university regulations in Libya, Yemen and Algeria do not describe any personal characteristics or other attributes required of a university lecturer to work as a member of the

teaching staff at a university (United Nations Development Programme Regional Bureau for Arab States, 2006; Labi, 2008).

1.2 The Importance of Teachers' Characteristics in Teaching

University lecturers play a prominent role in the teaching process, as one of its significant constituent elements. Their roles are obvious in terms of leading and organising the educational process and managing the communication between themselves and their students (Sayed, 1992), in addition to their responsibilities for organising courses and examinations. University lecturers' roles do not stop at the teaching level, but also extend to include participation in research and administrative affairs within the university. Furthermore, they work as consultants and experts, whether through university academic research teams or their individual academic expertise (Fine, 2005).

These roles of university teachers have had increased attention in many countries around the world as a crucial element in the teaching and learning process, as well as in terms of playing a significant role in the transfer of knowledge to students (Pickering, 2006). Moreover, most components of the teaching process are affected by teachers' professional and personal characteristics (Dubov, 1990; Novojenova & Sawilowsky, 1999), which has led many studies to focus on the personal and professional characteristics of teachers in relation to their important roles.

The importance of personal characteristics of university teacher can be noted through what published research has retained its significance over time, as findings of studies indicated a set of personal characteristics as one important aspect of a university teacher. A study conducted by Helterbran (2008) in three universities in

Pennsylvania, USA, aimed to identify students' beliefs about effective teacher educator qualities and practices. There were 283 university students participating in this study and the findings revealed three basic groups of beliefs: one of these three categories was a personal quality. Students in this category expect university teachers to want everyone to succeed, to be passionate about what she or he does, to have a good sense of humour and fun, and to love teaching (Helterbran, 2008). Also the findings of studies by Arnon and Reichel (2007), Goldstein and Benassi (2006), Rubin (1981), Mordechal and Esther (1991), clearly indicate the importance of focusing on the personal characteristics of a university teacher.

It can be argued that the identification of a teacher's personal characteristics could contribute to the prediction of the teacher's behaviour in the classroom, and the way he/she deals with students (Koster *et al.*, 1996). Moreover, the teacher's characteristics have a direct impact on his/her teaching strategy: for example, Zhang (2009) was able to show that when teachers are more confident in themselves and their students, they tend to teach more creatively than do teachers with less confidence in themselves.

1.3 University Teacher Evaluation

A considerable number of researchers believe that students are an essential source of information for the evaluation of teachers' effectiveness (Åkerlind, 2003), and the use of students' perceptions in teacher evaluation can be considered to be a source of data that tends to possess high validity and reliability (El Hassan, 2009; Greenwald, 1997; McKeachie, 1997). However, literature has emerged that offers contradictory findings and some criticisms have been levelled at the use of students' evaluation of teaching and teachers in higher education, related to a handful of factors which may

affect the students' evaluation and perceptions, such as expected grades, classroom size, teacher's charisma, teacher's personality, and workload (Anthony, 1997; Greenwald, 1997; Marsh & Roche, 1997; Shevlin, *et al.*, 2000; Wachtel, 1998). However, these criticisms have not diminished the importance or use of student perceptions in evaluations of teachers and university lecturers, as these still enjoy widespread use in colleges and universities (Beran & Violato, 2005; Wachtel, 1998).

It is of course logical to ask students, who are the most informed group (Cook-Sather, 2006) and who are at the core of the educational process themselves, about what should be achieved and what should be done about issues directly relating to their interests. Messiou (2004) reported that, without the views of the affected parties in any educational issue, the picture may be considered as incomplete and therefore opportunities for developments and improvements or solutions may be overlooked. Joshua and Bassey (2004) considered students as the direct beneficiaries of education and they spend most of the time with their teachers. As such they can offer useful information in identifying flaws during instruction or interaction and ways of reforming. In the opinion of these two researchers, students can do this in spite of their seeming immaturity or apparent lack of responsibility. Further support for this notion was given by Messiou (2004), who claimed that, students' views must be given due consideration on educational practices; they not only have the right to be heard but more importantly their perspectives may have a bearing that can help contribute towards development and improvement in the field.

It can be concluded that the use of students in teacher evaluation can be reflected in the quality of the students' work, since the goal of higher education institutions is to achieve quality outcomes by promoting and improving students' ability to learn

(Patrick & Smart, 1998). In addition, the students' perceptions of teachers may help to improve and develop teachers' behaviour in a way that is consistent with the aspirations of students (Goldstein & Benassi, 2006).

1.4 Characteristics of University Teachers Perceived by Students

Many methods have been used to assess the educational process in higher education in general, and university teachers specifically, but using students is still one of most important and most commonly used of these methods. The fact is that the student is one of the most important, albeit not the only, consumer of the services provided by the university in its capacity as an institution (Fortson & Brown, 1998). Therefore, students' participation in teacher evaluation acquires high importance.

A considerable amount of literature has been published on students' perceptions of teachers' characteristics in many countries across the world, indicating that the important aspect of focusing on the personal characteristics of a teacher has retained its significance over time. Mordechal and Esther in the late 1970s carried out a study of undergraduate students at Tel Aviv University to investigate the 'good university teacher' as perceived by students. The study's findings showed that the most important characteristics of a good university teacher were: research talent, personality and academic status (Obydat, 1991). In 2000, Pozo-Munz obtained the same results in terms of the characteristics of university lecturers in a study intended to identify the characteristics of the ideal teacher as perceived by students. A total of 2221 university students from the University of Almeria participated in the study. It revealed that the characteristics that an ideal teacher should possess were thought to be expressing him/herself clearly, being informed, being competent, having fluency in speech, and expertise. Helterbran (2008) study which was conducted in three

universities in Pennsylvania, aimed to identify perceived teachers' beliefs about effective teacher educator qualities and practices. There were 283 university students participating in this study and the findings revealed three basic groups:

Knowledge and presentation: students in this category expect university teachers to be knowledgeable and motivational, to know their subject, to be intelligent and to be willing to go above and beyond the call of duty.

Professorial personal qualities: students in this category expect university teachers to want everyone to succeed, to be passionate about what she or he does, to have a good sense of humour and fun, and to love teaching.

Professional/instructional qualities: students in this category expect university teachers to be down-to-earth and very helpful when needed, to lead discussion which try to make one think, and to keep the class interested (Helterbran, 2008).

1.5 Student Voice

Views about the place of students in educational institutions and society have changed over the past generation. Typically, the views and opinions of students were often considered as having less legitimacy than the views of teachers or other education administrators, but as attitudes towards students and young people have developed, different views have arisen associated with these changes (Moore & Kuol, 2005).

Over the past two decades, in most developed countries, universities and education systems in general have used a variety of terms that capture the changing views and developments. For example, in the 1980s, the terminology of the day reflected

current values and beliefs about the place of students within education institutions. Terms such as ‘student empowerment’, ‘student rights’ and ‘student participation’ acknowledged the rights of students and aimed to empower them through various education programs and activities that were regarded as appropriate (Moore, 2007).

In recent years, the term ‘student voice’ has been increasingly discussed in the education reform literature as a potential way for improving student outcomes and facilitating education change (Mitra, 2004). In practice, several levels of student voice can be included, from the basic level to the most complicated approaches. At the most basic level, ‘being heard’, students share their opinions of problems and potential solutions through student councils or in focus groups associated with education strategic planning. At a more sophisticated level, ‘collaborating with others’, students share their ‘voice’ by collaborating with their institutions to actually improve education outcomes, including helping to ‘improve teaching, curriculum and teacher-student relationships and leading to changes in student assessment and teacher training’ (Mitra, 2004,p 658).

David Jackson (in Moore, 2007) argued that student voice is one way of valuing people and valuing the learning that results when we engage multiple voices in our education institutions. It focuses on realising the leadership potential inherent within all learners. In practice there are five dimensions to students’ involvement:

- Student involvement in education institutions and community development.
- Students as researchers and co-enquirers.
- Student feedback on teaching, teachers and learning.
- Students as peer-tutors.
- Student involvement as a manifestation of inclusion principles.

The concept of student voice has grown steadily from a consideration of the basic rights of students, to the notion that student outcomes will improve and education institutions reform will be more successful if students actively participate in formatting it (Mitra, 2004). However the researcher has noted that in the Libyan education system in general and in higher education particularly there is no trace of students' voice in the whole education processes, neither is there any effort to find out what students think and feel about their learning, about teaching, nor about their lecturers, and what they might want from them.

This is in stark contrast to contemporary understandings of the role of students, and the importance of the 'student voice' in the higher education system in the UK. The importance of students' views and voices in the UK can be seen from a number of different perspectives. For example, the Higher Education Academy, in their allocation of funding to Teaching Development Grants require 'student engagement' in any proposed project (HEA, 2014), and without evidence that students will be actively engaged in whatever initiative is proposed, no funding will be provided.

Equally, the UK National Union of Students campaigns vigorously for students' rights and increasingly insists that students' voices are heard. For example, a 2013-14 campaign enumerates 10 'feedback principles' (National Union of Students, 2014a), a set of demands that students are making regarding the basic characteristics of the feedback that they receive on their work (it should be timely, it should be legible, it should be constructive, and so forth). Part of this campaign involves the giving of advice to student representatives (so called 'course reps') about how to take action in relation to this matter (National Union of Students, 2014b). The power and influence of the student voice is increasing year on year as students are

increasingly seen by universities as ‘customers’, or more powerfully as ‘agents of change’ (Janice & Elisabeth, 2010).

It can be argued that there are some specific benefits when students are involved in decision-making. Research conducted by Lansdown (2005) in the UK revealed that when students are involved in decisions affecting their education institutions’ life, the relationship between staff and students improves, in addition to educational outcomes, in a context of less conflict and greater commitment to education. Also, in the US Mitra (2004) argued that advocates of the ‘student voice’ agenda focus on the notion that student outcomes will improve and school reform will be more successful if students actively participate in shaping it. Research also indicates that listening to the student voice could re-engage alienated students by providing them with a feeling of ownership within their education institutions. Students said they highly valued having their voices ‘heard’ and ‘honored’. In addition, Mitra (2004) also argued that students improved academically when teachers constructed their teaching in ways that valued their perspectives - particularly when students are given the chance to work with their teachers to improve the curriculum and instruction.

Libya like other Arab countries has witnessed a steady rise in the number of universities and student numbers over the last twenty years (Nasser, 2004), but it has not so far succeeded in overcoming the major criticisms that it faces regarding a range of issues related to the educational system, notably those linked with poor quality assurance and a lack of criteria for selecting and training university lecturers (Wheeler, 2002) in addition to the complete absence of methods for evaluating the performance of existing teaching staff (Alhuat & Ashor, 2006; Badrawi, 2009; UNDPRBAS, December 2006). In this regard, the researcher has worked as a

lecturer for more than five years, and two years as Assistant Dean of Faculty of Arts at Sebha University. During these years, the researcher noted the almost complete absence of students' and lecturers' voice in evaluations of the teaching system within the university, as well as an absence of any criteria relating to the appointment or selection of lecturers at Libyan Universities. Furthermore the researcher noted almost no effort to find out what students think and feel about their lecturers, and what they might want from them.

By looking into criticism regarding the higher education in Libyan universities, two clear points can be observed: firstly, that Libyan universities in general have failed to structure clear and effective criteria for evaluating university lecturers; and secondly, and more broadly, the universities have not provided opportunities for their members, especially lecturers and students, to contribute to the process of evaluating their learning as key components of the system (Nasser, 2004; Alhuat & Ashor, 2006). The current research addresses these criticisms by using students' input to analyse their perceptions as to the personal characteristics of university lecturers in Libyan universities.

1.6 Study Aims

The current study aims to:

1. Identify the personal characteristics of university lecturers as perceived by students, and to examine the relative valuing of those characteristics.
2. Identify the perceived differences in personal characteristics of university lecturers in Libyan universities amongst students, according to level of study, subject area, gender, personality profile, and learning style preference.

3. Evaluate a translated version of the Index of Learning Style (Felder & Silverman, 1988).
4. Evaluate as translated version of Goldberg's 50-items IPIP personality measurement scale (Five Factors Inventory, Goldberg, 1999).

These measurements will be deployed in a new environment, different language, and new culture. To the best of the author's knowledge no application of these measurements has been carried out neither on a Libyan sample nor indeed on an Arabic one. This can benefit our understanding of universal trends of these measurements, as there is agreement between researchers that thoughtlessly adopting concepts developed within one society into socially or culturally different communities may result in an incomplete understanding of people from other cultures.

1.7 Research Questions

The thesis addresses four research questions designed to provide a more comprehensive understanding of the links between the students' personality, learning styles, some demographic variables (gender, level of study, and subject area) and their stated preferences for different perceived personal characteristics of university lecturers in Libya universities. The following four research questions are addressed:

1. What are the personal characteristics of Libyan university lecturers as perceived by students and what is the relative valuing of those characteristics among students?

2. Are there differences in terms of perceived personal characteristics of university lecturers in Libyan universities amongst students, according to academic level of study, subject area, gender, personality profile, and learning style preference?
- 3 To what extent is the Index of Learning Style, (Felder & Silverman, 1988) reliable and valid for Arabic populations?
4. To what extent is the 50-item IPIP personality scale (Five Factors Inventory, Goldberg, 1999) reliable and valid for Arabic populations?

1.8 Outline and Steps of the Thesis

This study falls into three broad sections. The first of these (chapters one and two) gives a brief background of the fundamental concepts of the study and reviews literature relating to these concepts. The second (chapters three to six) details the research methods and developments of scales that have been used in the current research. The third section (chapters seven and eight) reports results and provides discussion of the findings, and concludes with an evaluation of the research and an analysis of its implications.

1.9 Chapter Summary

Teaching is considered to be the main function of university lecturers at Libyan and most Arab universities, as most of these universities have not made the research function as important, due to many problems and difficulties facing most of these universities, including the amount of funding that supports them (Jamlan, 1995; Wheeler, 2002). Although the focus of most Arab universities is on teaching as the main function of university teachers, the importance of their appointed roles and

evaluation of university teacher characteristics and the participation of students in this process to improve and develop the university system has not been evidenced in most universities in the Arab world (Jamlan, 1995; Fellah, 1997). Using students' perceptions of the characteristics of university lecturers has received less attention in most universities in the Arab world and in Libya particularly (Jamlan, 1995; Fellah, 1997) in previous research.

Chapter 2 provides a more detailed summary of previous theory and research concerning the main factors of the study, such as the debate over using students in teacher evaluation. In addition it sets out a summary of the education system in Libya, the study area, before considering the significance of learning styles and personality models in relation to the current study.

CHAPTER 2: LITERATURE REVIEW

2.1. Introduction

This chapter will provide an overview of three key factors relating to the current research in the respective field. First, the theoretical issues relating to student evaluations of University lecturers will be examined, with a view to interpreting the importance thereof. Second, the Libyan education system will be described. Third, issues of learning styles and personality models and their relevance to student-teacher relationships and evaluations will be discussed.

2.2 Student Ratings' Methodology of the Teacher Evaluation

2.2.1 The rationale for using student ratings in the evaluation procedure

Teacher assessment and evaluation are often regarded as the key processes with regard to the monitoring and improvement of effectiveness of both administrative and educational practices in educational institutions (Hoyt & Pallett, 1999). Furthermore, teacher evaluation contributes to the development of the positive reputation of the teaching members, recognising and enhancing their professional achievements. Finally, the lecturer evaluation allows institutions to establish a comparative framework of staff performance, contributing to the formation of the new performance goals to be considered.

Due to the importance of teacher evaluation practices, varied approaches have been utilised to assess the teaching process in general and teachers' performances in particular. These have taken on several forms, including classroom observation (Danielson & McGreal, 2000), student ratings (Abrami, 1989), peer review

(Perlman, & McCann, 1998), self-evaluation (Kyriakides, Campbell & Christofidou, 2002), and departmental evaluation (Hoyt & Pallett, 1999).

While each of these data collection methodologies are more or less frequently used, a student ratings method appears to be the one that is most commonly used across higher education institutions for evaluating their teachers' performance. In fact, its usage may date back as far as the medieval era, with the first European universities using student ratings to compare their teaching staff's performance in delivering lectures, as the teachers were expected to adhere to strict reading guidelines, taken from the limited range of the texts, their students had an opportunity to compare their teachers' lectures with the topics and concepts presented in these literature sources (Centra, 1993). In the modern era, student ratings were introduced in US university lecturers' evaluation systems in the 1920s (d'Apollonia & Abrami, 1997). While their validity was frequently questioned in the 1970s, as of now, the student ratings methodology has regained its credibility and now plays a crucial role in the assessment of the performance of teaching staff at universities (Cashin, 1995).

Braskamp and Ory (1994) delineate the following dimensions of performance evaluation that may be derived from the data provided by the student ratings. These are: course organisation and planning; the lecturer's clarity and communication skills in presenting learning materials; the teacher's ability to reach out to the students (student-teacher rapport); course difficulty and workload; grading and examination; and student self-learning rating (Cashin, 1995). Other research identifies the student rating methodology as capable of evaluating even wider dimensions of the teacher performance. For instance, Feldman (2007) identifies 28 dimensions of the instructional performance evaluation that can be interpreted with

the use of student ratings. In particular, such teachers' performance dimensions as teachers' preparation and course organisation (Dimension No. 5), teachers' clarity and understandability (Dimension No. 6), teacher pursuit and/or meeting of the course's objectives (No.28), and the student-perceived outcome of the course (No. 12) were found to account for a significant proportion of variance in student achievement (Feldman, 2007).

In comparison with methodologies such as peer review or self-evaluation, student ratings enable the administrators to receive an independent feedback from the stakeholder's group that would not be covered by the former methodologies. Moreover, the results attained from comparative research in this field indicate that the student ratings' evaluation is just as reliable or even superior to the peer review and trained observers' evaluation techniques. For instance, Murray's (1983) case study of 54 lecturers' individual teaching behaviours carried out with the use of eight trained observers demonstrated that the results summarised by these observers were closely correlated to the previous student ratings estimates, with the teachers that were assigned higher ratings by their students demonstrating superior levels of student engagement with their teaching. This evidence may be taken as pointing at the comparability of student ratings and trained observers' evaluation efficacy.

Furthermore, student ratings appear to be just as effective as peer evaluation techniques in producing a verifiable correlation between the respective observers' conclusions. As reported by Arreola (1995), student ratings correlated within the range of $r=0.70$ to $r=0.87$ across several years, pointing at the stability of the students' evaluations. Moreover, Marsh (1987) and Murray (1983) question the objective character and instructional basis of peer evaluation methodologies,

emphasising the latter's frequent instability and the tendency to be dependent on non-instructional factors, such as research productivity (Galbraith, 1997).

In addition, the very concept of teacher effectiveness may be critically appraised, in order to establish any objective evaluation criteria therefor. Rabinowitz and Travers (1953) already concluded that the ultimate conception of an effective teacher is neither a statistical nor an empirical matter, being dependent on a subjective “value judgment.” Hence, the definition of instructional performance may be dependent on the respective stakeholders’ viewpoints, such as colleagues (peer review), students (student ratings), or external observers (trained observers’ evaluation).

Darling-Hammond and Youngs (2002) generally define the concept of effective teaching as the effects of the course work on the student scores and overall academic performance. They define such criteria for effective teacher performance, as verbal ability, subject matter knowledge, general academic and personal quality and ability, and certification level. As this form of statistical correlation is widely utilised in the major research on the following subject, one may conclude that, for the purposes of this research, the similar methodological position should be used. Finally, the definition of criteria for measuring or observing teachers’ excellence characteristics is dependent on students’ stakeholder expectations, due to the study’s overall research design.

2.2.2 Student ratings evaluation methodology: validity and reliability issues

While objections have been raised as to students’ abilities to rate the performance of their lecturers, the extant research findings seem to have corroborated the validity and reliability of the students’ ratings as an approach to the instructional evaluation (Felder & Brent, 2004). However, certain issues of the methodology’s applicability

and reliability continue to cause concerns among some researchers (Cohen & McKeachie, 1980; Keig & Waggoner, 1994). Thus, a closer look at the methodology of students' ratings' is warranted for the purposes of this research.

Procedure for evaluation based on student ratings may take several forms, but they tend ultimately to be dependent on either structured questionnaires and/or focus groups, with the focus group being defined as the students of a particular class and/or of the specific lecturer. Depending on the respective research design, students present their rating judgment on the criteria presented by the researcher. For instance, Feldman's (2007) 28-dimensional paradigm of the teacher effectiveness' evaluation includes a number of criteria ranging from classroom management to teachers' encouragement of self-initiated learning, from teachers' friendliness and respect, or concern for students to teachers' fairness and impartiality of evaluation (Feldman, 2007). Such a comprehensive framework demonstrates that it is possible to use criteria different from the mere lecturer behaviour evaluation, with such aspects as the research productivity or the nature and value of course materials equally emphasised by Feldman's model (2007).

As for the more conventional models of student ratings, the UK National Student Survey and Australian Course Evaluation Questionnaire (CEQ) may be used as the starting points (Buckley, 2012). While the former focuses mainly on the final-year students' course satisfaction, which enables the educational administrators to compare various universities and, consequently, the courses within each (Cheng & Marsh, 2010), the latter is based on the benchmarking approach, allowing the Australian educational authorities to collect varied data on the universities' instructional performance (Richardson, 2005). For instance, the 2009 CEQ survey

conducted by James Cook University included seven scales for evaluating the graduates' performance, with good teaching and overall satisfaction being selected as 'compulsory' grading areas (James Cook University, 2010). In turn, 34 survey questions included in the CEQ encompass such areas as the student's perception of the teaching effectiveness, the generic skills developed when in the university, and its relevance for lifelong learning, as well as the impact of learning resources and of the learning community present at the university under question. Thus, the focus of such structured surveys is shifted from evaluating an individual teacher's behaviour to the more complex structures of the institution's learning community.

With respect to the validity and reliability issues inherent in the student ratings' evaluation models, one should note that, starting from the 1970s, several criticisms of the validity of student ratings have been offered. In particular, Cashin (1989) delineated 26 specific instructional efficiency factors, which were deemed to be beyond the students' ability to provide qualified judgments. Cashin considers these factors included subject matter mastery, curriculum development (new courses and course revision), and course design (instructional goals, content coverage, teaching and assessment methods; Cashin, 1989). The reasons for such limitations included may be put down to the necessary lack of insider information, experience, and expertise that would enable the students to comprehensively evaluate these areas.

Similarly, Hoyt and Pallett (1999) emphasise that students would be unable to provide accurate and objective judgments on such aspects as "currency of course content or a degree to which it provides a representative (as opposed to biased) view of the subject matter" (p. 36). These and other authors' identical conclusions on the

limits of the student ratings-based teacher performance or quality research seem to have precisely delineated the limitations of this approach's validity.

The validity of the student ratings evaluation within the bounds of their reliabilities has been underscored by the number of research studies in this subject area (Cashin, 1995; Feldman, 1989; Marsh & Dunkin, 1992; Murray, 1983). Still, the grade leniency hypothesis, which proceeds from the assumption that students' grading of their teachers is dependent on the latter's tendency to assign high grades to them, may seem to be running counter to such conclusions (Franklin & Ludlow, 1990). However, as Marsch and Dunklin (1992) demonstrated, the effects of the grade leniency factor are questionable and may scarcely be generalised. Furthermore, such studies as the one conducted by Aleamoni and Hexner (1980) demonstrated the moderate to high correlation rates between student ratings and peer evaluation results, underscoring the former's credibility and reliability.

Based on what has been discussed above, Wittrock (1986) argues that the provision of information about teachers and teaching as experienced by learners will result in a better understanding of the teaching process and its eventual outcomes. These factors were customised to the students' needs and to their reception and attitude in the learning. Therefore, by diagnosing their own technique and behaviour from the students' perspective, the teacher will be able to evaluate the relevance of their teaching. Teachers can use the information or comments gathered from the students to polish and develop their style of teaching and look for ways of improvement. The following sections discuss students' perception of their university lecturer.

2.3 Students' Perceptions

Buldu (2006) defined perceptions as the feeling or the capability, or the condition of being aware, or the state of knowing. Myers (1995), on the other hand, explains the perceptions as a scientific procedure where stimuli and knowledge are passed on to the brain using intuition and the five human senses. According to these definitions, a person is able to be aware of things, people, thoughts and events. Moreover, the perceptions may also be explained according to physical, physiological and psychological points of view. For instance, Eggen and Kaucha (2001) characterise perceptions as cognitive aspects by which people give meanings to the experiences in their lives. However, perceptions do not occur in isolation, since, they depend upon contextual information for their meanings.

Allport (1966) proposed that perceptions are the way we see or think about people, or the method used to assess people who are around daily (Adediwura & Tayo, 2007). The perceptions of students depend significantly on the ideas they were taught in the university by their professors and lecturers, and on their educational needs, without neglecting the social and cultural aspects surrounding them. The way the students perceive their university teacher differs from culture to culture. For example, students in Saudi Arabia or Libya differ from students in Asia, and crucially from students in the USA and in 'the West', on whom most research has been undertaken the concept of a good university teacher in the West may not be the same as in the Arab world. Finally, of course, there will be individual differences among students of the same religion or culture, in terms of ideas about what makes a good university lecturer

2.3.1 The way students perceive their university lecturers

Many studies across the world have been conducted to investigate the characteristics of university lecturers using university students' perceptions. The results of most of these studies show that there are similarities in students' perceptions of the personal and academic characteristics of an effective university lecturer, although they differ in regard to the prioritisation of those characteristics. Moreover, it students' educational and cultural backgrounds influence their perceptions of the characteristics of an effective university lecturer. The following will focus on two examples from each three regions' perspective: Africa, Asia, and the West.

From an African perspective, Chireshe (2011) conducted a survey in Zimbabwe of the way university students' perceive their teachers and the image of an effective lecturer. Seventy-seven students took part in the survey, analysed by means of content analysis. The findings concerned the set of characteristics that is typical for the effective lecturer: 'well organised', 'knowledgeable', 'involves students', 'sociable and easy to communicate with'. Moreover, the survey showed that effective lecturers are fair in grading. Furthermore, ineffective lecturers are not ready for the class, are often late, are incompetent in their subject, and are not interested in involving students in various activities and discussions.

Another study was conducted by Aregbeyen (2010) at the University of Ibadan in Nigeria, with 602 student participants. The objective of the study was to examine students' perceptions of the characteristics of a good teacher. The results of the study showed that the students would prefer such characteristics for the effective teacher as 'sensible', 'polite', 'easy to approach', 'stimulating', 'patient', and 'consistent'.

In Asia, Rosle *et al.* (2009) investigated the way accounting students perceive their lecturers, and the characteristics of the lecturers that contribute to the studying process of the students, with a sample of 150 students at University Malaysia Sabah. The results of the study showed that the students favoured a lecturer who was positive in communicating with his students. In addition, the majority of the participants stated that the personality of a lecturer plays an important role in their mutual communication without any obstacles.

A similar study was carried out by Barnes and Lock (2010) at the University of Korea. They asked the students to write the attributes for an effective lecturer. The attributes were grouped according to different criteria. Then the students expressed preferences for the number of characteristics, which would contribute to creating the atmosphere of respect and dignity in the class. Among them are ‘enthusiastic’, ‘tolerant’, and ‘friendly’, ‘knows and uses students’ names’, and ‘is eager to share personal experience and knowledge’.

From a Western perspective, Trice and Hriss (2005) conducted their study at the American University in Bulgaria with 62 US students specialising in prerequisite psychology who were going to become teachers at a state university, and 51 Bulgarian students also participated in the study. The study aimed to examine the students’ perceptions of their teachers’ qualities. The results showed that the US students preferred ‘enthusiasm’ as the most important quality while Bulgarian students put ‘knowledge’ first and ‘enthusiasm’ last. US students put ‘knowledge’ behind ‘good relationship with students’ and ‘enthusiasm.’

A total of 17,000 students at the University of Newfoundland, Canada participated in the study conducted by Delaney *et al.* (2010). The objective of the study was to

explore the students' perception of the features of an effective university teacher. As a result, the students stated that such characteristics are typical for an effective university lecturer as: 'sociable', 'organised', 'erudite', 'professional', 'humorous', 'engaging', 'tolerant towards his students', and 'receptive'.

It was obvious from the studies listed above that the perceptions of students of the characteristics of university lecturers are consistent in many respects, but differ due to educational or cultural patterns, and since the current research seeks to investigate the perception of students of the personal characteristics of university lecturers in an Arab country (Libya), it is necessary to consider studies concerning the Arab region.

The following sections explore the way students' from the Arab world perceive their university lecturers. There are similar features in terms of both cultural and educational systems in different Arab countries; however, there are important differences between them (Alhuat, 2004). In order to contextualise the empirical work of this thesis, it is necessary to examine the specific features of the Libyan educational system, within the wider context of education systems within Arab countries.

2.3.2 The way Arab students perceive university lecturers

The following sections of this chapter summarise the results of studies conducted in the Arab context in four sections: (I) the differences among students' perception based on the students' gender; (II) students' perception according to their academic level; (III) the effect of the students' regions in their perception of characteristics of a university lecturer; and (IV) differences relating to the subject area of study

2.3.2.1 Sex differences in students' perception of their university lecturers

It can be argued that the differences among students in perceptions of university lecturer's characteristics according to their sex are one of the contentious areas of previous research. While some studies have confirmed the existence of these differences (Al-Eysawy, 1984; Obydat, 1991; Shiekha, 1997), others denied any difference (Alshokiby, 1992; Tiaseer, 1997). For instance, in a survey carried out by Abdurrahman Al-Eysawy (1984) with 175 university students at the University in Cairo to explore students' perceptions of the characteristics of an ideal university teacher, the results showed that there were differences based on students' sex. Males preferred characteristics that contribute to the quality of the class, positive attitude and the ability to solve students' problems, while females favoured such characteristics as tolerance, sympathy, and concern.

The results of the previous survey were similar to the results of the study carried out by Obydat (1991). He aimed to explore the most prominent characteristics of a good university lecturer using the responses of 444 university students at a Jordanian University. The results of this study showed the difference in the students' responses on the basis of their sex. Male students favoured such characteristics as 'knowledge', the 'ability to help students with their difficulties', and 'respect'. Female students, on the other hand, preferred 'pleasant appearance', 'modesty', and 'a respectful attitude towards students'.

Other studies have found no sex differences in the valuing of characteristics across female and male students (Alshokiby, 1992; Das & El-Sabban, 1996; Tiaseer, 1997). For example, Alshokiby (1992) studied 748 university students of Ain Shames University and Suez Canal University. They were asked to say what characteristics

they preferred in their university teachers. The findings did not show significant differences between male and female responses.

2.3.2.2 Academic level differences in students' perception of university lecturers' characteristics

Academic level of students was considered as one of important factors that should be taken into account when analysing students' perceptions of university lecturer characteristics (Snell *et al.*, 2000), and it can be seen through a review of studies conducted in the Arab world that the academic level of students was one of the factors most investigated. However, the results from these studies showed a clear divergence in their findings; while some studies see that the academic level of student has a major impact on the students' perceptions of university lecturers' characteristics (Motwally, 1990; Alshokiby, 1992; Obydat, 1991), others show that the factor has very weak or non-existent effect (Das & El-Sabban, 1996; Tiaseer, 1997; Anbar, 2006).

In this regard, Obydat (1991) found perceptions varied according to students' academic level. In particular, the students of the first and second years of study preferred such characteristics as 'modesty', 'good organisation', and 'positive attitude towards students'. The students of the third and the fourth years of study emphasised such characteristics as being 'sensible', 'fair', and 'able to explain and teach the material'. In contrast, Mandira Das (1996) intended to explore the characteristics of a good university teacher working in the class. There were 120 university students' responses from the United Arab Emirates (UAE) University, which were made on the basis of a questionnaire with three groups of questions. There were twelve characteristics in each group. The results of this study showed that students of different academic levels have similar points of view on the research

subject. All students emphasised such characteristics as ‘willingness to assist students’, ‘showing profound knowledge of the subject’, ‘teaching the material in a logical manner’, and ‘acting fairly’. These results were similar to the findings of another study carried out by Anbar (2006) on 417 university students at the King Saudi University who were asked to express their preferences as for the characteristics of the university teacher. The results showed no divergence in the responses of the students of different academic levels. The majority of students emphasised such characteristics as having a respectful attitude towards students’ opinions, saying Islamic greetings when meeting the students, and contributing to the students’ activities and development.

2.3.2.3 Local cultural differences in students’ perceptions of university lecturers’ characteristics

It can be assumed that social factors can significantly affect students’ perceptions of many aspects of their educational experiences, including their perceptions of the university teachers’ characteristics (Kukari, 2004). Accordingly, the local culture and religion of a particular area have shown a strong impact on the students’ perceptions for the characteristics of their university lecturer in two Arab countries. Motwally (1990) carried out a study of 189 university students at Omdurman Islamic University, in Sudan. The objective of the study was the determination of the characteristics of a university lecturer on the basis of Islamic thought. The results showed that the students had formulated a set of characteristics such as no drinking during the class, tidy clothes, and no loud laughing. It is obvious that all these characteristics emphasised appearance, which is prevalent in a particular culture. Second, a study conducted by Anbar (2006) at the King Saudi University of 417 students asked them to express preferences for the characteristics of university

lecturers. The study showed that students preferred respectful attitude towards students' opinions, saying Islamic greetings when meeting the students, and contributing to students' activities. The most significant for the students was beginning with an Islamic greeting. From a Western perspective this may appear to be surprising, and indeed such a 'characteristic' appears in no 'Western' studies in this area. It therefore acts as a good illustration of the profound influence of cultural factors in these matters.

2.3.2.4 Academic subject differences in students' perceptions of university lecturers' characteristics

Differences in the subjects students specialise in may also play a significant role in identifying the preferences for perceived characteristics of university lecturers. This statement was mainly based on every academic subject differing in content and teaching methods; therefore one might make an a priori assumption that there will be differences in the students' perceptions of their university lecturers on the basis of their academic subjects. However, there were only three Arab studies among those reviewed that took this variable into consideration, and variations among the findings can be observed. For instance, only the study of Motwally (1990) at Omdurman Islamic University focused on the way the students perceive their university teachers according to academic subject. As a result, there were differences in students' preferences for characteristics of a university lecturer according to their subjects. Social science students emphasised appearance, clothes, the use of the Arabic language, and knowledge. These characteristics appeared the least important for the physical education students.

On other hand, the results of Obydat (1991) showed that all students in different academic subjects agreed upon characteristics such as respect, the ability to present

the material, sincerity and friendly relationships with students. No significant differences among students' academic subject was found. Moreover, these results were supported by another study conducted by Alshokiby (1992) at Ain Shames University and Suez Canal University. The study concluded that there was no divergence between the responses of the students who specialised in different academic subjects and all of them emphasised such characteristics as the mastery to teach, strong personality, fairness to every student, and punctuality.

To conclude, a small number of studies have been conducted in Arab countries in order to explore the preferred characteristics of a university lecturer or to characterise the ideal university teacher. However no study focused specifically on personal characteristic of a university lecturer as an inseparable part of the educational process. Personal characteristics of a teacher play an important role in positive mutual communication and studying, which contribute more to the students' development and education. However, many of these studies have been criticised. For instance, it can be argued that most of them do not have sufficient in-depth analysis of the data. Also, only one study has focused on the current university lecturer characteristics (Shiekha, 1997). Moreover, they lack other factors or variables, which may also have an impact on the determination of the university lecturer's characteristics. For example, the majority of the studies omitted or paid little attention to the factor of demographic variables, such as the level of study or gender. Furthermore, they did not consider the personality or learning style of students, which may be a particularly important feature of students' perceptions in this regard (Graf & Liu, 2009). Such omission might have limit the usefulness of the results of the studies and particularly, the determination of the preferred characteristics of a university lecturer. What is more, we know all these things about student perceptions

in general, but not specifically in a Libyan context. In this respect Libya, for many historical, political and cultural reasons, has not received such attention from educational and social scientific researchers. As such, findings may assist the officials and universities' management staff to review their policy and methods of hiring or training university lecturers. Consequently, this may lead to positive cooperation, which would help the lecturers reconsider their methods of teaching, preparation and presenting the material in a way students would welcome and benefit from. Currently there are no criteria for students' evaluation of their university lecturers (Mohammed, 2005).

Since it is clear that local cultural factors play such an important role in relation to the subject of this thesis, it may be useful here to shed a little light on the higher educational system in Libya as the location of the current research, and to discuss matters concerning the role of both the student and lecturer within this educational system.

2.4 Higher Education System in Libya

2.4.1 Overview of the Libyan education system

Education in Libya is free for everyone from primary school up to university and postgraduate levels, whether at home or abroad. Students represent 1.7 million of the Libyan population (out of the total of 6 million), being distributed across different educational institutions (Alhuat & Ashor, 2006; Shibani, 2001). The educational system of Libya is divided into four educational levels:

- Pre-School Level**

Children spend two years at this level and might join it at the age of 4.

- **Basic Level**

This level comprises the compulsory stage of basic education, being further divided into six primary school and three secondary school years. The primary education curriculum comprises six years of study, which are further divided into a four-year and a two-year period, while secondary education is differentiated into a three-year compulsory and a three to four-year ‘intermediate’ curriculum cycles (British Council, N.D). The completion of the secondary education’s compulsory cycle enables the students who are unable to transfer to the intermediate cycle to enter into intermediate vocational training (British Council, N.D).

- **Intermediate Education and Training Level**

The study or training at this level lasts for three or four years, and students may join it after obtaining a Basic Education Certificate (BEC). This educational level comprises a number of school types:

- (a) General Schools;
- (b) Vocational Training Centers;
- (c) Sector Specialised Secondary Schools and Institutions (Electricity, Police, Customs, Technical, Military, Agricultural etc.).

Students that completed the intermediate cycle may then apply for the higher education

- **University and Higher Education**

Studies at this level last for three to seven years, according to the particular course at each faculty or higher education institute. Students join after finishing the general or specialised secondary schools or training centres (International Bureau of Education,

2000). The overall structure of the education system in Libya is represented in Figure 2.1. The focus of this research is on university education.

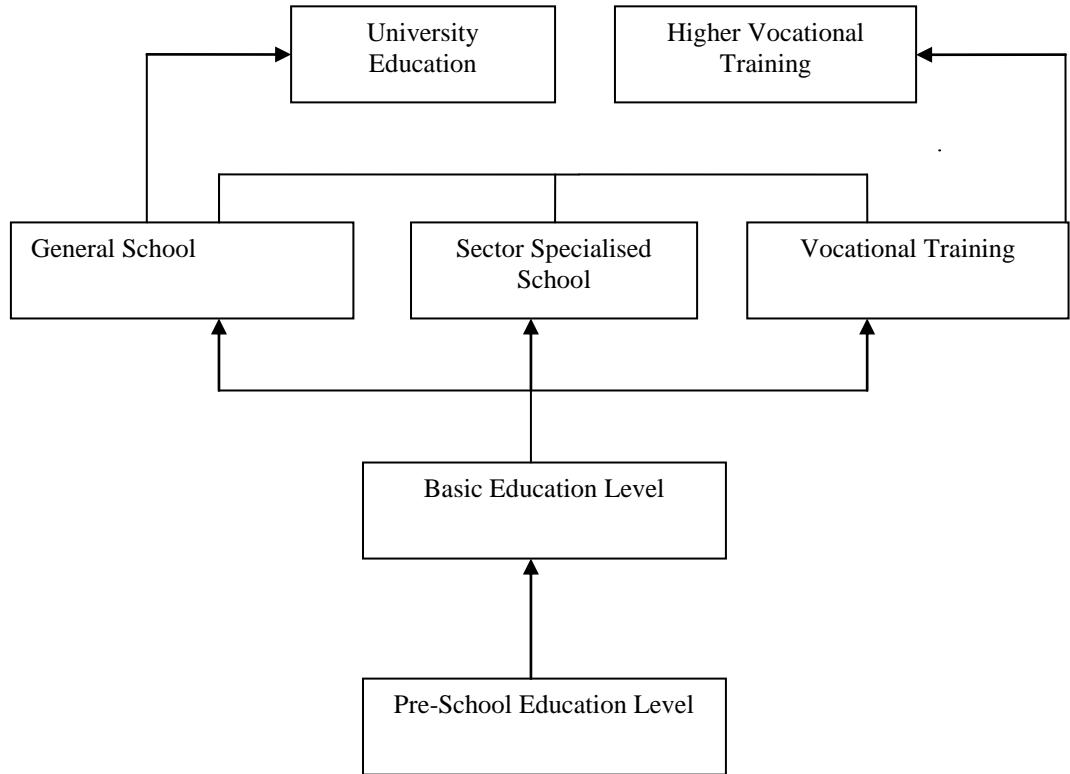


Figure 2.1: General Outline of the Libyan Educational System

2.4.2 Higher education

The main institutions of higher education in Libya include universities and higher technical and vocational schools. All these institutions are supervised and financed by the state (Alhuat & Ashor, 2006). Admission to both forms of tertiary education requires a Higher Education Certificate (HEC) at the end of the intermediate level; all universities require a score of 65% or more at the national examination for an applicant's admission (Alhuat & Ashor, 2006). As documented by the National Report on the Development of Education in Libya, the objectives of university education can be summarised as follows:

- *Satisfaction of society's need for qualified persons in the various fields of knowledge.*

- *Performance of theoretical and applied researches and experiments.*
- *Organisation of training courses, educational programs, and applied education.*
- *Organisation of conferences, seminars, and symposia, as well as maintenance of strong academic ties with research centers and universities abroad.*
- *The promotion of Arabisation Programs and translation in order to emphasise the use of the Arabic language as a vehicle for knowledge in all subjects* (International Bureau of Education, 2000).

Owing to the increase of students' enrolment in Libyan universities since 1981, the university structure has been revised, and the number of universities has been increased, as well. As at the beginning of the academic year 2012, the higher education level comprised 12 universities (two of them have a special nature) with a total of 160 faculties, in addition to 16 technical faculties and 81 higher technical and vocational centres and five private universities. There were about 341,841 students enrolled in all universities in Libya in the academic year 2010/2011, about 59% of them are female, and more than 90% are enrolled in public universities (<http://eacea.ec.europa.eu/tempus/>).

2.4.3 University lecturers in Libyan universities

According to the steady increase in the amount of universities in Libya (from two in 1970 to twelve by 2012), the number of university lecturers also increased from a few hundred in 1970 to 10,565 in 2006, employed in various colleges and teaching various disciplines. Of these, 7,996 are Libyans (76%), and 2,569 are non-Libyans

(24%), at the ratio of one lecturer per 29 students (Alhuat & Ashor, 2006), regardless of the subject area.

To maintain the balance between the continuous increase of the number of students in Libyan universities and their need for university lecturers, Libya has for a long time adopted two principles: the first one is based on the development and expansion of postgraduate programs, with the number of postgraduate students on MA and MSc courses at Libyan universities in 2003 reaching the level of 8,013 (Alhuat & Ashor, 2006), the second principle is based on sending students abroad for study and training in various fields of knowledge, and by 2006, the number of Libyans studying postgraduate courses abroad had been 3,473, distributed across more than 30 countries (Alhuat & Ashor, 2006; The National Commission for Education, Culture and Science, 2004).

Although the functions of the university lecturer are numerous in most of the world universities, the university lecturer in Libya is restricted to teaching functions, which can be considered a key factor of the process as a whole. Teaching in these universities relies on traditional methods, where the university lecturer usually plays the main role of provider and students the role of recipients (UNDPRBAS, December 2006).

It is notable for the teaching process at most of the Libyan universities that a role of the university lecturer (especially in the social and human sciences) is limited to preparation of scientific presentations on a particular subject that are displayed to students at a particular time. The role of the student is limited to listening to lectures, taking notes, and keeping these notes until the exam time (Alhuat, 2004; International Bureau of Education, 2000). In addition, the relationship (International

Bureau of Education, 2000) between students and lecturers does not go beyond the threshold of the classroom in most cases (Alhuat & Ashor, 2006), which points to a lack of the interaction and relationship between students and lecturers that may impact negatively the institution's scientific performance.

2.4.4 Requirements for lecturer qualification at Libyan universities

The Ministry of Higher Education has laid down a set of requirements for the selection and appointment of university lecturers in Libyan universities, which mainly require a master's degree or doctorate in a specific area to work as a member of the teaching staff at any Libyan university.

Although the Ministry of Higher Education has set out requirements for the selection and appointment of university lecturers, it has completely neglected the on-going issue of evaluating the performance of those lecturers, and indeed no effort has been made to encourage the analysis of students' learning experiences within the universities. It should be noted in this respect that, until early 2006, there was no institution to assess or evaluate either the performance of Libyan universities in general or that of university lecturers in particular. However, in 2006 the Quality Assurance Centre was established. It was implemented in order to assist higher education institutions in improving their ability to achieve their objectives by increasing the level of performance and improving the quality of the educational process, meeting international standards and ensuring the achievement of those aims through the construction of a system of the quality assurance and accreditation.

Although the Quality Assurance Centre has been in operation for more than ten years, and its many achievements are published on its website, it is notable that its work has focused on the follow-up of higher education institutions - especially

private universities - in terms of the relevance of their curricula and structures to those in the public or state universities. There is also a complete absence of focus on the important issues relating to the development and evaluation of university lecturers as one of the significant elements in the educational process (International Bureau of Education, 2000), because there are no specified methods, either in-service training or continued training, and no regulations compelling institutions to include these tasks in their functions. This has plunged most of the institutions of higher education in Libya into obvious difficulties:

- Many of the university staff members are not educationally trained for the teaching process despite their specialised scientific skills.
- The lack of criteria for choosing university teaching staff members and the need to increase numbers of teachers owing to the increasing number of students and universities and the different study systems used by the different university faculties (i.e. the semester and the academic year systems), have led to the appointment of the unqualified university teaching staff members.
- The absence of fixed-contract criteria paved the way for unqualified teachers to creep into the university teaching process (International Bureau of Education, 2000; The National Commission for Education, Culture and Science, 2004; Alhuat & Ashor, 2006).

It seems, however, that the issue of the poor quality assurance and the lack of criteria for the selection or evaluation of university lecturers is not peculiar to Libya, but is shared by most Arab universities (Wheeler, 2002). In 2006, the UN report on the quality assurance of education in Arab universities found that the quality of

education in the universities was one of the weakest aspects, emphasised by the reference to the lack of evaluation methods of universities in general and university lecturers in particular, indicating that there is a lack of clarity about the use of such methods (UNDPRBAS, December 2006).

The report recommended that Arab universities should establish systems at university, faculty, and course levels involving annual evaluation, focusing on the use of feedback from all elements in the educational process, including that from students, teaching staff, professional bodies, and ministry officials when it is appropriate (UNDPRBAS, December 2006). The Arab Network for Quality Assurance in Higher Education supported these recommendations, calling for Arab universities to build a system that allows all elements in the educational process, including students, to participate in the evaluation of their programs, teaching staff, and activities (Badrawi, 2009).

Therefore, the essential requirement is to reconsider aspects of the educational system in Libyan universities in order to provide an opportunity for all its members, especially lecturers, administrative staff, and students, to contribute to the process of evaluating the components of the following system (Alhuat & Ashor, 2006; UNDPRBAS, December 2006; Badrawi, 2009).

Based on above, there is international pressure for Arab universities to pay more attention to engage students in all the assessment programmes for the components of the higher education system, including university teachers and teaching process. However, involving students in the assessment process might require determining the factors that can affect their evaluation, whether those are demographic, learning style or personality factors. The theoretical basis and implications for the learning

style of students as a key factor that could affect students' perceptions of their university lecturers' characteristics is explored in the following section.

2.5 Students' Learning Style

This section analyses different learning styles, while touching on their fundamentals. The emphasis of this section is laid on the review of the present literature. Thus, it can be stated that this section would give an overview of the key aspects and terminologies that are directly and indirectly associated with the students' learning styles. This section will endeavour to clarify how learning style of students can affect their perceptions of their university lecturers.

2.5.1 Definitions of learning style

The 'learning style' concept has received much attention in the fields of psychology and education, as researchers came to the conclusion that a person's intelligence was not only the factor that influenced how he or she learnt, with studies revealing that students with the same IQ characteristics might perform significantly differently on similar learning tasks. This provides an opportunity to consider some other factors that can influence personal learning abilities.

According to Claxton and Ralston (1978), learning styles can be described as the "learner's consistent ways of responding and using stimuli in the context of learning.p, 36" Another definition presented by Kinsella (1995) regards a learning style as "an individual's natural, habitual, and preferred way(s) of absorbing, processing, and retaining new information and skills, which persist regardless of teaching methods or content area." Learning style has also been described as the inherent preference of individuals for specific forms of engagement in the learning

process. It means that learners understand and process information differently. While one individual may prefer a particular learning style to another, such preference would reflect a personal tendency for specific methods of learning in a particular situation (DeCapua & Wintergerst, 2005).

2.5.2 Learning style models

A variety of models are currently used for the purposes of characterising students' learning styles. Kolb's (1984) Experiential Learning Theory (ELT), Felder-Silverman Learning Styles Model (1988), Honey and Mumford's (1982) Learning Style Questionnaire (LSQ), Gardner's (1993) theory of multiple intelligences, and Dunn and Price's (1989) Learning Style Inventory (LSI, or Dunn and Dunn Model) are rated as significant. For the purposes of this study, a Felder-Silverman Learning Styles Model has been chosen.

This choice is predicated on a number of factors. First, the Felder-Silverman Learning Styles Model is focused on the most important features of individual students' learning styles, while providing for a variety of factors and data to be incorporated into each style's discussion. In comparison with such no less frequently utilised models as the LSI, the Felder-Silverman Learning Styles Model enables the researcher to avoid focusing on specific discipline-based research styles (that is environmental, psychological, physiological, and so forth), instead focusing on more generic aspects (the basic archetypes of students' learning variants, which are applicable to all disciplines). While the Felder-Silverman Learning Styles Model has approximately the same focus as such models as the ELT, it is based not on specific questionnaires with the pre-determined reply options but on the more generic

questions (Felder & Silverman, 1988) that enable the respondent to customise his/her answer to deal with the specific learning outcomes.

The Felder Silverman Learning Styles Model has been rated as highly productive and successful (Felder & Spurlin, 2005), having been included in the previous studies that specifically involved the issues of the learning material adaptation, collaborative learning, and traditional teaching. This model was initially designed by Felder and Silverman (1988), with a view to capturing and cataloguing recurring differences in their engineering students' learning styles, and the model's focus has been retained on the categorisation of the student's dominant learning styles through the use of four learning style dimensions.

The first dimension is focused on the sensing/intuitive learners' dichotomy. Two categories of learners are delineated here. 'Sensors' are described as being oriented towards traditional problem solving techniques, with the heavy use of the orthodox quantitative data collection and analysis methods. They are weak in dealing with unexpected obstacles and/or breakthrough. In contrast, 'intuitors' are focused on qualitative and purely theoretical approaches to the detriment of the mastery of repetitive facts and other data (Felder & Silverman, 1988).

The second dimension involves the differentiation of the students into the verbal vs. visual learners' groups. A 'verbal' learner is defined as a student that prefers verbal explanation to visual demonstration, increases his/her learning's efficiency by explaining the newly studied data to his/her peers, and is endowed with keen memory for verbally transmitted information (oral lectures). On the contrary, 'visual' learners are oriented towards the visual information reception, as exemplified by the educational videos and films, flow charts, slide presentations, and other

demonstrations. A visual learner may be vulnerable to forgetting the information he/she receives in verbal form (Felder & Silverman, 1988).

Finally, the third and fourth dimensions of the Felder-Silverman Learning Style Model involve the differentiation of learners into active vs. reflective and sequential vs. global categories, respectively. While ‘active’ learners are dependent on group work and experimentation-based research in increasing the efficiency of their studies, ‘reflective’ learners are theoretically-minded and function most effectively in solitary or one-on-one learning situations (Felder & Silverman, 1988). However, reflective learners are not diametrically opposed to active learning; it is only that their mode of activity is qualitatively different.

Accordingly, ‘global’ learners are distinguished by their ability to achieve major learning breakthroughs at the short time conjectures, while being prone to inactivity in the time frames between these breakthroughs. ‘Sequential’ learners are those students who follow a more conventional temporal model of learning. They get used to following linear reasoning when working with the research’s material and being comfortable with the progressive presentation of logically ordered complex material (Felder & Silverman, 1988).

As the research that underpins this thesis deals with categorising the participating students, it is necessary to deal with the issue of the (in)compatibility of pursuing both learning styles at the same time. It is often argued that a learning and/or teaching style which suits one learner may not appear to be useful for another. Some students present their specific strengths which facilitates the formulation of their preferred learning styles (Kolb, 1984). In situations where the students display preference for the verbal learning style, it cannot be stated conclusively that they will

not form affinity with elements of the visual learning style. The question of how the learning style should be integrated and organised is still being posed by both researchers and instructors (Desmedt & Valcke, 2004). A suggestion was proffered by Reid (1987) that, although the stylistic preferences are comparatively stable, students need to be flexible in their pursuit of learning. It has been argued that the students' capacity to adopt multiple learning styles may enable them to obtain greater success in their studies (Hyland, 1993).

2.5.3 Learning style in educational setting

One of the fundamental tasks of education is to provide high quality instruction that meets the learning requirements of students (Gao *et al.*, 2013; John, 2009). As the higher education sector expands worldwide, students are coming to institutions of higher education with more diversity in their learning styles than ever before (Gao, 2013). This increasing diversity requires more attention from educational institutions to meet the challenge of high quality education provision at a systemic and classroom level. Rabia (2011) stated that one of the most major challenges that university teachers face in the classroom is to be perceptive enough to identify learning differences among students and to tailor education provision accordingly. However, a number instructors may not realise that students vary in the way they process and understand information (Raven, Cano, & Van Shelhamer, 1993). Differences in learner style are important factors in the general learning environment.

Rabia (2011) suggested that teaching and learning involves four variables: presage, context, process, and product. The context variables include background of the learners, such as their personality traits and learning styles. Nel (2008) has suggested

that learning style is significant in students' academic achievement, how they learn, interaction with teachers and academic choices. Nel (2008) reported that accommodating variations in learning styles could improve curricula and the teaching-learning process in higher education. The following sub-sections outline the impacts of learning style on different dimensions of education.

2.5.3.1 Learning style and teaching methods

The identification of students' learning styles might help their instructors to adopt teaching and assessments methods that make learning more accessible. For instance, learners may process information in diverse ways as teaching methods vary, resulting in the possibility of a mismatch between teaching methods and learners' preferences (Felder & Silverman, 1988). This can lead to disengagement, ineffective learning, and potential underperformance. Therefore, teachers who use the lecture format should consider that students are unlikely to retain much of the material they hear. Thus, teachers must acknowledge that producing an oral presentation in the class will generate varied learning outcomes for students, with some of that variability relating to different learning styles. Instructors should therefore try to add visual material to their lessons, for example pictures or graphics which will help students to recall the information, as the use of one learning style in the class could be ineffective for some students (Arthurs, 2007).

Learning styles can also be seen to vary within different disciplines, as diverse academic subjects provide different learning environments, with students' learning styles changing in accordance with the discipline being observed. Meyer's (1999) assumption that there is a correlation between the academic subject's nature and the student's learner style may be considered an example of such a perspective. For

example, one might expect, *a priori*, that the preferred learning styles of fine arts students might be systematically different to those who have become interested in studying philosophy.

2.5.3.2 Learning style and academic achievement

The examination of the relationship between the learning style and academic achievement in various disciplines is one of the most relevant research subjects as differences among students' learning styles may impact their academic performance and achievement. Holley and Jenkins (1993) conducted a study that aimed to examine the relationship between the learning styles and performance of accounting students for four different exam question formats (multiple-choice theory, multiple-choice quantitative research, open-ended theory and open-ended quantitative research). The results showed that there were significant differences between the four formats as to the learning style, with the exception of the multiple-choice quantitative format. The researchers concluded that students with diverse learning styles perform differently depending on the examination format.

These results support the findings of Dobson (2009), who conducted a study aiming at investigating the relationship between gender, course scores, and preferred learning style in a university physiology class. The study revealed that female and male students had significantly different learning style preferences. Females mostly preferred visual learning followed by aural, read/written, and kinaesthetic styles. The males' preferred learning style was visual learning, followed by read/written, aural, and kinaesthetic modalities. There was also a significant relationship between course scores and a preferred sensory modality. Kvan and Yunyan (2005) conducted a study on architecture students in China using the Kolb's Experiential Learning Theory

model to explore the students' learning styles. A significant correlation was established between learning style and academic performance, with 'convergers' achieving significantly lower marks in one studio while 'assimilators' succeeded in the other one.

2.5.4 Learning style and personality

The conceptualisation of the relationship between the learning style and personality can also be one of the keys to gaining a full understanding of the learning style effect on the learning process, as there is an argument that a learning style construct is associated with personality profile. The study conducted by Furnham *et al.* (2008) on 400 students from four universities in the US and Britain, which aimed to explore the relationship between learning style and personality, demonstrated that neuroticism was positively associated with a surface learning style, while extraversion was correlated with a deep style. Openness showed a strong pattern of correlations: it was negatively associated with a surface style but positively correlated with a deep style. Conscientiousness was very strongly correlated with an achieving style and modestly correlated with a deep style.

The same results were drawn from a study conducted by Swanberg and Martinsen (2010) on 687 business students with a view to shedding light on the relationship between a five-factor model of personality and learning style. The study findings revealed that there was a strong positive relationship between conscientiousness and the strategic approach, a strong positive relationship between openness to experience and the deep approach, and a strong positive relationship between neuroticism and the surface approach. There were also correlations between the other personality traits and the three aforementioned approaches.

The way people think, perceive, problem-solve and remember is through their own cognitive style, and learning styles can be considered as methods by which each individual learns or understands the world. Different people learn things differently; they perceive the world differently and learn in different ways and circumstances (Singh, 1988). Gardner (1993) determined seven types of intelligence: kinaesthetic logical/mathematic, linguistic spatial, musical, inter-personal and intrapersonal. He claimed that people have different strengths in each of these and that they learn best through their natural intellectual strengths, and the education setting should ensure that knowledge can be accessed through all these intelligences.

Cognitive styles and learning styles are closely related to each other. As a person not only learns about the world in different ways but also perceives the world in different ways, and under different conditions (Appleton, 1983). Therefore, the question of whether students with different learning style value the perceived characteristics of their lecturers differently is an interesting and potentially useful one to address. And furthermore it is not one that has to date been systematically addressed in the extant literature.

2.6 Personality

2.6.1 Introduction

The idea of defining personality can be traced back to the writings of Hippocrates' (c. 400 BCE). He established a theoretical framework of defining personality as dependent on the effects of blood fluids and nurture. Hippocrates believed that human personality was a result of biologically based processes, which were totally dependent on such factors as mood, behaviour, and environment (Allport, 1961).

In the modern interpretation, personality is related with the psychological system that gives output in a form of patterns of behaviour, feelings, and thoughts. On the other hand, personality has been associated with behavioural modalities, and individuals' behaviour is considered a basic unit of measurement for personality dynamics (Carver & Scheier, 1996). Personality is assumed to be a combination of the internal and external elements compelling an individual to behave in certain way. Personality may be defined as an individual's mode of interaction with other similar individuals. Consistency of behaviour may be considered to be a general habit of individuals, but personality is a broader concept.

It is widely believed that an individual's role in the society is a factor exerting impact upon his/her personality. Therefore, it may be argued that no person has personality traits identical to those of the other one. Every human being possesses his/her own personality dynamics, and each individual has to adopt certain behaviour in accordance with the psychological attributes bestowed upon him/her by nature and/or upbringing (Asbury *et al.*, 2003). For example, if a person is a student, he/she will behave within a context related to the education system. His/her social role has its impact on his/her pattern of thoughts. Given the potential importance of such considerations for the present research, this section discusses the literature on personality trait theories with a particular focus on Five Big Factors.

2.6.2 Personality theories

The main advantage of personality theories may be ascribed to their offering of the extensive explanations of an individual's personality and behaviour. Traditional theories of personality include psychoanalytic theories, humanistic theories, and learning theories. They are mostly focused on the details of personal behaviour

disorder, providing the detailed evidence on the origins of and treatments for such behaviour (Maltby, Day & Macaskill, 2007). In contrast, personality traits theories are entirely oriented towards exploring, interpreting, and predicting the behaviour of an ‘ordinary person’ (Abdullah, 1996). This section will provide a brief overview of key models of personality traits, as the current study used one of these models to measure the students’ personality.

2.6.2.1 Personality Traits Theories

The aim of the section is to discuss theoretical approaches concerning understanding personality. Personality traits theories occupy a significant place in the literature on personality psychology. This section will consider three broad theoretical perspectives that have received considerable comparative support in the professional literature and are considered to be the most common personality theories. These are Cattel’s (1950) 16 Personality Factors theory, the Big Five Factors model, and Eysenck’s (1967) three-factor theories. According to these theories, personality is a collection of a number of traits or factors derived by the factor analysis approach.

Personality researchers have agreed on the psychometrical advantages of the Big Five factors model; although, it has sometimes been criticised for its lack of theoretical explanation on the development of some personality factors. It should be mentioned that there are some differences among the three main theoretical approaches to understanding personality, in terms of the number and meaning of the personality factors. At the same time, the three approaches agree on other aspects, for example that neuroticism is a basic dimension of personality dimensions (Bargeman *et al.*, 1993; Cattell & Kline, 1977). The three approaches will be outlined in the following sections.

2.6.2.2 Cattel's Theory

Cattell (1977) considered the most prominent critics of the behaviour theories based on clinical explanations and conclusions. As they demonstrated that the personality theories that cannot measure personality with the use of experiments and the qualitative expression of the results thereof cannot claim the status of a theory. Cattell (1977) believed that traits are the basic elements of the personality. The factor analytic approach was used to classify traits in several ways, as presented below.

A. Common and unique traits

The common traits are those possessed by all people sharing the same culture, the only differences among them are of degree, not in type. Extraversion may be an example of a common personality trait. In contrast, the unique traits are possessed by a certain or small number of people on individual basis. For example, an interest in fishing or politics is a unique personality trait (Maltby, Day & Macaskill, 2007).

B. Ability, temperament, and dynamic traits

The ability traits refer to the individual's likelihood to successfully pursue his/her goals; such are the numerous aspects of intelligence. The temperament traits determine individuals' behaviour in response to environmental incentives; for example, an individual may be easygoing, irritable or assertive. Finally, dynamic traits describe the motivations and interests of individuals and the forces driving their behaviour (Schultz, 2005).

C. Surface traits and source traits

Cattell and Kline (1977) viewed surface traits as the behavioural phenomena or events that can be observed and correlated with each other. The researchers believed that these traits are derived from source traits. For instance, integrity, honesty, self-discipline, and thoughtfulness are surface traits. When people are measured on each of these surface traits, the correlation should be established between their scores on all these surface traits, because these are the result of the same source trait, which is the ego strength (Maltby, Day & Macaskill, 2007).

Cattell and Kline (1977) argued that source traits are the real factors assisting in describing the human behaviour. Cattell and Kline (1977) determined 16 source traits using factor analysis techniques. These traits were bipolar and were viewed as representing the basic factors of personality. While the 16PF questionnaire has found a wide usage in psychological research, its internal validity appears to be rather low due to the lack of consistency (Conn & Rieke, 1994). Therefore, its use may not be recommended for the present research.

2.6.2.3 Eysenck's Theory

Although Eysenck (1991) was in agreement with Cattell that personality is built on dimensions or factors, he differed on the number of factors that would define human personality. Eysenck reviewed four previous studies that had factor-analysed Cattel's 16 PF questionnaire and concluded that Cattel's 16 factors of personality were not replicable. Using the factor analytic approach, Eysenck derived three broad personality dimensions, which he designated as neuroticism, extraversion, and psychoticism, respectively.

While there is a tangible connection between an individual's position with regard to either neuroticism or psychoticism scale and his/her tendency to lapse into such clinically diagnosed personality disorders, the designation of an individual as either 'psychotic' or 'neurotic' does not entail a detailed mental disorder diagnosis (Eysenck, 1967). The attribution of respective individuals to one or the other supertraits personality types, in Eysenck's interpretation, is predicated on purely biological factors (Eysenck, 1982). A detailed explanation of the respective personality measurement scales and their implications are provided below, as expounded by Eysenck and Eysenck (1991).

A. Extraversion versus introversion

Extraversion is considered to be a bipolar scale with extraversion at one end, and introversion at the other. A typical extravert (a person with a high score on introversion- extraversion scale) may be more sociable, less reliable, optimistic, and impulsive, while a typical introvert is a person who is deliberate, reliable, unsociable, reserved, and possesses high ethical standards (Eysenck & Eysenck, 1991).

According to Amirkham, Risinger and Swickert (1995), extraverts are prone to rely on external help in dealing with critical situations, which is explained by their tendency to attract and form friends' and/or followers' networks. In addition, extraverts seem to be more action- than reflection-oriented in their research habits, requiring additional study breaks in the course of their learning activities (Campbell & Hawley, 1982). Therefore, from the perspective of the learning style paradigm employed in this research, extraverts may be categorised as active and global learners (Felder & Silverman, 1988).

In contrast, introverts are construed as solitary learners that prefer to pursue their

studies in quiet and remote areas (Campbell & Hawley, 1982). With respect to visual/verbal learning style framework, it may be argued that introverts are more verbally oriented, as their auditory senses' arousal patterns would be adversely affected by the excessive inflow of intensive data (Campbell & Hawley, 1982). This may lead to the conclusion that introvert/extravert differences have a direct bearing upon students' learning styles.

B. Neuroticism versus emotional stability

A neuroticism/emotional stability scale is a bipolar dimension that counterposes aspects of maturity and good adjustment (emotional stability) to these aspects' defects. Individuals with high neuroticism scores have a tendency to be anxious, depressed, worried, and suffering from body disorders. In addition, their emotional responses are exaggerated; such individuals might have difficulty in returning to normality after passing through emotional experiences. In contrast, persons with low neuroticism scores are generally quiet, comfortable and quickly recover their stability after emotionally disturbing experiences (Eysenck & Eysenck, 1991).

Neuroticism may be expressed through different psychological conditions, ranging from obsessive thought patterns to unreasonable phobias. The specific group of neurotics, designated as psychopaths, is generally free from such symptoms, but its members behave antisocially due to the emotional satisfaction they derive from such activities (Eysenck, 1965). The psychopaths present a particularly different problem in the educational environment, requiring special modes of psychological intervention.

C. Psychoticism versus impulse control

Psychoticism is an independent factor, rather than a progressive stage of neuroticism. Individuals with a high degree of psychoticism are reckless, antisocial, aggressive, and do not care about ethical standards (Eysenck & Eysenck, 1991). While this type of psychopathological disorder leads to the development of such adverse personality traits as insensitiveness, hostility, and cruelty, it may be argued that psychotics may be endowed with certain creativities (Eysenck & Eysenck, 1975). The examples of several prominent scientists of the past demonstrate that, while such individuals possessed a genius-level intellectual capacity, they were frequently suffering from the symptoms associated with a psychotic condition (Eysenck, 1982; Simonton, 1994). Thus, certain students may be brilliant in their study performance but unbearable in their emotional responses, requiring specific patience on behalf of the instructor.

2.6.2.4 Five-Factor Model

McCrae and Costa (1997, 1999) suggested that the personality traits cannot be explained only by three factors as Eysenck did, but at the same time cannot be expanded to 16 factors, as in the Cattel's theory. They used the factor analysis approach and combined the findings of several previous researchers to derive five major dimensions, which they called the five factor model (FFM) or, as McCrae (2001) would call it, the Big Five Factors Theory. These factors are extraversion, agreeableness, conscientiousness, neuroticism, and openness.

Extraversion is the trait responsible for sociability, assertiveness, talkativeness, and excitability. Persons with the high scores in this factor are behavioural extraverts, being rather sociable, friendly, optimistic, and affectionate. In contrast, people with

the low scores are behavioural introverts and tend to be withdrawn, reserved, and passive.

Agreeableness is a personality factor corresponding to trust, affection, altruism, and affection. Thereafter, persons with the high scores on this factor are trusting, warm, helpful and soft-hearted, whereas low score individuals are suspicious, argumentative, irritable, unhelpful, and uncooperative.

Conscientiousness refers to the high set of thoughts and good impulse control. This factor differentiates between individuals who are responsible and self-disciplined, at the high end, and individuals who tend to be irresponsible, careless and undependable, at the lowest end.

Neuroticism is another personality trait which refers to emotional stability, moodiness, sadness, irritability, and anxiety. This factor is a measure of an individual's emotional stability and personal adjustment. People with high scores on neuroticism are emotionally unstable and prone to insecurity and vulnerability. They respond emotionally to events that would not affect most people, and their reactions to adverse situations tend to be stronger than normal. They are more likely to understand normal situations as threatening and minor frustrations as difficult. People with the low scores are calm, have a high self-esteem, are emotionally stable, well adjusted, and even-tempered.

Finally, openness refers to the sphere of the imaginative. Persons who score high on openness are independent thinkers, imaginative, and interested in cultural pursuits, while people with the low scores tend to be conventional, narrower in their interests, and prefer the familiar to the new (McCrae & Costa, 1990).

The evidential support for the Five Factor Model appears to be rather solid, with various researchers reporting its consistency with respect to the application in comparison with other similar scales. For instance, Boyle (1989) found that results derived with the use of the Five Factor Model are in moderate to strong correlation with the similar data retrieved with the use of both Eysenck's and Cattel's frameworks. Goldberg's (1993) research demonstrated that theoretical frameworks used in the Five Factor Model and those of the 16PF and three-factor theories seem to be broadly overlapping. Moreover, the research conducted by McCrae *et al.*(2000) established the direct connection between factor traits observed and genetic traits having an impact thereon. Thus, the validity and scientific status of the Five Factors Model appears to have been corroborated by both independent research and further findings by its developers.

Although the Five Factors Model has been widely used by researchers in the field of personality psychology (Bargeman *et al.*, 1993; Goldberg, 1993; Matthews, Deary & Whiteman, 2003), it has faced a number of broad criticisms. One of these criticisms was related to the fact that an approach that was used in the Five Factors Model is not built on the common foundations of the grounded theoretical research. Therefore, Digman (1997) pointed out that the Five Factors Model is not a complete theory of personality, and Eysenck and Eysenck (1991b) criticised this model as "arbitrary" due to the alleged lack of a verifiable theoretical framework. Moreover, Eysenck (1992) observed that both agreeableness and conscientiousness factors are more likely to be primary factors, rather than being at the highest level of the factor hierarchy. Therefore, agreeableness and conscientiousness are facets of his psychoticism factor, while openness is a part of extraversion, and low conscientiousness is incorporated into a neuroticism factor (Matthews, Deary &

Whiteman, 2003). In addition, Digman (1997) considered the factor correlations of 14 studies using the Five-Factors Model and concluded that only two factors were identified. The first factor included neuroticism, agreeableness, and conscientiousness, and was termed “alpha”; the second factor encompassed extraversion and openness, and was termed “beta.” Regardless of these criticisms, the Big Five model has been widely used in the field of psychology, and it can be considered to be one of the important methodologies for the interpretation of human behaviour.

2.6.3 Big Five Personality Model in Education settings

The “Big Five” personality framework explores individual differences in behaviour conceptualised in terms of five basic dimensions: Neuroticism (e.g., emotionally unstable, anxious, and pessimistic) Extraversion (e.g., sociable, cheerful and active), Agreeableness (e.g., compassionate, trustworthy and empathic), Openness to Experience (e.g., imaginative, artistically sensitive, and intellectually curious), and Conscientiousness (responsible, organised and hard-working) (Goldberg, 1999). These five dimensions have provided a reliable psychometric tool to assess the predictive validity of personality traits in many settings, including educational contexts such as schools and universities (Gow et al., 2005).

Personality traits help to explain and explore variability among students in educational institutions (McCrae and Costa, 1990). Agreeableness appears in support, gentleness, and tendency to agree with other people rather than to have conflict with them. In educational institutions, social interaction is a significant part of the educational and learning process. Students in university need to interact with different people on different levels and from different backgrounds, including other

students, lecturers and the university administration. The components of Agreeableness mentioned above may help to communicate more effectively. According to Mlačić (2007), people who have greater Neuroticism tend to be more anxious and tend to focus on their emotional state and self-talk; such a focus may negatively affect performance. However, neurotic traits related to a high level of anxiety or fear of failure can also be seen as beneficial for academic success under certain conditions, for example during intense examination periods (Komarraju et al., 2011).

The implications of the various personality traits in educational settings are debatable in terms of their impacts on students' learning and academic achievement. For instance, while a UK study conducted by Duff showed Conscientiousness to be the only significant predictor of academic success in university (Feldman, 2007), a study of college students in the US reported that Conscientiousness, Agreeableness and Extraversion are significant for academic performance (Furnham, Monsen, & Ahmetoglu, 2009). A study of Russian universities identified four traits as significant for academic success: Introversion (negative relationship), Agreeableness, Neuroticism, and Openness to Experience.

In students' perceptions and evaluation of their lecturers, much of the controversy surrounding student evaluations and perceptions of their teachers is based on the concern that students' personality might have a major influence on their perceptions and evaluation of teaching effectiveness (Tomasco, 1980). Several researchers have found relationships between students' personality traits and student evaluations of teaching effectiveness. For example, Hart & Driver (2001), using the Myers-Briggs Type Indicator (MBTI), found that 'Extraverted, Intuitive, and Feeling' students

were more positive than their ‘Introverted, Sensing, and Thinking’ peers in judging the effectiveness of their teachers.

Also, Feldman (2007) found a positive association between students’ perceptions of teaching effectiveness and three clusters of personality traits that included energy and enthusiasm, positive regard for others, and positive self-regard. Several of these traits are similar to the components identified with extraversion. Interestingly, Feldman (2007) reported support for the notion that students’ personality characteristics are associated with their evaluations of teaching effectiveness when self-reported measures of students’ personality characteristics are used. He found a significant correlation between the predictor variable (students’ personality) and teachers’ traits in terms of rating. There is great similarity between the perceptions held by students and their colleagues regarding teacher effectiveness. It is clear from the literature that identifying and assessing the students’ personality by using Big Five Personality Model is significant for the students’ perceptions of their teachers.

In summary, personality has been conceptualised from different models and theoretical perspectives, all of which accept that everyone is different and that people are uniquely characterised. The study of individual differences in personality has been one of the higher education concerns and been studied in various manners pertaining to different forms of processing, as universities offer a variety of teaching modalities, from traditional lectures to small, more interactive, discussion groups and individual tutorials. Methods vary as a function of the topic being taught, the different assessment criteria, and the preferences of the lecturers, who may emphasise theoretical, practical or mixed approaches, all in order to meet the individual differences among students whether in intelligence, learning style, or

personality to achieve the educational goals. However, little work has been done to explore the relationship between the students' personality traits and their perception of the university lecturer characteristics. Thus, it has been assumed in the current research that the personality traits of students may be an important factor with regard to the relative valuing of the perceived characteristics of university lecturers. This derived from the belief in the importance of personality as an important factor in explaining the differences between individuals in their attitudes, thinking, evaluation and assessment of issues (Furnham & Chamorro-Premuzic, 2005; Ahmed & Qazi, 2011).

Second, personality trait theories are some of the major approaches to human personality interpretation and exploration. Personality trait researchers are mainly interested in the measurement of the traits that are relatively stable over time and influence personal behaviour. There are a great amount of traits that could be used to describe human personality. Nevertheless, the statistical technique of factor analysis has confirmed that particular groups of traits consistently correlate together. Cattell and Kline (1977) identified 16 of such traits, while Eysenck (1991) opined that personality may be reducible to three major traits. Other researchers argue that more factors are needed to adequately describe human personality. McCrae and Costa (1990) and Goldberg *et al.* (2006) believed that personality has five major dimensions. Although the three major trait models are descriptive, only the Eysenck model offers a detailed causal explanation. Eysenck (1967) suggested that different personality traits are conditioned by the properties of specific brain factors.

One should take into consideration that, even though there are certain variances among three models of personality traits explored above, researchers are in

agreement that each model has proved its significance in terms of exploring and interpreting the human personality. However, the Cattel's 16 factors model is viewed as more complex and less reliable, while the Eysenck's model appears to be excessively bound with the physiological research data. Therefore, the present research utilises the Big Five Factors Model to examine the students' personality in order to identify to what extent the latter has an impact on the students' perception of their university lecturers' personal characteristics. The next chapter focuses on the methodology and methods in the current research.

CHAPTER 3: RESEARCH METHODOLOGY & DESIGN

3.1 Introduction

As stated in the introductory chapter, the main aim of the present research is to find out how students perceive the personal characteristics of university lecturers in Libyan universities, and seek evidence of whether students perceptions are influenced by their learning style and personality, or other relevant variables (gender, subject area, and level of study). It is the contention of the thesis that the results obtained via this research would serve as an empirical basis for further investigations of the perceptions of Libyan university students with regard to their learning experiences and in particular will serve as an important step in the agenda of involving Libyan students more in active and on-going evaluations of their university experiences..

In this chapter, the research methodology and design of this thesis are explained. The chapter opens with a discussion of the research approach used in this thesis and its underlying philosophy. Following this is a section which provides a description of the methods of data collection. This includes a description of the steps of constructing and piloting the main research questionnaires developed by the researcher “the personal characteristics of university lecturer’s questionnaire”. It also provides a description of two translated scales; the learning style ‘Index of Learning Style’ (Felder & Solomon, 1988) and Goldberg’s 50 item personality scale (Goldberg, 1999) used to measure students learning style and personality type, respectively

Thereafter, there is a brief description of sampling and three phases of procedure: the free list phase, the pilot study phase, and the main study phase. Data coding along with the statistical procedures used in data analyses is presented. The chapter closes with a consideration of research ethics.

3.2 Method of Inquiry

It has become known that there were neither bad nor good methods but that methods are more or less well suited to particular purposes (Wisdom *et al.*, 2012) therefore, the following sections will attempt to show the connection between the methods adopted and the research purposes.

Depending on the topic under investigation, qualitative or quantitative approaches may be best used in different fields of an investigation. For example, a quantitative approach might be used in studies that aim to quantify the problem and understand how prevalent it is, and to determine the relationship between variables using numerical data. The qualitative approach might be used in studies that aim to explore or generate hypotheses, and understand the problem from the perspectives of participants in order to identify particular issues for further investigation (Bryman & Bell, 2003)

This research on the personal characteristics of university lecturers in Libyan universities has been carried out using quantitative methods. Each of these research methods has its own justification to be used depending on the purpose of the research, as different research methods may result in a different output.

Three following considerations were mainly used to choose the research approach in this research:

- The philosophical assumptions of the research and the problem which the research is investigating
- The aims and questions of the research
- The research data collection methods and analysis used in the research

In the conduct of the research for this thesis, the researcher has used a quantitative method approach to the investigation of students' perceptions of the personal characteristics of the university lecturer in Libyan universities. The objectives were to build an evidence base, to better understand how students from different study backgrounds with different personalities and learning styles perceived their lecturers. As the name implies, quantitative methods research means adopting a research strategy, the primary goal of which is to answer questions about relationships between/among variables (Creswell, 1994).

In the current research, identifying the participants' personality type and their preferred learning style were two of the main research variables, since one of the primary research purposes is to identify how participants of different personality type or learning style preference perceived the personal characteristics of their university lecturer. Gall and Borg (2007) reported that one of the distinguishing elements of quantitative research lies in the areas of data collection and analysis, depending entirely on the scales or surveys that use numerical data and statistical analysis.

The accuracy of measurements was the central focus of the quantitative methods, and something argued to be more objective than qualitative ones. The quantitative researchers argue that qualitative research results have less value because they are too subjective (Secomb & Smith, 2011). Most research surveys, such as personality

measuring and studies, are examples of quantitative research that lead to answers to questions such as “how many” (Hayes, 2007).

Quantitative research pays great attention to the methods of data collection in an attempt to answer questions about certain phenomenon (Wisdom, Cavaleri, Onwuegbuzie & Green, 2012). It is impracticable to collect data on students' perceptions by direct observation. Behilnd (2000) suggested that in such a case the questionnaires are commonly used to gather such data. It was therefore decided in the current research to use a combination of self-report questionnaires to measure students' perceptions about the personal characteristics of their university lecturer and identify differences of perceptions between and within groups of students, linked to possible variables affecting these perceptions.

There were three main reasons for using questionnaires:

- The quantitative data from these questionnaires enables the researcher to make a comparison between groups, in this case the students' perceptions across different groups and different variables.
- Questionnaires can be conducted for anonymity, particularly, the sample of current research were students, and their anonymity is intended to enable them to provide more honest responses about their university lecturer, and therefore, within some limits, improve the validity of the research.
- Questionnaires as one of the quantitative approaches can be used as a method of collecting information from a wider sample than that which can be reached by face to face interview, and therefore they could provide information about the perceptions of a large number of students.

3.3 Methods of Data Collection

The self-reported method was adopted in the current research by using three tools to collect data for the research.

3.3.1 Questionnaire

The title of the questionnaire used in this research is ‘Personal characteristics of university lecturers’. The questionnaire has become a widely used method of collecting scientific information that aims, as the current research does, to identify or determine how people experience a particular issue (Donald *et al.*, 2007).

The major advantage of using the questionnaire approach is that questionnaires are a good way of collecting information quickly from, or about, people to describe, compare or explain their knowledge, attitudes and behaviour (Arlene, 2003).

The questionnaire in the current research was designed in order to collect data from a large sample of students about the personal characteristics of university lecturers. Since there have been no questionnaires designed for perceiving the personal characteristics of university lecturers in Libya, and which could be used by students with their cultural considerations, it was important to consult experts and researchers who are familiar with this situation, so they could offer good advice on the selection of questions. It was also essential to follow the guidelines for constructing a good questionnaire so that the students who responded to the questions gained the full meaning intended by the designer.

Five steps for questionnaire construction were derived from questionnaire design stages suggested by Hayes (2007).

3.3.1.1 Working out the question content

Between 2001 and 2006, the researcher spent much of his time teaching at a Libyan university. This offered him many opportunities to meet a number of students from different backgrounds. It provided a broad picture of various students' perspectives on the relationship between students and lecturers and how students see their lecturers.

The researcher gained a considerable amount of information on students' backgrounds and their experiences in interacting with university lecturers. This information, together with a considerable literature review, provided the basis of facts and opinions to help form and design the 'Personal characteristics of university lecturers in Libyan universities' questionnaire. The questionnaire was mainly prepared from the following sources:

- The requirements and objectives of this research: Since this thesis as reported earlier has specific aims and certain requirements, the aims have been reformulated as questions to constitute the main text of the questionnaire. Hence, these aims are the most important sources, from which the questionnaires have been devised.
- Books and journals that dealing with the students rating and perception of their university lecturer (chapter 2). After reviewing these books and

journals, some pointers and specific ideas were obtained and used in the design of the questionnaire.

- Previous studies which are related to this research, and which have been reviewed in Chapter Two in particular, those that dealt with students' perceptions of lecturers at the university stage of education. This has facilitated the drawing up of a set of questions to be included in the questionnaire
- Free list study; more than 90 items were collected from students in the early stage of questionnaire designing. Students from three Libyan universities participated in the free list study by answering two open-ended questions (see section 6.2.1).

3.1.1.3 Question wording

When designing questionnaires, it is very important when formulating the questions that the respondent understands them as the researcher intends them to be understood. The questionnaire designer should also be continually aware that questions may be misunderstood or confusing; therefore there are some general rules of thumb. Questions should be short and simple; clear and precise; and unambiguous (Arlene, 2003).

In the current questionnaire, in order to avoid misunderstanding of the questionnaire items, it was intended to make questions short, clear and simple. Double checking of all questionnaire items was conducted through the pilot study. Items that participants pointed out they did not understand or that they said were ambiguous were modified or deleted (6.2.2.4).

3.1.1.3 Form of response to the question

A Likert-type scale was used in this questionnaire as the primary tool of data collection.. In order to allow individual students to express how much they agree or disagree with each statement, the questionnaire offered a five-point scale (1= strongly disagree, 2= disagree, 3= I do not know, 4= agree, 5= strongly agree). Domas (1999) reported that the five-point scale is the most commonly used question format for measuring participants' opinions. Two practical considerations lay behind using Likert scales in the current research:

- The strength of students' opinions and feelings about their lecturer personal characteristics required a scale that indicates the strength of agreement with whatever is in question.
- The Likert-type scale is consider to be ideal for determining participants' opinions, beliefs, attitudes and perceptions, since they afford the researcher the freedom to combine measurement with opinion, quantity and quality (Field, 2009).

3.3.1.4 Piloting and revising the questionnaire

The questionnaire was pre-tested before the final form taken; the three main purposes for the pre-test of the questionnaire can be summarised as:

- To check question wording and design.
- Check instruction clarity.
- Check the length of the questionnaire and time required to complete it.

A full discussion of the pilot study of the current research questionnaire is presented in the chapter 6.

3.3.1.5 Administering the questionnaire

The limitation of the ability of use email or post or other models with the target sample in the current research prompted the researcher to use self-administration to collect the data from the participants (students in the current research). The main advantage of this method is that it allows the researcher to explain and illustrate the structure for answering the questionnaire, then the participant is left alone to complete the questionnaire, which might be collected later. This method can also be used to gain a high response rate and accurate sampling (Dumas, 1999) The steps of the questionnaire design and development will be discussed in the designing and development of the personal characteristics questionnaire chapter (see chapter 6).

3.3.2 Two translated scales

One of the assumptions of the current research is that students have their own characteristics, such as personality and learning style that can affect their perceptions of the personal characteristics of their university lecturers. Gibney and Wiersma quoted in Walker and Sullivan (2011) made the same argument about the ideal teacher based on students' perception, that students have a characteristic profile that they apply when evaluating the teacher. The students' personalities and learning styles were taken into consideration in the current research by using two measures in order to identify both their personality type and learning style preferences.

The lack of personality and learning style scales designed to be applied to Arab environments and culture encouraged the author to translate two measures from English into the Arabic language; one was the Felder-Soloman Index of Learning Styles (ILS), while the other was the 50-item Goldberg's Big Five Personality scale.

There are several strengths of the Felder-Solomon Index of Learning Styles ILS in the current research. These strengths include (a) The Felder-Solomon Index of Learning Styles (ILS) has been a popular instrument for measuring the learning styles of university students for the past two decades (Ku & Shen, 2009); (b) studies on the psychometric properties of the scale in different languages, cultures, and different disciplines, have shown that reliability ranges from moderate to high on all the scale dimensions. In addition, sufficient evidence for its construct validity has been collected (Felder & Spurlin, 2005; Felder & Spurlin, 2005; Litzinger *et al.*, 2005; Litzinger *et al.*, 2007; Hosford & Siders, 2010); (c) ease of access: an online version of the scale is available without charge; (d) administering the scale: completion of the ILS typically requires 20 minutes or less; (e) the instrument is easily scored within minutes; and (f) interpreting the results: scores are easily converted to categories of learning style preferences. These advantages qualify the ILS to be the best choice for the current research.

Also in the present research, one of the underlying assumptions is that students' perceptions of the personal characteristics of their university lecturer differ according to their personality type, therefore, the measuring of students' personality was one of the main research factors. The big five model is considered as one of the most widely used taxonomies in personality research. The development of the model started in early 1950 by the US Air Force (Tupes, 1957), although Fiske found a 5-factor personality model in 1949 (Fiske, 1949). Many investigations, throughout the years, have been conducted to support the big five personality model, and its cross-cultural validity.

Several questionnaires were developed to offer measures of the big five structure, for example: NEO PI-R (Costa & McCrae, 1985); FFPI (Hendriks, 1997). However, there are several problems associated with most of the Big Five measures (García, Aluja & García, 2004). In this context, Goldberg (1999) argued that most of the personality measures are proprietary instruments which might be leading to a lack of improvement, as permission from the copyright holders are required and charged for each questionnaire used. Goldberg therefore proposed an international collaboration to develop an easily available personality inventory, where all researchers could freely use the items in the pool, and publish their findings to improve these inventories. Items were developed and presented on an internet website. The items are known collectively as the International Personality Item Pool (IPIP) (Matthews, Deary & Whiteman, 2003).

The rationale for using the Goldberg 50-items Personality Scale in the present research include: (a) the 50-item version shows a good internal consistency in several studies carried out, worldwide (Madhavan, 2004; Mlačić & Goldberg, 2007; Socha, Cooper & McCord, 2010); (b) scale validation in other languages and cultures was remarkably successful (Mlačić & Goldberg, 2007; Zheng & Zheng, 2011) (c) the scale use a short items format. The short behaviour descriptive phrases are less problematic than single trait-descriptive adjectives both in translation and with respect to interpretation (García, Aluja & García, 2004). All these advantages made the Big Five Personality Model and Goldberg 50-items Personality scale version the best choice for the current research.

Even though both the Felder-Soloman Index of Learning Styles (ILS), and the 50-item Goldberg's Personality Scale have been translated into many languages around

the world, there is no evidence of an Arabic version of the ILS, and only one unpublished Arabic version of the Goldberg Scale. No-one has conducted research on an Arab sample using these scales, and there are no published scientific reports on the characteristics of any Arabic translations of these scales. Thus we have no evidence about the properties of these scales in Arabic language and culture.

From the author's perspective, the translation of these scales has multiple targets that can be determined as follows:

- Translation of these scales will help in answering the thesis' questions.
- This translation will contribute to filling the gap in the Arabic literature, by producing Arabic versions of scales that deal with personality and learning style.
- Translating these scales can be seen as a further test of their performance when translated into different languages and used within different cultures.

Translating a scale across cultures requires extra effort in translating it into the target language or culture, as a good scale developed in one language or culture might not necessarily perform well across cultures due to differences in meaning and interpretation. Translators should be aware of, and sensitive to, the risks, assumptions and issues that surround the translation of scales for use in different locations and cultures. They should also be aware of how these factors can affect the resulting data.

3.3.2.1 Factors influencing the scale translation

Suleiman and Yates (2011) determined three main factors that influence the quality of scale translation, including the translator, back-translation, culture and language.

- **Translator**

A translator is a person whose job is to translate materials (writing or speech) from the original language to the target language. However, when a scale is designed and conducted in the original language and translated and presented in another, the decision about who will take responsibility for the translation becomes significant. Factors that affect the quality of the scale translation in research include the linguistic competence of the translator and the translator's knowledge of the culture and target people (Birbili, 2008). Therefore, it is important that the translation is conducted by a translator who is bilingual (who is able to speak the original and target languages equally well) and who is educated enough to be familiar with the terms and concepts. In the current thesis, two translators were involved. The first translator is bilingual (Arabic and English) and familiar with the culture and target people of the research; the second translator used was bilingual also, with Arabic as a mother tongue and with experience in scale translation and research.

- **Back-translation**

According to Keiichiro (2001), three main methods can be used in scale translation:

(I) The committee approach, which uses a group of bilingual experts to translate from the source to the target language; (II) The team approach, with two independent bilingual translators, although this may increase the problems of translating the scales when the original and target languages have different structures, the original scales include metaphorical or emotional terms, and the translation is done by

unqualified bilingual experts; (III) The back-translation method, which is the method that has been adopted in the current research. It is one of the most common and most highly recommended methods for translating scales, and is argued to maintain a good level of equivalence between the original and the translated versions (Behling & Law, 2000).

Back-translation is translating from the target language (in this case Arabic) back to the original language (English) with an evaluation of the equivalence between source and target version (Brislin, 1970). Back-translation is considered an appropriate method, whether the research goals are comparative or operational, once the content of the items has been established. In addition, the back-translation method can be applied to the test scales as well as to the items themselves (Jones, Zhang & Jaceldo, 2001). Therefore, the back-translator should be knowledgeable about both original and target languages, and be truly bilingual and familiar with the area under study in the original materials (Bracken & Barona, 1991).

The replication of the translation and back-translation processes should be considered by the translator, until it makes sense in both the original and target languages (Maneesriwongul & Dixon, 2004). This is necessary because if translation and back-translation is not done well, this could reflect negatively on research findings. In the current research, back-translation methods were applied so that semantic equivalence could be achieved. First, the two scales were translated from English to Arabic. Next, the Arabic versions of the scales were back-translated to English by a second bilingual person who did not see the English version. The final step in the process was obtaining vocabulary equivalence between the two English

versions of both scales. Vocabulary equivalence is choosing the vocabulary that reflects the meaning of the original term (Cha & Erlen, 2007).

- **Culture and language**

It is important that the translator is fluent in both the source language and target language as well as being knowledgeable about both cultures (Birbili, 2008). The translators should acknowledge that their translation is not just of words but, to a certain extent, of perspective. Furthermore, translators make decisions about, for example, how much detail to include, how to punctuate or where to note the tone in which a comment was made. When different cultures and language are involved, epistemological difficulties in identifying similarities and differences are compounded. The most important accounts are trying to convey meaning using words other than the literally translated equivalents. These aspects of the translation require a full understanding of the target culture.

Language is mainly considered as the channel through which the material world is described and thus understood and labelled (Boutain, 1999). The ways of gaining comparability of meaning are greatly facilitated mainly by the translator having not only a proficient understanding of a language but also an intimate knowledge of the culture. For example, in the current research, the author constantly discussed and debated issues with the two translators involved in the research, to ensure that conceptual equivalence had been achieved during the research process. The two scales that have been translated in the current research were the Learning Style Inventory and the Big Five Factors.

3.3.3 Learning Style Inventory

There are several different learning style models in the literature including Kolb (1984), Honey and Mumford (1982), and Felder and Silverman (1988). Each model proposes differently in terms of description and classification of people's learning styles. In the current research, the Felder-Silverman learning style model was selected and used to classify the students' learning style.

What distinguishes the Felder-Silverman learning style model is that it gives a detailed characterisation of learning styles, by using four dimensions to distinguish between learning preferences Furthermore it is based on tendencies, indicating that learners with a high preference for certain behaviour can sometimes act differently. In addition, it can be argued that the Felder-Silverman model is used very often in research related to learning styles in advanced learning, and unlike other models, the design of the model was on undergraduate students.

The Felder-Soloman learning style inventory comprises four dimensions; each dimension has two categories: perception (sensing/intuitive), input (visual/verbal), processing (active/reflective), and understanding (sequential/global). A learner is placed in one or the other category for each of the four dimensions. Felder and Spurlin (2005) described the categories of the four dimensions as follows:

- *Sensing (concrete, practical, oriented toward facts and procedures) or Intuitive (conceptual, innovative, oriented toward theories and underlying meanings)*
- *Visual (prefer visual representations of presented material, such as pictures, diagrams, and flow charts) or Verbal (prefer written and spoken explanations)*

- *Active (learn by trying things out, enjoy working in groups) or Reflective (learn by thinking things through, prefer working alone or with one or two familiar partners)*
- *Sequential (linear thinking process, learn in incremental steps) or Global (holistic thinking process, learn in large leaps)*

For the current research, the inventory has been translated by two experts, twice; once from English into Arabic and then from Arabic into English, to ensure there are no changes in meaning as a result of the translation process. A full procedure of the translation and psychometric properties of the inventory will be discussed in chapter 5 (see chapter 5; the translation of learning style scale). A copy of ILS is attached in Appendix5. Some example items for each learning preference are listed below for easy reference.

Active / Reflective

- I understand something better after I:
Try it out?
Think it through?

Sensing / Intuitive

- I would rather be considered:
Realistic?
Innovative?

Visual / Verbal

- When I think about what I did yesterday, I am most likely to get:
A picture?
Words?

Sequential / Global

- I tend to:

Understand details of a subject but may be fuzzy about its overall structure?

Understand the overall structure but may be fuzzy about details?

3.3.4 Big Five Factor markers

Garcia and Lori (2011) suggested that personality styles need to be recognised to meet individual students' needs. Understanding personality profiles allows educators to be proactive in determining a better fit for each individual.

The IPIP contains several versions of widely used inventories. For example, an IPIP version of the NEO PI-R (Costa & McCrae, 1992). The IPIP-NEO is available as a 50, 100, or full 240-item questionnaire; the current research has used the Goldberg 50-items Personality Scale, which can be freely downloaded from the internet for use in research. The scale involved 50-items consisting of 10 items for each of the Big Five personality factors. This was developed by Goldberg (1999) to assess the five factors models of personality, which are:

- **Openness (O)** This trait reflects open-mindedness and more interest in culture. People with high scores tend to be imaginative, creative and seek out educational experience. People with low scores tend to be less interested in art and more practical in nature.
- **Conscientiousness (C)** This trait reflects how we are organised. High scores in this factor indicate who is well organised and diligent. Similarly, the low scores indicate who is less careful and less focused.
- **Extraversion (E)** This trait reflects preference for, and behaviour in, social situations. A person who has high scores in extraversion tends to be energetic

and seek out the company of other people. A person who gets low scores tends to be less co-operative.

- **Agreeableness (A)** This trait reflects how we behave or interact with other people. People who get high scores in this factor are trusting, friendly and co-operative. People who get low scores in this factor are more aggressive and less co-operative.
- **Neuroticism (N)** This trait reflects the tendency to experience negative thoughts and feelings. Getting high scores in this factor indicates a propensity for insecurity and emotional distress. Whilst low scores in this factor indicate who is more relaxed and less emotional.

In Goldberg 50-items Personality Scale each dimension has 10 items (five negative and five positive), and every item has a five-point scale:

- Very Accurate
- Moderately Accurate
- Neither Inaccurate nor Accurate
- Moderately Inaccurate
- Very Inaccurate

The report of a participant will be according to his/her answers:

For (+) keyed items, the response “Very Accurate” is assigned a value of 5; “Moderately Accurate” a value of 4; “Neither Inaccurate nor Accurate” a value of 3; “Moderately Inaccurate” a value of 2; “Very Inaccurate” a value of 1.

For (-) keyed items, the response “Very Accurate” is assigned a value of 1; “Moderately Accurate” a value of 2; “Neither Inaccurate nor Accurate” a value of 3; “Moderately Inaccurate” a value of 4; “Very Inaccurate” a value of 5.

The Goldberg’s Personality Scale has been translated into many languages throughout the world, including Arabic, but no published scientific reports on the characteristics of the Arabic translation were found, thus there is no evidence for its utility with Arabic samples. Therefore, for this research the scale was translated and checked by back-translation by two experts. The translation procedures and psychometric properties of the Goldberg 50-items Personality Scale will be discussed in chapter 5.

3.5 Participants

Non-probability sampling method through convenience technique (Gillham, 2008) was used to select all the research phases’ samples. The research sample can be divided into three categories according to the research phase.

3.5.1 Free list phase

The free list phase (see section 6.2.1) was carried out in three Libyan universities (Sebha, Al-Margeb, and Garyounes). Sebha University is located in southern Libya. Established in 1982, Sebha University is one of the oldest universities in Libya, now with over 15,000 students enrolled in 11 colleges and more than 60 teaching staff. Al-Margeb University is located in Al-Komes city in northern Libya. It was established in 2001, and now has more than 30,000 students studying in 15 colleges. Garyounes University was the first university established in Libya in 1955. It is

located in Benghazi. The university has more than 50,000 students studying in 14 colleges.

A total of 152 university students from the three universities contributed the first-phase sample (41 males, 111 females), representing the university colleges under study. Table 3.1 shows the number of students involved in this stage.

Table 3.1: The number of students in the first stage

University	Schools						
	Economics	Arts	Science	Law	Engineering	Medicine	Agriculture
Garyounes	13	6	5	7	8	10	10
Sabha	7	12	12	-	13	6	11
Al-Margeb	5	9	7	11	-	-	-
Total = 152							

3.5.2 Pilot study phase

A total of 73 postgraduate Libyan students studying at UK universities participated in this study: 48 males (66%), 25 females (34%); 53 PhD students (73%) and 20 Masters Students (27%), studying at nine UK universities (Bradford, Derby, Liverpool, Manchester, Nottingham, Nottingham Trent, Sheffield, Sheffield Hallam and Swansea). The number of students involved in the study is summarised in Table 3.2, which illustrates the size of the sample involved.

Table 3.2: Number of students involved in the study

University	PhD	Master	Male	Female
Bradford	5	6	4	7
Derby	2	-	2	-
Liverpool	4	-	4	-
Manchester	9	4	10	3
Nottingham	11	3	9	5
Nottingham Trent	6	2	5	3
Sheffield	8	4	8	4
Sheffield Hallam	6	-	6	-
Swansea	2	1	-	3
Total	53	20	48	25

3.5.3 The main study phase

The main study sample consisted of 431 university students (aged 19-23 years) who were studying at Sabha University in the academic year 2008/2009; 170 were males and 261 were females. The sample was drawn from five schools (arts, engineering, law, science and medicine) in Sabha University. Table 3.3 shows the distribution of the student sample by schools, gender, and level of study.

Table 3.3: Distribution of student sample by schools, gender, and level of study

School	Total	Males	Females	Level 1	Level 2	Level 3	Level 4
Arts	117	48	69	17	35	22	43
Law	65	34	31	10	27	15	13
Science	90	30	60	12	27	24	27
Engineering	81	28	53	7	28	31	15
Medicine	78	30	48	6	21	45	6
Total	431	170	261	52	138	137	104

3.6 Procedures

There are three main phases in the present thesis: Phase 1, 2 and 3,

3.6.1 Phase 1 (free list)

In this phase: (see section 6.2.1) the open-ended questionnaire (Appendix- 3) was sent by an email to particular lecturers in three Libyan universities (Sabha, Al-Margeb, Garyounes). The researcher had previously contacted them about the research, and (after full explanation about the procedures of the study and how to conduct the questionnaire was given to those lecturers) the questionnaire was administered to participants at their universities (see section 3.5.1), either individually or in groups, depending on the participants' time and preference. After the participants in the three universities completed their answering of the questionnaire, all papers were scanned and returned to the researcher.

3.6.2 Phase 2 (pilot study)

At this phase: Internet mail was used to distribute the three measurements. Participants' email addresses were provided by the Libyan Embassy in London after a guarantee was given (in line with the ethical clearances that has been given) that limited use of the addresses would be made for study purposes. A total of 204 postgraduate Libyan students at UK universities (see section 3.5.2) received an email containing an information sheet explaining the aims of the study, and answered common questions about the study. Examples of the questions are: Who is running the study? How will the data be stored? What benefit can be obtained from the study? How can they participate in the study? The email described the measurements of the research with a covering letter and a brief explanation about the nature of the study.

Students who agreed to participate were invited to complete the measurements. They were then asked to provide their views on the measurements in terms of the clarity of the items, and the clarity and understanding of instruction. Participants were asked to record the time used to spend on completing each of the measures, so as to estimate the time required to complete the main study. Feedback from the participants was collected after the pilot study was finished.

3.6.3 Phase 3 (the main study)

At this phase the three measurements (Appendixs-4.5 & 6) were administrated directly by the researcher to 436 undergraduate students representing five schools (Arts, Engineering, Law, Science, and Medicine) in Sabha University (see section 3.5.3). Students in different schools were informed by the researcher about the study's purpose, and instructions of completing the questionnaire were read to the

students who gave their consent to take part in the study; and during the conduct of the main study, all the clarifications made and explanations given were noted. The questionnaire was administered in various ways; individually in some cases, and in groups in others – depending on the students' circumstances and their preferences. The following Table summarises the work done at the various phases.

Table 3.4: Procedures of the study at different phases

Date (2009)	Phase	Work done
Early February	Phase 1 (free list)	Talked with five university lecturers in three Libyan universities (Sabha, Al-Margeb, Garyounes) about the study Administrated the open-ended questionnaire on 152 undergraduate students Received the student respondents
Early June	Phase 2 (pilot study)	Invited students by email and sent the information sheet to more than 250 Libyan students in UK universities 73 students accepted to take part in the study Measurements sent to consenting students Students respond and comment on three received measurements
Mid-November	Phase 3 (main study)	Invited students to take part in main study Three revised measurements administrated to 436 undergraduate students at Sebha University

3.7 Data Coding

All the collected information was coded and organised into SPSS before analysis was conducted. The data were coded by grouping them into three types of variables: the demographic variables, the independent, and the dependent variables.

3.7.1 Demographic variables

This variable involved such personal information of students as gender, level of study, and subject area. Two digits were given for the gender information, with “1” being coded to male and “2” for female. Four digits were assigned to level of study

information, with “1” for first year; “2” for the second year; “3” for the third year; and “4” for the fourth year. In addition, five digits were allocated for the subject area information, with “1” for Arts; “2” for Sciences; “3” for Law; “4” for Engineering; and “5” for Medicine. Table 3.5 summarises the sub-independent variables

Table 3.5: Demographic variables

Variables	Data Length	Coding
Gender	2 digits numeric value; 1 or 2	1 = male, 2 = female
Level of study	4 digits numeric value; 1 to 4	1 = first year, 2 = second year, 3 = third year, 4 = fourth year
Subject area	5 digits numeric value; 1 to 5	1 = Arts, 2 = Sciences, 3 = Law, 4 = Engineering, 5 = Medicine

3.7.2 The independent variables

These variables referred to the students’ learning style preferences and students’ personality.

The first independent variable was the students’ learning style preferences, which was measured using ILS. The ILS consists of 44 items (see section 3.3.3), with 11 items for each dimension – namely “Active/Reflective,” “Sensing/Intuitive,” “Visual/Verbal,” and “Sequential/Global.”

The score of the 44 items were directly retrieved from the ILS and stored in SPSS as LS1 to LS44. The score of each dimension was calculated by summing the number of ticks for the items which describe the dimension. A summary of these data is shown in Table 3.6.

The second independent variable was the students’ personality and was measured by using Goldberg’s 50-item Personality Scale. The inventory consists of 50 items (see

section 3.3.4), with 10 items for each of the 5 dimensions: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. The scale was designed with five-point Likert scales with alternative responses of: Very Accurate, Moderately Accurate, Neither Inaccurate nor Accurate, Moderately Inaccurate, and Very Inaccurate. The score of the 50 items were directly retrieved from the scale and stored in SPSS as BF1 to BF50. The score of each dimension was calculated by summing the number of ticks for the items which describe the dimension. A summary of this data is shown in Table 3.7.

Table 3.6: Description of ILS scoring & coding

Variables	Description	Data length	Coding
LS1-LS44	Items 1 to 44 of ILS scored retrieved directly from the questionnaire	Numeric; 1 or 0	0 = A, 1 = B
Active / Reflective	The four learning style preference computed based	Numeric; range 0-	Not necessary
Sensing / Intuitive	on the score key of the ILS	11	
Visual / Verbal			
Sequential / Global			

Table 3.7: Description of BF scoring & coding

Variables	Description	Data length	Coding
BF1-BG50	Items 1 to 25 (+) keyed items of BF scored retrieved directly from the questionnaire	Numeric; 1 or 5	5=V.Accurate, 4=M.Accurate, 3=Neither nor 2=M.Inaccurate, 1= V.Inaccurate
BF1-BG50	Items 1 to 25 (-) keyed items of BF scored retrieved directly from the questionnaire	Numeric; 1 or 5	1=V.Accurate, 2=M.Accurate, 3=Neither nor 4=M.Inaccurate, 5= V.Inaccurate
Extraversion	The Big five factors of personality preference computed based on the score key of the scale	Numeric; range 10-50	Not necessary
Agreeableness			
Neuroticism			
Openness			
Conscientiousness			

3.7.3 The dependent variable

The dependent variable was that of the students' perceptions of the personal characteristics of university lecturers in Libyan universities, which was investigated by using a questionnaire that had been designed and developed by the researcher. The final version of the questionnaire consisted of 17 items describing the personal characteristics of a university lecturer (see chapter 6). The questionnaire was designed with a five-point Likert scale with alternative responses comprising of: "strongly disagree," "disagree," "neither agree nor disagree," "agree," and "strongly agree." The score of the 17 items was directly entered from the questionnaire into the SPSS.

3.8 Data Analysis

The data analysis for the present research was conducted in two separate stages: one to check the psychometric properties of all the measures used in the current research (see chapters 4, 5 and 6); and the other to attempt to answer the study's questions by exploring the relationships between the research variables.

The main purpose of the current research is to identify and determine how students perceive, and value, the personal characteristics of their university lecturers, and how those perceptions might be mediated by factors such learning styles, personality and demographic factors

The current research data were analysed using the 18th version of SPSS- package (Statistical Package of Social sciences) and LISREL version 8.8; the following statistical tests were used.

3.8.1 Cronbach's coefficient alpha

Cronbach's coefficient alpha was calculated to test the reliability for all the research measures. Cronbach's alpha is a statistic that represents the average of all possible split half reliabilities of a scale. Values range from 0-1 (WHOQOL Group, 1998). When looking at the homogeneity of a scale using statistics such as Cronbach's alpha, the main concern is that there should only be moderate correlations between items in the measure and that values of alpha should not be above 0.9. Tuckman (1999) considered that an alpha of 0.70 or greater is acceptable for scales that measure knowledge, personality, and skills, while for the scales that assess attitudes and preferences (such as the current scale ILS), an alpha of 0.50 or greater is acceptable (see section 5.3.1).

3.8.2 Exploratory and confirmatory factor analysis

Exploratory and confirmatory factor analysis was used in three of the current research's scales. Exploratory factor analysis (EFA) was used in the questionnaire of the personal characteristics of university lecturers and learning style scale, while the confirmatory factor analysis (CFA) was used with the Goldberg's 50-item personality scale, to identify factors, and items correlated to those factors, in order to construct a scale with the optimum number of items (Everitt, Landau & Leese, 2001).

CFA and EFA are powerful statistical techniques that can be used in the development of measurement instruments when there is no a priori factor structure. The EFA can help a researcher to determine what the factor structure looks like according to participant responses. Exploratory factor analysis is crucial to determine underlying constructs for a set of measured variables (Everitt, Landau & Leese,

2001). In the current research, since the questionnaire was designed and developed for first time by the researcher, EFA was necessarily to describe and explore the possible underlying factors structure of the questionnaire's items that could be also applied to the learning style scale, as although the scale was translated from English language into Arabic language. It should be noted that previous studies that tested the factors structure of the scale in other languages lacked EFA (Felder & Spurlin, 2005. Litzinger *et al.*, 2005), which makes it imperative to use the technique to explore the factors structure of the scale in a language other than English.

For learning style, the scale principal axis factoring (PAF) was used as there is an assumption that the factors that emerge are due to underlying latent traits in the sample, while the principal components analysis (PCA) was used in 'personal characteristics questionnaire' since no assumptions are made about latent constructs, and items are simply grouped according to how they perform (and clustered according to their performance). In the ' personal characteristics' questionnaire we were not assuming the presence of any latent traits but simply wished to organise the items into groups that performed similarly (Everitt, Landau & Leese, 2001).

Conversely, in the current research, confirmatory factor analysis (CFA) was performed on Goldberg's 50-item personality scale to test the hypothesis that a relationship between the observed variables and their underlying latent construct exists, as the researchers can identify the number of factors on observed variables to particular values. CFA allows researchers to test hypotheses about a particular factor structure (Everitt, Landau & Leese, 2001). Using LISREL version 8.8, several statistical equations were used, such as the Chi-square test to test the overall model fit and to 'assesses the magnitude of difference between the sample and fitted

covariances matrices, the good model fit should provide an insignificant output at a 0.05 threshold' (Howitt & Duncan, 2008, p 107). Second, the Root mean square error of approximation (RMSEA) was used as fit statistic. The RMSEA tells how well the model, with unknown but optimally chosen parameter estimates, would fit the target population's covariance matrix. The recommended RMSEA cut-off point range of 0.05 to 0.10 was considered an indication of fair fit, and values above 0.10 indicated poor fit (Hooper, Coughlan & Mullen, 2008). Third, the Goodness-of-Fit statistic (GFI) was also reported by looking at the variances and covariances accounted for by the model it shows how closely the model comes to replicating the observed covariance matrix. The recommended cut-off point is 0.90 for the GFI (Hooper, Coughlan & Mullen, 2008).

With the notable exception of the Arab world, the five factors structure of Goldberg's 50-item personality scale have been tested and confirmed in several languages and cultures (Alan *et al.*, 2005; Goldberg *et al.*, 2009; Gow *et al.*, 2005; Mlačić, 2007; Zheng *et al.*, 2008). Therefore, the CFA was used here to test whether it provided support for the generalisation of the five factor IPIP structure in general in the Arab context and in the Libyan context specifically.

3.8.3 Cluster analysis

Cluster analysis was used to identify homogeneous groups of students according to their responses to the personal characteristics of university lecturer questionnaire. To identify a number of distinguishable groups or clusters out of the 431 students, hierarchical cluster analysis – one of the most common clustering methods used in the research of social sciences – was carried out in this research.

According to McNabb (1983), cluster analysis is: “a generic label for a number of statistical processes used to group objects, people, variables, or concepts into more or less homogeneous groups on the basis of their similaritiesp, 53.” Thus, cluster analysis should be able to group the participants of the present research into a number of clusters based on the level of similarity of their views on the personal characteristics of university lecturers.

Cluster analysis is considered to be one of the descriptive techniques that discover groups of observations (students in the current research) that are similar or close to each other, based on participants’ responses (Everitt, Landau & Leese, 2001). The main purpose of cluster analysis in the current research is to classify groups of students who were similar to each other based on their responses on the questionnaire.

The hierarchical approach was selected, as it had no obvious presumption of the number of student groups we could find. The hierarchical cluster analysis has two main approaches: agglomerative and divisive. While the agglomerative approach gathers the smaller clusters into larger clusters, the divisive approach splits the larger clusters into smaller clusters.

3.8.4 Agglomerative and other methods

In this research, agglomerative methods were used. Several proximity measures were available to link the observations. Also the research used squared Euclidean distances as a dissimilarity measure because they preserve both profile level and shape for quantitative variables (Everitt, Landau & Leese, 2001). In addition, since the cluster analysis has no way of checking the goodness-of-fit indices, the visual representation of possible groupings and researcher judgment were used to determine

the appropriate number of clusters (Milligan & Cooper, 1985; Everitt, Landau & Leese, 2001).

Dendograms were also used in the current research as graphical and mathematical information presenting observations grouped together at various levels of similarity, while the height of the vertical lines and the range of the similarity axis provide visual clues about the strength of the clustering. The long vertical lines indicate the distinct separation between the clusters (Everitt, Landau & Leese, 2001). According to the dendrogram for the agglomerative hierarchical cluster analysis, all single observations will be merged into one cluster. Since dendograms do not provide any criteria for selecting the number of clusters, the decision for choice of the appropriate number of clusters is totally based on the researcher's judgment.

Mann-Whitney U Test for the identification of differences among perceptions, and used to compare between clusters on two variables.

Kruskal-Wallis Test for the identification of differences of perceptions among more than two clusters, and used to compare between clusters on several variables.

3.9 Ethical Considerations

A key criterion for a good research study is that it has been conducted in an ethical manner. The ethical issues like privacy, confidentiality or anonymity were considered throughout the whole thesis. The study has been conducted within the clear ethical procedures set out by Nottingham Trent University on ethical research, with full clearance from the College Research Ethics Committee. Permission to carry out the research was also obtained from all the Libyan Universities administrations

involved in this research. Consent was obtained from all the participants (Appendix 1) who were willing to share their views on this topic.

All participants were given written information (appendix 2) in advance, explaining the ways in which the information was to be used. All participants used a number instead of their names in all written material. The study was conducted with sensitivity to the vulnerability and privacy of participants, and the right of participants to withdraw at any time was respected, and no reason sought. All participants were informed that the information they gave would be kept confidential and also would only be used for the present research.

This chapter has described the research methodology of the study including the method and the approach of the research. It has also detailed the methods of data collection and the participants. In addition, it has explained the procedures of the research and the statistical analysis tools. Finally, the ethical considerations of research have been discussed. In the following chapter, there will be a report and a discussion on the translation of the Goldberg 50-items Personality Scale that been used to measure the students' personality types.

CHAPTER 4: TRANSLATION OF GOLDBERG'S 50-ITEM PERSONALITY SCALE

4.1 Introduction

Goldberg's 50-Item personality scale (Goldberg, 1999) is an extensive collection of personality items available in the public domain at the IPIP website (<http://ipip.ori.org>). Goldberg made the use of the IPIP domain name cost-free, with no copyright restrictions. Items may be used in any order, interspersed with other items, administered, modified, and translated, with no permission required. The IPIP site has over 2500 items, and new sets of items are added each year, all of which are available in the public domain. The rate of publications using IPIP scales has been increasing rapidly. The current research used a 50-item inventory, consisting of 10 items for each of the Big-Five personality factors. The Big-Five Inventory was developed by Goldberg (1999) to assess the five factor model of personality (Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism). This chapter outlines the translation procedures that were undertaken to translate Goldberg's 50-Item Personality Scale from English into Arabic and to check the psychometric properties of the Arabic version of the scale by using data from an Arabic-speaking sample.

4.2 Psychometric Properties of Goldberg's 50-item personality scale

Goldberg's 50-Item Personality Scale has been widely used and has been validated in several languages and cultures across the world (Mlačić & Goldberg, 2007), but it has mainly been employed in Western cultures. The following sections focus on the validity and reliability of Goldberg's 50-Item Personality Scale.

4.2.1 Validity

The validity of the Goldberg's 50-Item Personality Scale was assessed using several methods; the evidence of concurrent validity was based on its correlation with a number of other personality scales. Zheng *et al.* (2011) reported that the Pearson correlation between the Goldberg's 50-Item Personality Scale and the Big Five Inventory (BFI) had an average of 0.67 (Extraversion 0.72, Agreeableness 0.47, Conscientiousness 0.67, Openness 0.70, and Neuroticism 0.59), while Gow *et al.* (2005) revealed that the NEO-Five Factor Inventory (NEO-FFI: Costa & McCrae, 1992) and Goldberg's 50-Item Personality Scale were highly correlated in two scales: Neuroticism, $r = 0.83$ ($p < 0.01$); and Conscientiousness, $r = 0.76$ ($p < 0.01$). The scales for Extraversion, Agreeableness, and Openness were correlated less strongly (0.69, 0.49, and 0.59 respectively). George and Demino (2006) argued that, although there is general agreement that for a scale to be considered reliable it must have correlation coefficient at 0.70 or greater, in validity there is no such accepted standard; moreover, validity coefficients tend to be significantly lower as substantial correlations between tests are not expected.

Discriminative validity of the Goldberg's 50-Item Personality Scale was also provided by assessing the differences in gender and age. Gow *et al.* (2005) reported a significant difference between men and women in three scales: Agreeableness, Neuroticism and Openness ($F(1,842) = 52.9, 6.9$ and 4.8 respectively, $p < 0.05$). Women have significantly higher Agreeableness scores, and lower Neuroticism and Openness means compared with the men. Moreover, in order to assess the differences between the ages, the data were divided into three age groups: early adulthood ($N = 178$), which included all participants up to the age of 30, middle adulthood ($N = 162$), which consisted of those over 30 and under 65, and late

adulthood ($N = 204$), which was all participants over 65. The mean scale levels were compared using an ANOVA. Extraversion was significantly higher in early adulthood compared with middle and late adulthood ($p < 0.01$ and 0.001 respectively), while the middle and late groups did not differ significantly. In Agreeableness the early adulthood group were significantly lower than the middle and late adulthood groups ($p < 0.05$ and $.001$ respectively), and the middle and late groups did not differ. In Conscientiousness all groups were significantly different ($p < 0.01$). For instance, the late adulthood group had the highest level, followed by middle adulthood and then early adulthood groups. The early and middle adulthood groups did not differ significantly on their level of Neuroticism. However, the late adulthood group had a significantly higher level than the early and middle groups ($p < 0.001$). The same findings were reported for Openness. However, the Openness was significantly lower in late adulthood ($p < 0.001$), and did not differ significantly from early to middle adulthood. These cross changes with age and gender are similar to those findings noted in previous research with other 5-factor inventories (McCrae, Herbst & Masters, 2001; Mõttus, Pullmann & Allik, 2006), providing further evidence for the concurrent validity of Goldberg's 50-Item Personality Scale.

The construct validity of the Goldberg's 50-Item Personality Scale English version was examined through exploratory factor analysis of the scale construct. Gow *et al.* (2005) provided substantial support for the 5-factor IPIP structure, with findings of a study conducted with 201 students at Edinburgh University confirming the factor structure proposed by Goldberg. The factor loadings from a varimax rotation of the 50-items explained 42.6 per cent of the total variance, and 45 items loaded as expected. All 10 items of Extraversion and Neuroticism items loaded over 0.3 on intended factors. Nine of the Agreeableness items loaded on the same factor, only

one item, “Insult people,” loaded highest with the Extraversion items. The 10 Conscientiousness items loaded together into Conscientiousness factor, with 2 of the items having low cross-loadings “Waste my time,” and “Do just enough work to get by,” and 1 item “Get chores done right away,” loaded onto two other factors (Openness, and Agreeableness). Nine of the Openness items had their highest loading on the same factor (with 1 lower cross-loading); “Avoid philosophical discussions.”

4.2.2 Reliability

According to Goldberg *et al.* (2009), the internal-consistency of data Goldberg’s 50-Item Personality Scale included 2,448 internet responses, with 991 (40.5 per cent) men and 1,457 (59.5 per cent) women. The median age group was 21–25 years. The findings showed that Cronbach’s alpha of the scales was high in all scale domains (Alpha values for Extraversion, Openness, Conscientiousness, Agreeableness, and Emotional Instability were respectively 0.88, 0.85, 0.84, 0.78 and 0.74). These findings were consistent with other studies conducted on university students in different areas of the world. Table 4.1 summarises the Cronbach’s alpha values of those studies.

Table 4.1: Internal-consistency of data Goldberg’s 50-Item Personality Scale

	Sample	Extraversion	Openness	Conscientiousness	Agreeableness	Neuroticism
Alan <i>et al.</i> US (2005)	451	0.86	0.86	0.84	0.75	0.77
Mlacic & Goldberg Croatia (2007)	519	0.87	0.79	0.81	0.79	0.88
Goldberg <i>et al.</i> China (2008)	633	0.87	0.76	0.82	0.66	0.79

As shown in Table 4.1, it can be safely concluded that most of these studies have shown generally good validity and reliability for Goldberg's 50-Item Personality Scale. However, a series of observations can be deduced from these results.

First, the internal consistency through Cronbach's alpha was the only method used to estimate the reliability of the Goldberg's 50-Item Personality Scale in most of reviewed studies, because of its widespread use as an estimate of reliability (Gow *et al.*, 2005), but other methods of evaluating reliability were thus neglected. Although Cronbach's Alpha is widely used nowadays, there are certain problems related to it. The first problem is that alpha is easily affected by the number of items in the scale, as scales can be made to have a high alpha value simply by increasing the number of items, even though the average correlation remains the same. The second problem is that if the alpha value is high, this might suggest a high level of item redundancy; that is, a number of items asking the same question in slightly different ways (Vehkalahti, Puntanen & Tarkkonen, 2006).

Second, it is worth noting that most of these studies were carried out in Western countries, where a common culture can be found, since the culture in western societies can be considered as more 'individualised' than Asian and African cultures, where the culture tends to be more 'collective' (Stephanie, 2010). These differences might have some impact on the level of the validity and reliability. This impact was obvious when the Chinese version of Goldberg's 50-Item Personality Scale was used, as the Cronbach's alpha was relatively low, particularly in Agreeableness and Openness scales, compared with Western studies (Zheng *et al.*, 2008).

Therefore, Zheng *et al.* (2008) and Mlačić (2007) recommended that some items of Goldberg's 50-Item Personality Scale be refined in specific cultures, and it would be

useful to compare the findings from a Westernised culture and languages with those from one or more Asian or African cultural settings where translation problems may not be so easily solved. This advice was taken in the current research by attempting to validate Goldberg's 50-Item Personality Scale in an Arabic context.

4.3 Goldberg's 50-Item Personality Scale: The Arabic Version

A comprehensive review of previous studies revealed that the Goldberg 50-Item Personality Scale have been translated into more than 25 languages around the world, including Arabic, Bulgarian, Mandarin, Croatian, Danish and Finnish (Mlačić & Goldberg, 2007). Several attempts by the researcher to contact the Arabic researchers who translated the scale were not successful, and no scientific reports on the psychometric properties of Goldberg's 50-Item Personality Scale in Arabic language and culture have been published, therefore, the researcher attempted to translate and apply Goldberg's 50-Item Personality Scale on an Arabic sample.

4.4 Translation Procedures

Goldberg's 50-item Personality Scale was translated from English into Arabic, and then back-translated into English to ensure that no erroneous semantic changes impacted the research due to mistranslation. The translation process did not show major differences between the translators in most items. Table 4.2 shows the translation from English into Arabic and back from Arabic into English.

Table 4.2: Items' translation and back-translation from English into Arabic

	<i>Translation from English into Arabic</i>	<i>Translation from Arabic into English</i>	<i>Item's factor and direction of scoring</i>
1	Tend to vote for conservative political candidates. أميل الى انتخاب المرشحين من حزب المحافظين	Tend to elect the candidates of conservative party.	O -
2	Have frequent mood swings. لدي مزاج متقلب	Have frequent mood swings.	N -
3	Am not easily bothered by things. لا تغضبني الأشياء بسهولة	Am not easily bothered by things.	N +
4	Suspect hidden motives in other. أشك في الواقع الخفية لآخرين نحوى	Suspect the hidden motives of others toward me.	A -
5	Enjoy hearing new ideas. أستمتع بسماع الأفكار الجديدة	Enjoy hearing new ideas.	O +
6	Believe in the importance of art. أؤمن بأهمية الفن	Believe in the importance of art.	O+
7	Have a vivid imagination. أمتلك خيال واسع	Have an imagination.	O+
8	Am the life of the party. أندمج مع الجماعة بسهولة	Easily merged with the community.	E +
9	Am skilled in handling social situations. أنا ماهر في التعامل مع المواقف الاجتماعية	Am skilled in dealing with social situations.	E +
10	Am always prepared. أنا مستعد دائمًا	Am always prepared.	C +
11	Make plans and stick to them. أضع الخطط وألتزم بها	Make plans and stick to it.	C +
12	Dislike myself. أكره نفسي	Hate myself.	N +
13	Respect others. احترم الآخرين	Respect others.	A +
14	Insult people. أسيء إلى الآخرين	Abuse to others.	A -
15	Would describe my experience somewhat dull. توصف تجاري ب أنها مملة جداً	Would describe my experience very boring.	E -
16	Seldom feel blue. نادرًا ما أشعر بالكتابة	Rarely feel depressed.	N -
17	Don't like to draw attention to myself. لا أحب جذب الانتباه إلى شخصيتي	Don't like to draw attention to myself.	E -
18	Carry out my plans. أنفذ خططى	Carry out my plans.	C +
19	Am not interested in abstract ideas. لست مهتماً بالأفكار المجردة	Am not interested in abstract ideas.	O -

	<i>Translation from English into Arabic</i>	<i>Translation from Arabic into English</i>	<i>Item's factor and direction of scoring</i>
20	Have a sharp tongue. لدى لسان سليط	لدى لسان سليط Have a lashing tongue.	A -
21	Make friends easily. أكون أصدقاء بسهولة	أكون أصدقاء بسهولة Make friends easily.	E -
22	Tend to vote for liberal political candidates. أميل إلى انتخاب المرشحين من حزب العمال	أميل إلى انتخاب المرشحين من حزب العمال Tend to elect the candidates of Liberal party.	O +
23	Know how to captivate people. أعرف كيفية جذب الآخرين إلى	أعرف كيفية جذب الآخرين إلى Know how to attract people to me.	E +
24	Believe that others have good intentions. أعتقد أن الآخرين عندهم نوايا طيبة	أعتقد أن الآخرين عندهم نوايا طيبة I think that others have good intentions.	A +
25	Am very pleased with myself. أنا سعيد جداً مع نفسي	أنا سعيد جداً مع نفسي Am very happy with myself.	N -
26	Do just enough work to get by. أنجز عملي كما هو مطلوب لتجنب العقاب	أنجز عملي كما هو مطلوب لتجنب العقاب Do my work as required to avoid punishment.	C +
27	Find it difficult to get down to work. أجد صعوبة في أن أركز التفكير في العمل	أجد صعوبة في أن أركز التفكير في العمل Find it hard focus thinking in the work.	C +
28	Carry the conversation to a higher level. أنقل أي محادثة أو نقاش إلى مستوى أعلى	أنقل أي محادثة أو نقاش إلى مستوى أعلى Carry the conversation to a higher level.	O +
29	Panic easily. أصاب بالذعر بسهولة	أصاب بالذعر بسهولة Panic easily.	N +
30	Avoid philosophical discussions. أتجنب المناقشات الفلسفية	أتجنب المناقشات الفلسفية Avoid philosophical discussions.	O -
31	Accept people as they are. أقبل الآخرين كما هم	أقبل الآخرين كما هم Accept others as they are.	A +
32	Do not enjoy going to art museums. لا أستمتع بالذهاب إلى المتاحف الفنية	لا أستمتع بالذهاب إلى المتاحف الفنية Do not enjoy going to art museums.	O -
33	Pay attention to details. أهتم بمعرفة التفاصيل	أهتم بمعرفة التفاصيل Pay attention to details.	C +
34	Keep in the background. غالباً ما أكون بعيداً عن الأنظار	غالباً ما أكون بعيداً عن الأنظار Often out of sight.	E -
35	Feel comfortable with myself. أشعر بالراحة مع نفسي	أشعر بالراحة مع نفسي Feel comfortable with myself.	N -
36	Waste my time. أضيع وقتي	أضيع وقتي Waste my time.	C -
37	Get back at others. الجأ إلى الآخرين	الجأ إلى الآخرين Resort to others.	A -
38	Get chores done right away. أنجز العمل اليومي بطريقة صحيحة	أنجز العمل اليومي بطريقة صحيحة Get daily work done in right away.	C +

		<i>Translation from English into Arabic</i>	<i>Translation from Arabic into English</i>	<i>Item's factor and direction of scoring</i>
39	Don't talk a lot.	لا أتحدث كثيراً لا أتحدث كثيراً	لا أتحدث كثيراً Don't talk a lot.	E -
40	Am often down in the dumps.	غالباً ما أكون مكتئباً غالباً ما أكون مكتئباً	غالباً ما أكون مكتئباً Am often depressed.	N +
41	Shirk my duties.	أتهرب من واجباتي أتهرب من واجباتي	أتهرب من واجباتي Shirk my duties.	C -
42	Do not like art.	لا أحب الفن لا أحب الفن	لا أحب الفن Do not like art.	O -
43	Often feel blue.	غالباً ماأشعر بالكآبة غالباً ماأشعر بالكآبة	غالباً ماأشعر بالكآبة Often feel depressed.	N +
44	Cut others to pieces.	أشارك الآخرين في كل شيء أشارك الآخرين في كل شيء	أشارك الآخرين في كل شيء Join others in everything.	A -
45	Have a good word for everyone.	لدي إطباع جيد عن كل شخص لدي إطباع جيد عن كل شخص	لدي إطباع جيد عن كل شخص Have a good impression for everyone.	A +
46	Don't see things through.	لا أفضل رؤية تفاصيل الأشياء لا أفضل رؤية تفاصيل الأشياء	لا أفضل رؤية تفاصيل الأشياء Don't see things through.	C -
47	Feel comfortable around people.	أشعر بالراحة مع الآخرين أشعر بالراحة مع الآخرين	أشعر بالراحة مع الآخرين Feel comfortable around people.	E +
48	Make people feel at ease.	أعمل على راحة الآخرين أعمل على راحة الآخرين	أعمل على راحة الآخرين Make people feel at ease.	A +
49	Rarely get irritated.	نادرًا ما أغضب نادرًا ما أغضب	نادرًا ما أغضب Rarely get irritated.	N -
50	Have little to say.	لدي القليل من القول لدي القليل من القول	لدي القليل من القول Have little to say.	E -

E = Extraversion, A = Agreeableness, C = Conscientiousness, N = Neuroticism, O = Openness (+ or -) direction of scoring.

From Table 4.2, it can be seen that most of the differences in translation that can be noted relate to the use of words and phrases, for example, “dislike” and “hate” in item 12; “down in the dumps,” and “depressed” in item 40; “have a good word,” and “have a good impression” in item 45. It can therefore be seen that these differences do not affect the substance of the items’ statements. Only four items showed differences between translators. First, item 8 “Am the life of the party,” has been back-translated as “Easily merged with the community.” Second, item 26 “Do just

enough work to get by” was translated back as “Do my work as required to avoid punishment.” Third, item 37 “Get back at others” was translated back as “Resort to others.” Finally, item 44 “Cut others to pieces,” has been translated back as “Join others in everything.” Some of these differences such as items 8 and 37 can be related to the use of such words and phrases in other languages and cultures. For example, the word “merged” in Arabic can be used in some contexts as a term for the ability of getting enjoyment or having no problems in enjoying something with others. All these items have been included in the scale after careful review in order to make sure that the items were comprehensible to Arabic speakers, with the exception of item 37 “Get back at others” and item 44 “Cut others to pieces”, which were removed from the scale due to the large variation in the items meaning between translated and original version.

A pilot study was conducted to ensure that the process runs smoothly, and to detect any problems during the running of the markers early. It also ensured that participants could easily understand the instructions and all the words and terms used in Goldberg’s 48-Item Personality Scale. In addition, it checked the time required for answering the measurement.

4.5 Pilot Study

4.5.1 Pilot study aims

The pilot study addressed four specific research tasks:

1. To assess whether or not the 48-items of the scale were manageable for participants to complete.

2. To check whether or not the instruction and the way of answering the measurement were clear and understandable for the participants.
3. To check whether or not the words of the items were clear and understandable.
4. To identify how long it would take for the measurement to be completed by the participants.

4.5.2 Participants

A total of 73 postgraduate Libyan students studying at UK universities participated in this study: 48 males (66%), 25 females (34%), 53 PhD students (73%) and 20 Masters Students (27%), studying at nine UK universities (Bradford, Derby, Liverpool, Manchester, Nottingham, Nottingham Trent, Sheffield, Sheffield Hallam and Swansea). (see Table 3.2).

4.5.3 Study procedures

Email was used to distribute the Arabic version of Goldberg's Personality Scale. Participants' email addresses were provided by the Libyan Embassy in London after a guarantee was given that limited use of the addresses would be made for study purposes only. A total of 204 postgraduate Libyan students at UK universities received an email containing consent forms and an information sheet (appendix-1 &2) explaining the aims of the study, and answered common questions about the study (for example: Who is running the study? How will the data be stored? What benefit can be obtained from the study? How they can participate in the study?). The email described the measurement of the study with a covering letter and a brief explanation about the nature of the study.

A total of 73 students responded, representing a response rate of 36 per cent. (see Table 3.2). The measurement was sent in Microsoft Word format in order to enable the participants to provide their views and comments on the measurement in terms of the clarity of the items, suggestions of modification, the time needed to complete the measure, and the clarity and understanding of the measure's instructions. Participants were asked to respond on every item in scale by put (✓) against each item in the selected response column as a description of their selves (Very Inaccurate, Moderately Inaccurate, Neither Accurate Nor Inaccurate, Moderately Accurate, or Very Accurate) Participants were requested to send the completed form back using the same email address provided with the information sheet. Responses were coded and stored with participant numbers only.

4.5.4 Results of the study

The aims of the pilot study were achieved. With regard to the first and second aims, it was found that participants were well able to understand and follow the instructions for the measurement, although there was no oral introduction or explanation.

With respect to the third aim of the study, participants were very cooperative and provided some important comments in terms of linguistic structure to enable items to be clearer and more meaningful. Participants made several comments about some items in terms of words that should be changed or reordered, and words that needed to be clearer. Table 4.4 shows the participants' notes on these items. The study also showed two items that were not answered by any participants ("Tend to vote for conservative political candidates," and "Tend to vote for liberal political

candidates") as all participants' experiences are limited to Libya where the context of political parties does not apply, thus these items were omitted from the scale.

Table 4.3: Participants' comments on some items

Categories	Items
Change words	*In item 7 <i>Have a vivid imagination</i> , suggesting to change the word (امتلك, I have) to (عندی, I get). *In item 5 <i>Enjoy hearing new ideas</i> change the word (اسمعني, I enjoy) to (تعجبني, I like).* Item 15 <i>Would describe my experience very boring</i> change the word (تصف, would describe) to (اصف, I describe). *Item 20 <i>Have a lashing tongue</i> change the word (سليط, sharp) to (قط, impolite). *Item 45 <i>Have a good impression for everyone</i> change the word (انطباع, impression) to (شعور, I have a good feeling).
Reorder	*Item 4, <i>Suspect hidden motives in others</i> (لدي شكوك في دوافع الآخرين) (اشك في الدوافع الخفية للآخرين نحوي) to (I feel that the other have hidden motives toward me). *Item 17, from <i>Don't like to draw attention to myself</i> (لا احب ان ينتبه الآخرون الى شخصيتي) to <i>I do not like the attention of others drawn to myself</i> (لا احب جذب الانتباه الى شخصيتي)
Clarity	Items need to be more clear, *item 20 (have a sharp tongue), * item 28 (carry the conversation to a higher level), *item 36 (waste my time).

Some suggestions of the participants were taken into consideration when the final version of the scale was formatted, such as changing some words that made the items more understandable. For example, the suggestion relating to items 7 "Have a vivid imagination" that the word (have, يمتلك) be replaced with the word (I got, انا امتلك); although similar in meaning, "have" in Arabic is usually used to denote material items. with item 4 "I feel that others have hidden motives toward me" the grammatical reordering of the statement words made the item more clear. On the other hand, suggestions that made items complicated or confusing were ignored, for instance, relating to item 20 "Have a lashing tongue," some participants suggested replacing the word حاد , roughly meaning lashing or being sharp with words, with لاذع، roughly meaning mordant; this suggestion was ignored, as the word لاذع in the

Arabic language has many different meanings. Additionally, for item 45 “Have a good impression for everyone,” it was suggested to change the word (انطباع), impression) to (مشاعر), feeling) which has a different meaning.

It was found that the participants completed the measurement of Goldberg’s Personality scale in eight minutes on average, with a minimum time of five minutes, and a maximum of sixteen.

4.6 Psychometric Properties of the Goldberg’s 50-Item Personality Scale (Arabic version)

The main data of the whole study were used to evaluate the psychometric properties of the scale. The study sample comprises 431 university students (aged 19–23 years) who were studying at Sabha University in the academic year 2008/2009 (170 males - 39 per cent, and 261 females - 61 per cent). The sample was drawn from five faculties (arts, engineering, law, science and medicine) in Sabha University; see section 3.5.3 and Table 3.3 for sample details.

4.6.1 Confirmatory factor analysis

LISREL 8.8 for Windows was used to examine the fit of model to the data and to see how it might be improved. The results shown in Table 4.4 fit the model to the data in the original form (model 1) poorly, with the Minimum Fit chi square of 2030.64 for 1070 degrees of freedom, a goodness of fit index of 0.82 (acceptable model fit is indicated by a CFI value of 0.90 or greater; , and a root mean square residual of 0.26 (RMR should be at 0.05 or below). The modification indices suggested the need to correct or remove loading of poor items. The effect of removing these items (model 2) is strikingly shown by the increasing in the goodness of fit indices in Table 4.5.

The chi square drops to 513.55 for 289 degrees of freedom, the goodness of fit index increases to 0.91, and the root mean square residual drops to 0.08.

Table 4.4: The goodness of fit (model 1, model 2)

Models	X2 (d.f.)	GFI	AGFI	PGFI	NFI	RMSEA	RMR
Model 1 (original)	2030.64 (1070).	0.82	0.80	0.75	0.59	0.26	0.10
Model 2 (final)	513.55 (289)	0.91	0.90	0.75	0.81	0.07	0.08

X2= chi-square. DF = degrees of freedom. GFI= Goodness of Fit Index. AGFI= adjusted goodness-of-fit index. PGF= Parsimony Goodness of Fit. NFI= *normed fit index* Index. RMSEA= Root Mean Square Error of Approximation. RMR= Root Mean Square Residual.

The final version of the scale after the omission of all items with loadings less than 0.3, consistent 25 items (Extraversion 4 items, Neuroticism 6 items, Agreeableness 3 items, Openness 5 items, Conscientiousness 7 items). Table 4.6: shows the loading of revised scale.

Table 4.5: The loading of revised scale

	Item	Factor	Loading
4	Suspect the hidden motives of others toward me. أشك في الدوافع الخفية للآخرين نحوى	Agreeableness	0.95
6	Believe in the importance of art. أؤمن بأهمية الفن	Openness	0.90
10	Am always prepared. أنا مستعد دائمًا	Conscientiousness	0.89
18	Carry out my plans. أنفذ خططى	Conscientiousness	0.82
2	Have frequent mood swings. لدى مزاج متقلب	Neuroticism	0.73
26	Do my work as required to avoid punishment. أنجز عملى كما هو مطلوب لتجنب العقاب	Conscientiousness	0.72
5	Enjoy hearing new ideas. أستمتع بسماع الأفكار الجديدة	Openness	0.67
11	Make plans and stick to them. أضع الخطط وألتزم بها	Conscientiousness	0.67
7	Have an imagination. أمتلك خيال واسع	Openness	0.64
38	Get daily work done in right away. أنجز العمل اليومى بطريقة صحيحة	Conscientiousness	0.61

	Item	Factor	Loading
9	Am skilled in handling social situations. أنا ماهر في التعامل مع المواقف الاجتماعية	Extraversion	0.60
21	Make friends easily. أكون أصدقاء بسهولة	Extraversion	0.60
33	Pay attention to details. أهتم بمعرفة التفاصيل	Conscientiousness	0.59
3	Am not easily bothered by things. لا تغضبني الأشياء بسهولة	Neuroticism	0.52
40	Am often depressed غالباً ما أكون مكتئباً	Neuroticism	0.51
36	Waste my time. أضيع وقتي	Conscientiousness	0.49
42	Do not like art. لا أحب الفن	Openness	0.47
25	Am very pleased with myself. أنا سعيد جداً مع نفسي	Neuroticism	0.40
31	Accept people as they are. أتقبل الآخرين كما هم	Agreeableness	0.39
32	Do not enjoy going to art museums. لا أستمتع بالذهاب إلى المتاحف الفنية	Openness	0.37
24	I think that others have good intentions. أعتقد أن الآخرين عندهم نوافل طيبة	Agreeableness	0.34
12	Hate myself أكره نفسي	Neuroticism	0.33
23	Know how to attract people to me. أعرف كيفية جذب الآخرين إلى	Extraversion	0.33
8	Easily merged with the community. أندمج مع الجماعة بسهولة	Extraversion	0.31
35	Feel comfortable with myself. أشعر بالراحة مع نفسي	Neuroticism	0.28

4.6.2 Reliability

There are a variety of methods of assessing reliability, such as test-retest reliability, split-half reliability, and internal consistency (Domino, Domino & Domino, 2006). Internal consistency estimates are widely used, as they are calculated from a single administration of a test. Therefore, internal consistency is the sort of reliability that has been calculated in this study. In particular, Cronbach's alpha and average inter-item correlation were two ways of assessing the internal consistency of the revised 25-item Personality Scale (Arabic version).

4.6.2.1 Alpha Reliability

Cronbach's alpha for the revised Goldberg's Personality scale (N of items is 25, from the current sample, $N = 431$) was only moderate in two scale domains: Extraversion and Neuroticism (respectively 0.66 and 0.57) and low in other scale domains. For Conscientiousness, Agreeableness, and Openness the Cronbach's alpha was 0.30, 0.10 and 0.43 respectively, which does not provide substantiation of the translated scale having good reliability.

It can be argued that it is highly expected that the Cronbach's alpha value for the current scale is going to be low as a result of the number of items in each scale, whereas the number of items in three scales (Openness, Neuroticism, and Conscientiousness) did not exceed seven items in each one, the scales of Agreeableness, and Extraversion were three and 4 items respectively. One criticism of the Cronbach's alpha is its sensitivity to the length and the number of items in scale, as scales with fewer items than ten might be expected to have quite low Cronbach values (Pallan, 2011).

In this regard, the criticisms of the Cronbach's alpha do not stop at the number of items in the scale, but extend to other technical aspects. Neal Schmitt (1996) suggested that presenting only alpha when discussing the relationships of multiple measures is not sufficient. Inter-correlations and corrected inter-correlations must be presented as well.

To avoid the weaknesses of Cronbach's alpha, the average of the inter-item consistency was the other method used to assess the reliability of this research. This method assumes that each item in a scale is in fact a test of the same variable,

whatever that may be, and mainly aims to evaluate the reliability of the scale by assessing the consistency between items (Domino *et al.*, 2006).

4.6.2.2 Average inter-item correlation

Average inter-item correlation aims to make sure that each item in a scale measures the same domain by calculating the correlation between each pair of items, and then averaging those correlations. In other words, the main purpose of the average inter-item correlation is to test the homogeneity of the scale's items. By analysing the data from this study, the two items “Tend to vote for conservative political candidates” and “Tend to vote for liberal political candidates” were omitted because none of the participants responded to these items, and 22 items were removed during the confirmatory factor analysis. In addition, the item “*Resort to others*” was deleted due to the large variations in meaning between translated and original versions of the scale. As a result, the total number of items of the scale became 25 items. Table 4.7 summarises the average inter-item correlations of each scale.

Table 4.6: Means for inter-item correlation of 25-item (Arabic version)

Scale	Average of inter-item correlation
Extraversion	0.33
Openness	0.21
Neuroticism	0.20
Conscientiousness	0.05
Agreeableness	0.01

As shown in Table 4.6, three scales showed an acceptable range of the inter-item correlation, as it is recommended that the optimal mean of inter-item correlation should range from 0.2 to 0.4 (Pallan, 2011). In the current study, the means of inter-item correlation of the scales Extraversion, Openness, and Neuroticism ranged from 0.20 to 0.33 (0.33, 0.21, and 0.20 respectively), which provided evidence of internal

consistency for these scales, while the Conscientiousness and Agreeableness scales failed to meet the required range for average inter-item correlation (with 0.05 and 0.01 respectively).

4.6.3 Validity

The validity of the Arabic version of Goldberg's 50-Item Personality Scale was assessed using two methods. Face validity was the first step. Thus, during the preparation for the scale translation procedures, the domains and the scale items were reviewed several times by the author and the research supervision team. In addition, it can be argued that since all the scale items were translated from the original Goldberg's 50-Item Personality Scale, which has been validated through several studies across the world, it is safe to assume that the content validity of the scale is supported.

The discriminative validity of the Arabic version of Goldberg's 50-Item Personality Scale was conducted based on indicator of the group differences between gender, the findings showed that women scored significantly higher than men in two domains, Neuroticism $t = 3.31, p <.01$ and Openness $t = 1.62, p <.01$. The gender difference in the other domains (Extraversion, Conscientiousness and Agreeableness) did not reach the level of significance. These findings were consistent with the reports been noted in previous research used other 5-factor personality inventories, such as Mõttus *et al.* (2006) and McCrae *et al.* (2001), which found that significant differences can be found between gender in three of the personality factors: Neuroticism, Openness and Agreeableness, which providing further evidence for the discriminative validity of the Arabic version of Goldberg's 50-Item Personality Scale.

The internal consistency of the scales was used through Cronbach's alpha value to assess the construct validity of the scale. Cronbach and Meahle reported in George and Marla (2006) suggested five methods that can be used to assess the construct validity of a scale. These methods include: factor analysis, group differences, studies of process, test-retest reliability, and internal consistency. Internal consistency is mainly used to focus on homogeneity among the scale items in terms of whether all items in a scale are assessing the same variable or whether they are affected by other variables. In the current research, the internal consistency was used to provide additional evidence of the scale validity. The results show a moderate Cronbach value in two scale domains (Extraversion and Neuroticism), while it was low in the rest of the scale domains (Conscientiousness, Agreeableness and Openness, with 0.30, 0.10 and 0.43 respectively).

4.7 Discussion

This study attempted to validate Goldberg's 50-Item IPIP in Arabic. The results of the current study provided support for the generalisation of the 5-factor IPIP structure in general in the Arab context and in the Libyan context specifically. Although our results partly confirmed the factor structure proposed by Goldberg for the 50-item Personality Scale, there were major deviations from the expected item loadings, which led to the omission of these items, which reduced the number of scale items to 25 items.

In general, the internal-consistency of the 25-item Personality Scale, with the exception of the Extraversion scale (0.66), was between moderate and low in most of the subscales (Openness and Neuroticism were respectively 0.43 and 0.57) and low in the scales domains of Conscientiousness and Agreeableness (respectively 0.30 and

0.10). These results are not entirely consistent with the reliabilities of other studies carried out across the world using Goldberg's 50-Item Personality Scale, in China (Zheng *et al.*, 2008), and Croatia (Mlačić & Goldberg, 2007a), all of which show good internal consistency.

It can be argued that the confirmatory factor analysis of the current study has shown a good loading 0.3 or above for all 25 items of their subscales, which gives a good indication that these items are related with their scales.

Although the results of the current study to some extent support the 5-factor IPIP structure in cross-cultural samples as well as the Libyan sample, they were not perfect. Specifically, in terms of the number of items in scales, Agreeableness had only 3, Extraversion factors had only 4, and Openness, Neuroticism and Conscientiousness factors had 5, 6 and 7 items (respectively), 50 per cent short of the full Goldberg's 50-Item Personality Scale English version, which needs to be improved. However, it can also be argued that the differences between the equivalent scales is not based on the number of items in each scale, but on the ability of that scale to measure what it is intended to measure; for example; Tom Buchanan *et al.* (2009) have revised the 20-item IPIP scale, which showed a good correlation with the full Goldberg's 50-Item Personality Scale. Also the internal consistencies of the full and revised versions of the scales were very similar, so it is not of concern if the numbers of the revised scale items were less, as long as they performed correctly. In the current research, the scale has shown a level of validity using methods: face validity, and discriminative validity through group differences in gender.

It seems that some items in the original version of Goldberg's 50-Item Personality Scale are in related with social desirability value, and may need to be refined in

specific cultures. These seem to be relatively rare, and they do not compromise the overall factor structure. It is known that when the scale is translated, achieving equivalence between the original version and the target version of the scale is not only limited to the language aspect, but also involves cultural considerations (Rode, 2005). Therefore, the target culture should be considered when transforming a cultural symbol in the original language into a cultural symbol in the target language to get the same functional responses, as some words and phrases have special connotations in some cultures and not in others, and a term that is appropriate for some contexts in a culture could be less appropriate in others (Rode, 2005). The cultural considerations can include social desirability value, social relationships and beliefs. For example, in the current study the scale item in the English version “Have a sharp tongue” was inappropriate for Arabic culture, where the term “sharp” generally cannot be used to describe human behaviour. Another two items, “respect others” and “insult people,” can be treated the same, as Arab people tend to believe that respecting others and not insulting people are cultural and religious duties. Therefore, it can be safely presumed that people would agree with the first and disagree with the last. These items should be carefully revised and reformed to be appropriate to the target culture.

The current results have shown that some omitted items in the scale can be referred to problems related to the translation of certain items, as the equivalent meaning in the translation of some words or phrases could be difficult to achieve because some idiomatic expressions used in the original language of the scale have no equivalent in the target language (Rode, 2005). For example, phrases such as “Cut others to pieces” can mean being derogatory to others or to put others down to make yourself seem better. In the Arabic language it is difficult to find a full equivalent meaning of

this term. Other terms also used in the original language of the scale include “Don’t see things through,” which means not finishing what has been started or not finishing things completely. In the Arabic language one has to write a long sentence to generate a meaning similar to this term.

Also, the syntax of the sentences varies enormously across languages and therefore poses problems in translation. The idiomatic expressions can be translated literally but sometimes lose their original meaning in the process. When idioms are used in one language, it might be not be proper for a direct or literal translation (Torop, 2002). For example, in the current study, the literal Arabic translation of the item “Keep in the background” would be incomprehensible. Another example is the literal translation of the term “Have a good word for everyone,” which can have the negative meaning of “dealing naively with others” in an Arabic formulation. In the same context, the term “Carry the conversation to a higher level” was literally translated to “Convey any conversation to a higher level,” which does not make any sense in the Arabic language.

In summary, although the 25-item modified Personality Scale might seem to be not equivalent to the original version, due to the changes that have been made, in this case the changes did not seem to adversely affect the implementation of the scale’s power. It is clear that one cannot simply take an existing scale, and assume that it will be exactly the same tool, worldwide. The reasons for these differences may include different interpretations of the items, and the social desirability that affects personality measurements to a great extent, and the cultural specificity of the Arab world, which varies from Western culture (wherein most of the personality scales were developed) in numerous respects. In this context, Bader Al-Ansari in abu

Hashem (2007) using Costa and McCrae Personality Inventory (NEO-PIR) reported that the Five Factor model of personality cannot be imposed wholesale on Arabic culture; his findings indicated three factors that can be generalised over the Arab sample (Conscientiousness, Extraversion, and Neuroticism).

Finally, it can be concluded that three of the subscale factors (Extraversion, Openness, and Neuroticism) evaluated here appear to have satisfactory psychometric properties. Across the study using different recruiting techniques, satisfactory loadings for all three subscales was observed and satisfactory reliability. Therefore, it can be considered that it is appropriate to use these three subscales in the current research where measures of these variables are desired.

The following chapter will discuss the translation procedures into Arabic and the development of the learning style index.

CHAPTER 5: THE TRANSLATION OF FELDER-SOLOMON INDEX OF LEARNING STYLES (ILS)

5.1 Introduction

The ways in which students absorb and process information differ; some prefer to work with concrete information such as facts and experimental data, while others prefer to deal with abstract information such as theories and models. Some are comfortable with information presented visually, while others gain more from verbal explanation (Tallman, 2010). The learning style is the composite of affective characteristics and psychological factors that work as an indicator of how an individual responds and interacts with the learning environment (Carrier, 2009). The study of learning style involves the investigation of individual differences: people perceive and get knowledge differently, they think differently, and they perceive and act differently. Therefore, the desire to measure and then act upon these patterns of learning has produced numerous tests purporting to assess one or more of the learning styles (several of which are discussed in chapter two). Felder-Solomon ILS is often used to explain learning styles in students, and provides detailed description of the different dimensions of the style of a learner and exposes the strength of preference. This chapter explains the translation procedures used to translate the Felder-Solomon ILS from English into Arabic and checks the psychometric properties of the inventory by using an Arabic sample.

5.2 Description of Felder and Silverman's Index of Learning Style (ILS)

In 1988, Richard Felder and Linda Silverman designed a learning style model to assess engineering students' learning styles and to provide an effective way for engineering teachers to identify the learning style of their students (Felder & Spurlin, 2005). The model characterised students according to four dimensions (sensing, visual, active and sequential). In 1991 Richard Felder and Barbara Solomon developed the Index of Learning Style (ILS) to measure preferences on the four scales of the Felder-Solomon model (Felder & Rebecca, 2005). In 1996 a pencil and paper version of the index was put on the World Wide Web, and in 1997 an online version was added, which is freely available for education purposes.

The Index of Learning Style ILS is a 44-question instrument created by Felder and Solomon to assess preferences on four dimensions of a learning style model formulated by Felder and Silverman (Litzinger, Sang Ha lee, John & Felder, 2005). The ILS consists of four scales: sensing-intuitive, visual-verbal, active-reflective, and sequential-global (see section 3.3.3).

Each dimension of the ILS is associated with eleven forced-choice items, with an option (a or b) corresponding to one or another category for the dimension (Felder & Spurlin, 2005). Even though the ILS has been translated into many languages around the world (Felder & Soloman, 1988), there is no evidence of an Arab version, nor has it been conducted with an Arabic sample.

5.3 Psychometric Properties of the ILS

The ILS is not a new scale and has a substantial history of use. Many studies using the ILS reported that evidence for its validity is strong, and most learning style scales generate data with satisfactory internal consistency reliability. The following section addresses the reliability and validity of the ILS.

5.3.1 Reliability

Felder and Spurlin (2005) summarised the analysis of reliability for the ILS in four different studies including results obtained from administrating the English-language version of ILS to university students representing native English speakers. The results were reported with two methods being used to assess the reliability of ILS.

Test-retest for all dimensions of scale showed varied correlation between ($r = 0.7$ and $r = 0.9$) for a period of four weeks, and between ($r = 0.5$ and $r = 0.8$) for a period of seven weeks, and all coefficients were statistically significant at the level of $p < 0.05$. These findings were consistent with Cook and Smith's (2006) study of ILS reliability, using a sample that included a total of 89 medical students. The findings showed that the test-retest correlation coefficients for ILS scores were good for Sensing and Intuitive ($r = 0.86$), Active and Reflective ($r = 0.81$), Sequential and Global ($r = 0.70$), and questionable for Visual and Variable ($r = 0.68$).

For internal consistency reliability, the report showed that the Cronbach alpha coefficients were only good for the Sensing/Intuitive dimension ($\alpha = 0.65-0.76$), and between moderate and low in the rest of the scale dimensions: Visual/Verbal ($\alpha = 0.56-0.69$), Sequential/Global ($\alpha = 0.41-0.55$) and Active/Reflective ($\alpha = 0.51-0.62$). These results were supported by a study conducted by Thomas

Litzinger *et al.* (2005) on a random sample of 1000 University students and graduate students. The findings of the study revealed that the internal consistency reliability using Cronbach alpha coefficients for the ILS scales were $\alpha = 0.70$ for both the Sensing-Intuitive and Visual-Verbal scales, whereas the Active-Reflective scale obtained $\alpha = 0.61$ and Sequential-Global had reliability coefficients of $\alpha = 0.55$.

In this regard, it can be argued that other language versions suffer from low internal consistency reliability, in addition to the English version of the ILS. For example, the study by Tawei Ku and Chun-Yi Shen (2009), conducted on 2748 university students at a large private university in Taiwan, aimed to evaluate the reliability and validity of a Chinese version of the ILS. The study revealed that the internal consistency reliability of the ILS scores by using Cronbach's coefficient alpha was between ($\alpha = 0.48$ and $\alpha = 0.41$) in all dimensions of the ILS scale (Tawei Ku & Chun-Yi Shen, 2009). In addition, the internal consistency reliability of the Turkish version of ILS was also assessed in a study conducted by Ültanır *et al.* (2012) on 526 Mersin University students, revealing that the Cronbach's coefficient alpha was moderate to low on all the ILS dimensions; $\alpha = 0.51$ for Active-Reflective, $\alpha = 0.46$ for Sensing-Intuitive, $\alpha = 0.54$ for Visual-Verbal, and $\alpha = 0.42$ for Sequential-Global.

Given the previous findings with respect to internal consistency, two justifications may be provided for why the scale is still considered suitable for use. First, although the internal consistency of ILS scale has been shown to be only moderate, the reliability of the ILS was found to be good using other methods of assessing reliability, such as test-retest method (Cook & Smith, 2006). Second, Richard (2005)

reported that different criteria of acceptability for alpha are appropriate for tests of two different types:

- The quantity measured is one variable, such as in an achievement test of knowledge of a subject area, or a particular skill;
- The quantity measured reflects a preference or an attitude.

The learning style preference in the current research, assessed by the index of learning style, clearly falls into the second category.

Tuckman (1999) considered that an alpha of 0.70 or greater is acceptable for scales that measure knowledge and skills, while for the scales that assess attitudes and preferences (such as the current scale ILS), an alpha of 0.50 or greater is acceptable. For example, a test that aims to measure a mathematical skill, such as the ability to perform matrix operations, multiplication, or inversion, is not situationally dependent, as one either has the relevant skills or does not. If subjects have received extensive training (for example in matrix algebra), they should answer most test items correctly, and subjects who have received less or no training are more likely to answer most of them incorrectly. Therefore, a high level of internal consistency among the test items and a correspondingly high Cronbach alpha would be expected in a valid measurement.

On the other hand, learning style preferences in particular and attitudes in general are somewhat more situationally dependent and do not necessarily become more consistent with training; in fact, the opposite might be true of learning styles. If education does its job well, students should obtain the judgment to use their less preferred style modalities when appropriate and the skills to use them effectively. If

they begin with a strong preference for one learning style dimension, this process will move them toward a position which in turn would lead them to respond differently to different items on the same scale of the ILS.

5.3.2 Validity

Evidence of the ILS validity was obtained through different types of validity, such as discriminant validity, construct validity using factor analysis, and convergent validity. In discriminative validity, Felder and Spurlin (2005) reported that the learning style preferences are expected to affect students' tendencies toward specific fields of study. For example, students who tend to study in a relatively abstract field such as physics or mathematics are more likely to be intuitors, while students who choose to study in a more practical field such as nursing or engineering might be expected to be sensors. Similarly, it can be expected that students of art and architecture are more likely to be visual learners than those who are writers or linguists. In this regard, in a study conducted by Van Zwanenberg *et al.* (2000), the ILS was administered to 135 engineering students and 145 business students. The findings showed statistically significant differences (at the level of $p < 0.05$) between the two populations in the mean scores on the Active-Reflective and Sequential-Global dimensions, and at the level of $p < 0.001$ on the Visual-Verbal dimension, with the business students significantly more Verbal, Global and Reflective than engineering students.

Litzinger *et al.* (2005) reported that factor analysis of the ILS identified eight factors associated with the four scales. Analysis of the underlying construct for each of the factors revealed that they are appropriately matched to the intent of the scales, providing evidence of construct validity for the measurement. The Sensing-Intuitive scale maintained consistent structure, with all 11 items consistently loading on a

single factor, whereas other scales were found to relate to multiple factors. It was indicated that the items of Visual-Verbal and Global-Sequential scales contain two factors and that the items of Active-Reflective scale contain three factors. The factor analysis revealed that four items from Sensing-Intuitive, Visual-Verbal, and Global-Sequential (2, 1 and 1 respectively) are not well loaded onto any factors in their scale.

Evidence of the convergent validity of ILS was provided in a study conducted by Cook and Smith (2006) using the multitrait-multimethod matrix. Findings showed a significant correlation between scores on ILS and two other learning style scales; Kolb's Learning Style Inventory (LST) and the Learning Style Type Indicator (LSTI). For the Active-Reflective domain, the study showed a significant correlation between ILS and both LST and LSTI ($r = 0.68$ and 0.50 respectively). For the Sensing-Intuitive domain, it showed a significant correlation between ILS and LSTI ($r = 0.68$) but not between the ILS and the LST. The study failed to support the convergent validity of the other two learning style domains (Sequential and Global, and Visual and Verbal) (Cook & Smith, 2006).

For the domains Sequential/Global, and Visual/Variable, evidence of convergent validity were provided in a study conducted by Rosati, reported in Felder (2005). Using the Myers-Briggs Type Indicator MBTI and ILS, it was found that most students who were Sequential on the ILS were also Sensing on MBTI. The results also revealed that students who varied more on ILS were significantly more likely to be visual than verbal on MBTI.

In summary, strong evidence for the validity of the ILS was provided using several methods such as discriminative validity, and convergent methods. Evidence for

construct validity using factor analysis was provided for the Sensing-Intuitive scale, since all 11 items loaded in single factor, while the items of other scales either loaded on more than one factor or did not load in any factor (Litzinger *et al.* 2005).

5.4 Scores of Felder and Silverman's Index of Learning Style (ILS)

Each dimension of Felder and Silverman's Index of learning Style ILS has 11 items, and every item has two choices of answer. Each learner must have a personal preference for each dimension. These preferences are expressed with values between +11 to -11 per dimension. According to their score, Participants are categorised as following:

- (a) If the score on a scale is 1-3, the participant is fairly well balanced on the two dimensions of that scale.
- (b) If the score on a scale is 5-7, the participant has a moderate preference for one dimension of the scale and will learn more easily in a teaching environment which favors that dimension.
- (c) If the score on a scale is 9-11, the participant has a very strong preference for one dimension of the scale. The participant may have real difficulty learning in an environment which does not support that preference.

5.5 Felder and Silverman's Index of Learning Style ILS: The Arabic Version Translation Procedures

A comprehensive review of previous research found that Felder and Silverman's Index of Learning Style has not been translated into the Arabic language nor applied

to any Arabic samples; therefore, the researcher aimed to translate and apply the Index on an Arabic sample.

The Index was translated and back-translated by two experts, once from English into Arabic and then from Arabic into English, to make sure there were no changes in semantic meaning as a result of the translation process (see Table 5.1).

Table 5.1: Translation of ILS items from English into Arabic

Items in English	Items in Arabic
1 I understand something better after I: a) Try it out b) Think it through	أفهم الأشياء أفضل بعد أن: أ. أجريها ب. أفكّر فيها
2 I would rather be considered: a) Realistic b) Innovative	أود أن يعتبرني الآخرون أ- واقعياً ب. مبتكرةً
3 When I think about what I did yesterday, I am most likely to get: a) A picture b) Words	عندما أفكّر فيما فعلته أمس، الأرجح أن أحصل على أ- صورة ب. كلمات
4 I tend to: a) Understand details of a subject but may be fuzzy about its overall structure. b) Understand the overall structure but may be fuzzy about details	أميل إلى أ. فهم التفاصيل حول موضوع معين وبيّن الإطار العام غير واضح المعالم ب- فهم الإطار العام للموضوع ولكن التفاصيل تبقى غير واضحة
5 When I am learning something new, it helps me to: a) Talk about it b) Think about it	عندما أتعلم شيئاً جديداً، يساعدني ذلك في أ- التحدث حوله ب. التفكير فيه
6 If I were a teacher, I would rather teach a course: a) That deals with facts and real life situations b) That deals with ideas and theories	لو كنت مدرساً، لفضلت تدريس موضوع يدور حول أ- حقائق وواقع عملية من الحياة ب. أفكار ونظريات
7 I prefer to get new information in: a) Pictures, diagrams, graphs, or maps b) Written directions or verbal information	أفضل الحصول على معلومات جديدة عن طريق أ- صور وأشكال ورسوم بيانية وخرائط ب. تعليمات كتابية أو معلومات شفهية عندما أفهم
8 Once I understand: a) All the parts, I understand the whole thing b) The whole thing, I see how the parts fit	أ- الجزئيات، أفهم الكل ب. الكل، تترائي لي الجزئيات
9 In a study group working on difficult material, I am more likely to: a) Jump in and contribute ideas b) Sit back and listen	عندما انضم إلى مجموعة دراسية لبحث موضوع صعب، الأرجح أن أ- أسارع ببدلاء أفكار ب. أجلس إلى الوراء وأستمع
10 I find it easier: a) To learn facts b) To learn concepts	من السهل لي أن أتعلم أ- الحقائق ب. المفاهيم
11 In a book with lots of pictures and charts, I am likely to: a) Look over the pictures and charts carefully b) Focus on the written text	في كتاب يحوي العديد من الصور والخرائط، الأرجح أن أ- أفقّص الصور والخرائط بعناية ب. أهتم بالنص المكتوب
12 When I solve math problems: a) I usually work my way to the solutions one	عند تحليل المسائل الرياضية عادة ما أ. أطل المسألة خطوة خطوة حتى

Items in English	Items in Arabic
step at a time	أصل للحل
b) I often just see the solutions but then have to struggle to Figure out the steps to get to them	بـ. أتصور الحل ولكنني أجد صعوبة في تصور الخطوات المؤدية للحل
13 In classes I have taken:	خلال دراستي السابقة
a) I have usually gotten to know many of the students	ـ. كنت عادةً أتعرف على العديد من الطلبة
b) I have rarely gotten to know many of the students	بـ. نادراً ما كنت أتعرف على الطلبة
14 In reading nonfiction, I prefer:	عند مطالعة النصوص الواقعية (أي الغير خيالية)،
a) Something that teaches me new facts or tells me how to do something.	أفضل شيئاً
b) Something that gives me new ideas to think about	ـ. يعلمني حقائق جديدة ويرشدني لكيفية أداء بـ.
15 I like teachers:	أحب المدرس الذي
a) Who put a lot of diagrams on the board	ـ. يرسم العديد من الصور على السبورة
b) Who spend a lot of time explaining	ـ. يمضى الكثير من الوقت في الشرح
16 When I'm analyzing a story or a novel:	عندما أحلل قصة أو رواية
a) I think of the incidents and try to put them together to Figure out the themes	ـ. أفكِر في الأحداث وأحاول ربطها
b) I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them	ـ. أدرك الأفكار الرئيسية عند استكمال القراءة، ثم علىَّ أن أعود لإيجاد الأحداث التي تعرض هذه الأفكار
17 When I start a homework problem, I am more likely to:	عند الشروع في أداء واجب منزلتي، الأرجح أن
a) Start working on the solution immediately	ـ. أبدأ مباشرةً بالبحث عن حل
b) Try to fully understand the problem first	ـ. أحاول فهم المشكلة بشكل متكامل
18 I prefer the idea of:	أفضل فكرة
a) Certainty	ـ. اليقين
b) Theory	ـ. النظرية
19 I remember best:	أذكر جيداً
a) What I see	ـ. ما أراه
b) What I hear	ـ. ما اسمعه
20 It is more important to me that an instructor:	الأهم بالنسبة لي أن المدرس
a) Lay out the material in clear sequential steps	ـ. يعرض الموضوع في خطوات واضحة
b) Give me an overall picture and relate the material to other subjects	ـ. يعطي الصورة العامة ثم يربط مادة الدرس بموضوعات أخرى
21 I prefer to study:	فضيل الدراسة
a) In a study group	ـ. في مجموعة
b) Alone	ـ. لوحدي
22 I am more likely to be considered:	من الأرجح أن يعتن بي الآخرون
a) Careful about the details of my work	ـ. مهمتاً بتفاصيل عملي
b) Creative about how to do my work	ـ. مبتكرة حول كيفية أداء عملي
23 When I get directions to a new place, I prefer:	عند حصولي على اتجاهات للوصول لمكان ما،
a) A map	ـ. أفضل خريطة
b) Written instructions	ـ. توجيهات كتابية
24 I learn:	أتعلم
a) At a fairly regular pace. If I study hard, I'll "get it"	ـ. بوتيرة منتظمة؛ إن أدرس بجد، أصل إلى نتيجة
b) In fits and starts. I'll be totally confused and then suddenly it all "clicks"	ـ. بشكل غير منتظم؛ أكون حائراً بشدة ثم فجأة تتضح الصورة
25 I would rather first:	أفضل في البداية أن
a) Try things out	ـ. أجرب الأشياء
b) Think about how I'm going to do it	ـ. أفكر في الطريقة التي أؤدي بها العمل
26 When I am reading for enjoyment, I like writers to:	عندما أقرأ للمتعة، أرغب أن الكاتب
a) Clearly say what they mean	ـ. يصرح بوضوح عن مراده
b) Say things in creative, interesting ways	ـ. يعبر عن مراده بطريقة مبتكرة ومشوقة

Items in English	Items in Arabic
27 When I see a diagram or sketch in class, I am most likely to remember: a) The picture b) What the instructor said about it	عندما أرى رسم أو شكل توضيحي في الفصل، من الأرجح أن أتذكر أ- الصورة ب- ما ذكره المدرس حولها
28 When considering a body of information, I am more likely to: a) Focus on details and miss the big picture b) Try to understand the big picture before getting into the details	عند النظر في كتلة من المعلومات، من الأرجح أن أ- أهتم بالتفاصيل وأغفل عن الصورة العامة ب- أحاول فهم الصورة العامة قبل الخوض في التفاصيل
29 I more easily remember: a) Something I have done b) Something I have thought a lot about	أتذكر بسهولة أكثر الأشياء التي ا- قمت بها ب. فكرت فيها مليأً
30 When I have to perform a task, I prefer to: a) Master one way of doing it b) Come up with new ways of doing it	عند وجوب أداء عمل ما، أفضل أن أ- أتقن طريقة واحدة لإنجازه ب- أبتكر طرق جديدة لإنجازه
31 When someone is showing me data, I prefer: a) Charts or graphs b) Text summarizing the results	عندما يريني شخص بعض المعلومات، أفضل أ- خرائط وأشكال بيانية ب- نص يلخص النتائج
32 When writing a paper, I am more likely to: a) Work on (think about or write) the beginning of the paper and progress forward b) Work on (think about or write) different parts of the paper and then order them	عند كتابة ورقة بحثية، من الأرجح أن أشتغل على (أكتب أو أبدأ) ا- بداية الورقة ثم أنقدم شيئاً فشيئاً ب. أجزاء مختلفة من الورقة ثم أرتديها
33 When I have to work on a group project, I first want to: a) Have “group brainstorming” where everyone contributes ideas b) Brainstorm individually and then come together as a group to compare ideas	عند الإعداد لمشروع جماعي، أود أولاً أن أجري بأفكاره ب- عصف ذهني فردي ثم يلتقي الفريق لمقارنة الأفكار
34 I consider it higher praise to call someone: a) Sensible b) Imaginative	في نظري أنه من الإطراء أن يقال للمرء أنك أ- عاقل ب- مبدع
35 When I meet people at a party, I am more likely to remember: a) What they looked like b) What they said about themselves	عند التقائي باشخاص خلال حفلة، من الأرجح أن أنتذرك أ- سماتهم ب- ما قالوه عن أنفسهم
36 When I am learning a new subject, I prefer to: a) Stay focused on that subject, learning as much about it as I can b) Try to make connections between that subject and related subjects	عند دراسة موضوع جديد، أفضل أن أ- الاستمرار في التركيز عليه حتى استوعب كل ما يمكن حوله ب- أحاول إيجاد روابط بينه وبين مواضيع أخرى ذات صلة
37 I am more likely to be considered: a) Outgoing b) Reserved	من الأرجح أن يعتبرني الآخرون أ- منطقاً ب- متحفظاً
38 I prefer courses that emphasize: a) Concrete material (facts, data) b) Abstract material (concepts, theories)	أفضل الدورات الدراسية التي تركز على أ- الأشياء المحسوسة (الحقائق والمعلومات) ب- الأشياء المجردة (الأفكار والمفاهيم)
39 For entertainment, I would rather: a) Watch television b) Read a book	للتسليية، أفضل أ- مشاهدة البث المرئي (التلفزيون) ب- مطالعة كتاب
40 Some teachers start their lectures with an outline of what they will cover. Such outlines are: a) Somewhat helpful to me b) Very helpful to me	بعض المدرسين يفتتحون محاضراتهم بلمحة عن ما ينوون تغطيته. أعتقد أن هذه اللمحات أ- تفيضي بعض الشيء ب- تقيضي بدرجة عالية
41 The idea of doing homework in groups with one grade for the entire group: a) Appeals to me b) Does not appeal to me	إن فكرة أداء الواجب المنزلي في مجموعات، بحيث تعطى درجة واحدة لكل أفراد المجموعة أ- تروق لي ب- لا تروق لي

Items in English	Items in Arabic
42 When I am doing long calculations: a) I tend to repeat all my steps and check my work carefully b) I find checking my work tiresome and have to force myself to do it	عند أداء عمليات حسابية طويلة أـ أميل لإعادة كل الخطوات وتأكد من شغلي بعناية بـ أجد أن التأكد من شغلي متعباً وأفرض على نفسي ذلك
43 I tend to picture places I have been: a) Easily and fairly accurately b) With difficulty and without much detail	أميل إلى تصور الأماكن التي زرتها أـ بسهولة وبدقة معقولة بـ بصعوبة وبدون تفاصيل كثيرة
44 When solving problems in a group, I would be more likely to: a) Think of the steps in the solution process b) Think of possible consequences or applications of the solution in a wide range of areas	عند حل المشاكل في مجموعة، من الأرجح أن أـ أفكر في الخطوات في عملية الحل بـ أفكر في النتائج المحتملة أو التطبيقات للحل في عدة مجالات

A pilot study was conducted in order to check the feasibility and acceptability of the translated ILS scale before it was administered to the main sample.

5.6 Pilot Study

5.6.1 Aims of pilot study

The pilot study addressed four specific research tasks in order to ensure the acceptability of the scale:

- 1 To assess whether the items of the scale were manageable for participants to complete.
- 2 To check whether the instructions and way of answering the scale were clear and understandable to participants.
- 3 To check whether the words of the items were clear and understandable.
- 4 To identify how long it would take for the scale to be completed by the participants.

5.6.2 Participants

A total of 73 postgraduate Libyan students studying at nine UK universities participated in this study (Table 3.2).

5.6.3 Study measurement

The study used Felder and Silverman's Index of Learning Style ILS (Arabic Version). The ILS, as mentioned earlier, comprises 44 items measuring four dimensions for learning style: Sensing/Intuitive, Visual/Verbal, Sequential/Global, and Active/Reflective.

5.6.4 Study procedures

Participants' email addresses were used for distribution of the ILS to 73 postgraduate Libyan students at nine UK universities (see section 4.5.3 for details of administration procedures).

5.6.5 Results of the study

The results from participants' responses to the scale can be summarised as outlined below.

5.6.5.1 Questions answered

It was found that all 44 questions were answered by all participants, and no questions were omitted. No comments were made on the scale length. With respect to the first aim of the study, all participants completed the measurement, with no one copy missing. It can be safely estimated that all the questions in the scale were clear enough to be understood by all participants.

5.6.5.2 Participant cooperation and comments

Participants were very cooperative and provided some important comments in terms of linguistic structure to enable items to be clearer and more meaningful. It was decided to refine any item that received suggestions to that effect from three participants or more. Participants made several comments about three items in terms of linguistic structure (items 3, 16, and 18).

Table 5.2: Participants' comments on some items

Categories	Items
Change words	In item 3 (7)*, suggesting to change the word (احصل) (get) to (تخيل) (imagine). In item 18 (3)* change the word (يقين) (certainty) to (حقيقة) (fact).
Reorder	أدرك الأفكار الرئيسية عند استكمال القراءة، ثم على أن أعود لإيجاد الأحداث التي تعرض هذه الأفكار (I think of the incidents and try to put them together to Figure out the themes) to (الافكار الكلية للرواية او القصة بجمع احداثها وعناصرها to (to Figure out the story themes I put all the story elements together)

* Number of participants who suggested the change

5.6.5.3 Time to complete

It was found that the average time taken to complete the scale of learning style was 10 minutes, with an average of 23 seconds per question. The time taken by students is shown in Table 5.3.

Table 5.3: Time taken by participants to answer the scale

No.	Time in minutes	Participants	Percentages
1	6	13	18%
2	10	43	59%
3	13	9	12%
4	15 up	8	11%

The assessment of the translation procedure of the ILS from English into Arabic and its acceptability by participants was a key element of conducting the current pilot study. The results from the pilot study were very positive overall. It was reassuring

to discover that the participants who had agreed to take part in the study completed all the scale questions.

One of the aims of the current pilot study was that the instructions for the scale and language should be at level that could be easily understood by participants. Results indicate that the aim was achieved, with the majority of participants not reporting any difficulties in terms of reading and understanding the scale instructions.

The pilot study was conducted with the aim of detecting the required time for completing the scale. The average time was 10 minutes, which enables the use of other research measures alongside the scale (see table 5.3).

Participants' comments on some questions were very constructive and provided useful feedback. Some of the suggestions led to significant improvements in certain questions.

5.7 The Properties of the Arabic Version of Felder and Silverman's Index of Learning Style (ILS)

The main data of the whole study were used to evaluate the psychometric properties of the scale. The study sample comprises 431 university students (aged 19-23 years) who were studying at Sabha University in the academic year 2008/2009. From this sample, 170 were males and 261 were females. The sample was drawn from five faculties (Arts, Engineering, Law, Science and Medicine) in Sabha University, which is located in southern Libya (975 km from Tripoli). Several statistical techniques were used to assess the psychometric properties of the Arabic version of the ILS.

5.7.1 Students utilising the ILS

The distribution of preferences for each dimension were analysed first. Results showed that 66 per cent of the students in the current research were found to have an active preference, 84 per cent a sensing preference, 63 per cent a visual preference, and 84 per cent a sequential preference. In their overview of similar studies, Felder and Spurlin (2005) reported that 55-85 per cent were more likely to be active learners, 46-86 per cent had sensing learning preferences, 52-89 per cent were more visual learners, and 52-76 per cent had sequential learning preferences. According to the distribution of the preferences, it can be seen that the results of the current research are in agreement with previous studies in most of the scale dimensions.

5.7.2 Reliability of the ILS

The term reliability refers to the consistency of the measure over time or in different circumstances (Dennis & Cramer, 2008). There are several ways to estimate test reliability, chief among which are the methods of test-retest, alternate forms and internal consistency, as outlined below:

- (a) Test-retest: to estimate the reliability by test-retest, the same test must be administered to the same sample on two different occasions (Dennis & Cramer, 2008). The location of the research sample ($N=431$) was one main reason that prevented the current study from adopting this method, in particular with regard to the political situation that overtook Libya during the course of this research programme.
- (b) Alternate forms: to estimate the reliability of a scale by this method, two forms of the same test have to be provided and administrated to participants on different occasions or simultaneously (Dennis & Cramer, 2008). The unavailability of a

second form of the scale made it impossible for the current research to adopt this method.

(c) Internal consistency: although many criticisms have been made of this method, it remains the most commonly used approach to estimate reliability (Henson, 2001). This method assumes that items on a test that are intended to measure the same variable should show some level of consistency with respect to participant responses (George & Domino, 2006). The reliability of the Arabic version of ILS was estimated by internal consistency. Therefore, the following section explores this method.

5.6.5.4 Internal Consistency Reliability

The reliability of the Arabic version of Felder and Silverman's ILS was calculated by internal consistency using Cronbach's coefficient alpha.

The findings show that two dimensions of the scale have a good internal consistency with Cronbach's coefficient alpha of $\alpha = 0.75$ for Visual/Verbal and $\alpha = 0.70$ for Active/Reflective, while it was questionable for Sensing/Intuitive, with an alpha of ($\alpha = 0.63$, and exposed poor internal consistency for Sequential/Global, with an alpha of $\alpha = 0.59$. However, most of these estimations of reliability were high if compared with coefficient alpha in some past studies reported by Litzinger *et al.* (2005). Table 5.4 shows the internal reliability coefficients for the ILS from the current study and previous studies. The results in Table 5.4 show that with exception of the sensing-intuitive dimension, the Cronbach's alpha coefficients of the current study in all the scale dimensions were higher (to some extent) than those of previous studies.

Table 5.4: Cronbach's alpha coefficients for the ILS

Source	Place & year	N	Act- Refl	Sen- Int	Vis- Ver	Seq- Glob
Litzinger <i>et al.</i>	USA, 2007	448	0.61	0.77	0.55	0.55
Livesay <i>et al.</i>	Tulane, USA	242	0.56	0.72	0.60	0.54
Van Zwanenberg <i>et al.</i>	UK, 2000	284	0.51	0.65	0.56	0.41
Zywno & Ryerson	Canada, 2003	557	0.60	0.70	0.63	0.53
Current study	Sebha, Libya	431	0.66	0.70	0.72	0.59

5.7.3 Validity of the ILS

The validity of the Arabic version of the ILS was assessed using more than one method; content validity was the first step. It can be argued that since all the scale items of the ILS were translated from the original English version, which has been validated through several studies across the world (small changes have been made to some of the scale's items - see Table 5.2 - but these were not significant to change the focus of the questions, and did not disturb the validity of the scale), it is reasonable to assume that the content validity of the scale is good.

Second, exploratory factor analysis was performed to estimate the number of factors in the Arab version of ILS, using principal axis factoring and varimax rotation. The scree plot suggests four factors to be extracted (see Figure 5.1).

The results offer support for the relative orthogonality of the four scale dimensions, with items from the Sensing-Intuitive scale predominantly loading in Factor 1, items from the Visual-Verbal scale predominantly loading in Factor 2, items from the Global-Sequential scale predominantly loading in Factor 3, and items from the Active-Reflective scale predominantly loading in Factor 4 (see Table 5.5). However, items from Active-Reflective, Sequential-Global, and Visual-Verbal scales were found to relate to more than one factor. For example, item 11 “*In a book with lots of*

pictures and charts, I am likely to: (a) Look over the pictures and charts carefully; (b) Focus on the written text" from Visual-Verbal scale and item 26 "When I am reading for enjoyment, I like writers to: (a) Clearly say what they mean; (b) Say things in creative, interesting ways" from the Sensing-Intuitive scale also loaded significantly on Sequential-Global scale. The results from the four factors are summarised in Table 5.5.

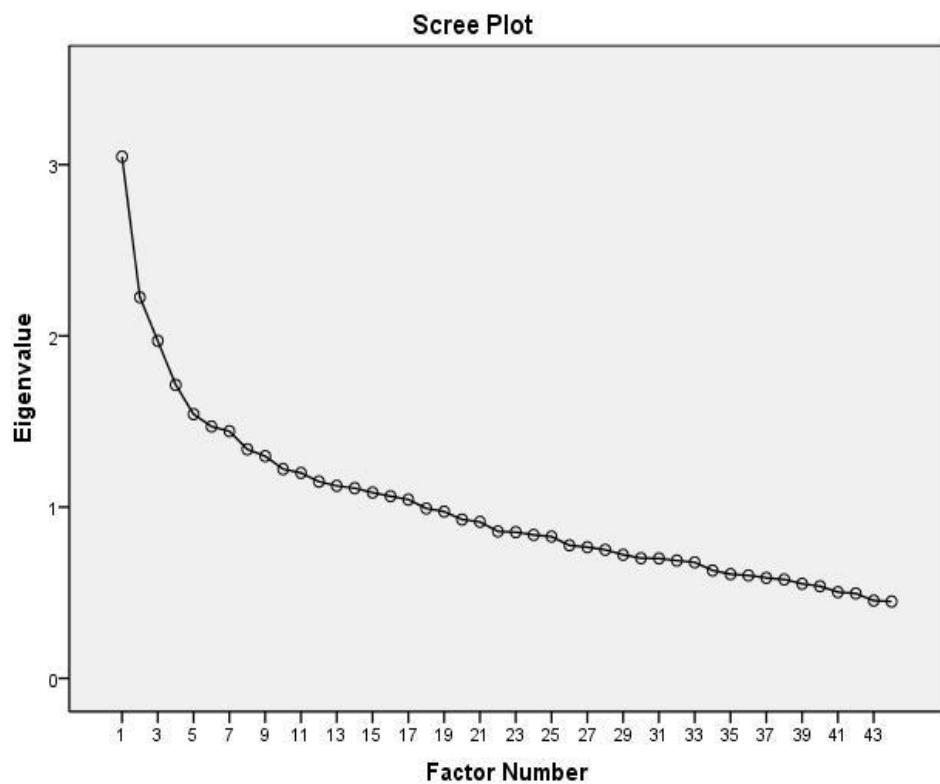


Figure 5.1: The number of factors in the Arab version of ILS

Table 5.5.5 Rotated factor matrix for Arabic version of ILS

Scales	Items' number	Factor 1	Factor 2	Factor 3	Factor 4
Active-Reflective	1				
	5				.432
	9	.351			.455
	13				.401
	17				.372
	21				
	25				
	29		.306		.392
	33				
	37				.383
Sensing-Intuitive	41				.333
	2	.446			
	6	.494			.306
	10	.471			
	14	.353		.301	
	18	.326			
	22	.308			
	26	.419		.326	
	30	.313			
	34	.388			
Visual-Verbal	38	.304			
	42	.341			
	3				
	7		.392		
	11		.382	.336	
	15		.380	.310	
	19		.306		
	23		.363		
	27		.320		
	31		.301		
Global-Sequential	35		.362		
	39		.326		
	43		.317		
	4			.364	
	8	.334		.365	
	12				
	16				
	20		.343	.478	
	24			.372	
	28			.490	
	32			.342	.301
	36			.303	
	40			.361	
	44			.335	.301

*Factor loadings less than 0.3 are not listed.

The factor analysis provided evidence of construct validity for the Arabic version of ILS. The strongest evidence is for the Sensing-Intuitive scale, for which all items load on a single factor, with two items also loading significantly on the Sequential factor. For the Sequential-Global and Visual-Verbal scales the evidence of construct

validity is also good, as most of their items loaded significantly on a signal factor; only two items in Sequential-Global and one item in Visual-Verbal scale did not load into a factor. In addition, two items from the Visual-Verbal factor also loaded significantly on the Sequential-Global factor, and three items from Sequential-Global scale also loaded significantly on other factors (one on Visual-Verbal factor, and two on the Active-Reflective factor). For the Active-Reflective scale, despite having four items that did not load into a factor and two items that loaded significantly into more than one factor (one item in the Sensing-Intuitive factor, and another in Visual-Verbal factor), the scale still has six items that loaded significantly into one single factor.

As mentioned previously concerning discriminative validity (see section 5.3.2), it was expected that the learning style of students would affect their tendencies toward specific fields of study (for example, ‘intuitive’ students are more likely to study in abstract fields such as philosophy, while sensing students tend to choose practical fields such as engineering or nursing). It was also expected that students of art and architecture are more visual learners than those who are writers or linguists. Based on this, the current research predicted that students who study in abstract field such as; Arts, and Law are expected to be more likely to be ‘verbal’ and ‘intuitive’ than those who study in practical field such as medicine, engineering, and the sciences. To evaluate the discriminant validity of the scale, one way ANOVA was used to compare the scores on the four scales’ dimensions according to the subject areas of the sample. Post-hoc comparisons using the Tukey HSD test indicated that there were statistically significant differences at the level of $p < 0.05$ between the two populations in the mean scores on the Visual-Verbal scale, with the law students being significantly more Verbal than medicine students and significantly different on

Sensing-Intuitive at the level of $p < 0.001$, with the sciences and engineering students having significantly higher sensing scores than the law students.

5.8 Discussion

The current study aimed to validate Felder and Silverman's ILS in the Arab world by translating the scale from English into Arabic. To some extent the results provided support for the generalisation of the four learning style dimensions' structure in general in the Arab context and in Libya in particular. Our results confirmed the four-dimension structure proposed by Felder and Silverman for the ILS scale. However, the factor analysis reveals that across the scale dimensions - with the exception of the Sensing/Intuitive scale - 11 items loaded significantly on more than one factor. However, these cross-loading items were not considered problematic, as it can be seen that the highest factor loading of each item was on the factor it was supposed to be on. The results also show that 5 items are not well loaded on any factors. These findings were unsurprising, as the results of previous research on ILS revealed that some items did not load well on any factors in the scale, in addition to items that related to and loaded significantly on multiple factors (Litzinger *et al.*, 2005), which clearly indicates that some items could be measured by more than one learning style dimension (see 5.3.2). The results in the current research confirmed that the phenomena of items from ILS loading into several factors and items not loading into a single factor were not limited to specific languages or versions of the scale, but can be universal, and were encountered in the Arab version of the ILS.

The coefficient alpha of the scale's dimensions was found to be good in two scale dimensions (Sensing/Intuitive and Visual/Verbal; $\alpha = 0.70$ and 0.72 respectively), while it was moderate in Active/Reflective and Sequential/Global ($\alpha = 0.66$ and 0.59

respectively). This indicates similarity to or even improvement on the original version and some other language versions, specifically for the Active/Reflective, Visual/Verbal, and Sequential/Global dimensions (see Table 5.4).

It seems that using the back-translation method (English into Arabic, than Arabic into English) was effective in achieving an equivalence of the scale in both languages, and no major differences remained between the translators' versions. In addition, although the participants in the pilot study suggested changing two words (see Table 5.2), these suggestions can be considered as minor, and did not in general change the meaning of the item. For example, participants suggested changing the word يقين (certainty) to حقيقة (fact) in Arabic language; it would be hard for an external (non-participant) observer to distinguish any different semantic connotations between the two alternatives.

Limitations were encountered in this study. First, the students who participated in the current study were university students at a Libyan university located in the south of Libya, and the sample may not represent all Libyan university students, therefore generalisation of findings may be limited. Second, although the results show good validity and reliability, it was not possible to examine the psychometric properties of the scale using different methods. For example, the reliability of the scale has not been checked by using test-retest method after it was translated to Arabic because events in Libya did not permit the author to re-demonstrate the scale. Therefore it is recommended that future research on this version may need to check the scale's reliability and validity using other methods.

In conclusion, from the above results and discussion it can be argued that the Arabic version of Felder and Silverman's ILS was successfully translated into Arabic and

although the findings highlight the need for close attention and future work on some of the scale items and properties, the preliminary psychometric estimates of most of the scale dimensions found that it was reliable and valid, and could be used to assess learning styles in an Arabic population.

CHAPTER 6: DESIGNING AND DEVELOPING OF PERSONAL CHARACTERISTICS QUESTIONNAIRE

6.1 Introduction

The main aim of the current research was to investigate the personal characteristics of university lecturers in Libyan Universities, as seen through the eyes of university students. The researcher has designed a questionnaire in order to collect data from a large sample of students about their perceptions of the personal characteristics of university lecturers in Libyan Universities. This chapter documents the design and construction of the main research questionnaire.

It is important to consult experts (who are familiar with this situation) to offer good advice on the selection of questions. It is also essential to follow guidelines for constructing a good questionnaire in order that the students and lecturers who read the questions gain the full meaning intended by the designer. As stated earlier in chapter 3 (see section 3.3.1) five aspects of questionnaire construction were derived from (Hayes ,2007):

Working out the question content

Question wording

Form of response to the question

Piloting and revising the questionnaire

Administering the questionnaire

There were four stages to this process, incorporating all five of these aspects. The first stage aimed mainly to gather a set of personal characteristics of university lecturers that can be used in the questionnaire's construction. The free list study and consultation of published material were the focus of this stage. The second stage

focused on two steps; step one involved determining the correct wording for the questionnaire; step two concentrated on formatting the way in which participants were to respond to the questionnaire. In order to check the clarity of the questionnaire's items, and test out the questionnaire's administration, the pilot study of the questionnaire was the focus of the third stage. The final stage has concentrated on testing and measuring the psychometric properties of the questionnaire.

6.2 Study Design

6.2.1 First stage (free list)

6.2.1.1 Introduction

Three main sources were used to collect the questionnaire's items; books and journal articles dealing with the subject of the current research, related previous studies, and the free list study. The preferred source for the items was the free list study participants, because this is likely to produce the most culturally sensitive and relevant items. The free list study aimed to gain an overview of the thinking trends of students about the personal characteristics of university lecturers. It also helped the researcher to write items for the main questionnaire which might be related to the students' culture, and as such is a highly recommended step of good questionnaire design (Weller & Romney, 1988).

6.2.1.2 Participants

A total of 152 students representing three Libyan universities (Sebha, Al-Margeb, and Garyounes) participated in free list study (see section 3.5.1).

6.2.1.3 Materials

The first stage (free list) used open-ended questions in order to collect the data from participants. The questionnaire consisted of two parts. The first part asked for demographic information such as age, gender, and level of study. In the second part participants were asked to make two free lists related to their view of the personal characteristics of university lecturers by writing words or short phrases about their university lecturers, through answering the following questions:

- *What are the personal characteristics which you see as essential in your university lecturer?*
- *What are the personal characteristics you do not approve of in your university lecturers?*

6.2.1.4 Procedure of free-listing stage

The questionnaire was administrated to the students in three Libyan universities (Sabha, Al-Margeb, Garyounes; see section 3.5.1). The questionnaire was sent by email to particular lecturers the researcher had already contacted regarding the study, and after full explanation about the procedures of the study and how to conduct the questionnaire, the questionnaire was administered to participants at their universities individually or in groups, depending on the participants' time and preference. After the participants completed the questionnaire, all papers were scanned and returned to the researcher.

6.2.1.5 Analyses

Responses from the free listings were tabulated by counting the number of respondents who listed a given word or phrases. Words and phrases were then ordered according to the frequency distribution or percentages of the number of participants that mentioned each item (Weller & Romney, 1988).

6.2.1.5 Results

In this stage, after excluding duplicates, 93 words and phrases were provided (59 positive, and 34 negative items) from 152 participants describing their university lecturers. All these items were included in the main questionnaire. There are no absolute rules for including or excluding items, except emphasis that the most frequently named words and phrases should be accorded higher priority, but low frequency should be included to ensure variety of concepts (Weller & Romney, 1988).

In addition to the 93 characteristics derived from the free list study, there were 16 characteristics derived from previous research (Rubin, 1981; Obydat, 1991; Alshokiby, 1992; Pozo-Munoz, Rebolloso-Pacheco & Fernandez-Ramirez, 2000; Nasser & Fresko, 2002; Alweshahi, Harley & Cook, 2007), which covered some theoretically important aspects of university lecturer characteristics which were not spontaneously mentioned by the students in the free list study (for example, '*Contributes to the students' activities*', '*Accepts legitimate excuses for missing class or coursework*', '*Encourages students to express their views*', and '*Pays attention to students when they state their opinions*').

6.2.1.6 Second stage (wording and constructing the questionnaire)

It is very important that in the process of putting questions into words one ensures that participants fully understand the items' meaning. In this regard some general rules have been taken into concentration; first, as all words and phrases provided by students in the free list study were used in the current questionnaire, the researcher carefully reviewed these characteristics and reformulated them to be commensurate with the questionnaire. For example, students in the free list study provided some ambiguous words/phrases that could mislead respondents, such as (يسلم على طلبه), (يساعد الطلبة على التعبير عن وجهة نظرهم), helps students to express their point of view, (يضحك أثناء الفصل), laughs during class time). Second, all items were rendered into formal Arabic language, to enable the questionnaire to be understood by all, as some characteristics were provided in Libyan dialect (for example (ايضي الطلبة على راحتهم في الفصل, يحفظ اسماء طلابه)). Thirdly, all the questionnaire's items were formatted to be a positive or negative. Short and precise words or phrases describing the personal characteristics of university lecturers (for instance, "fair" for a short word, and "have a good relationship with the students" for a short phrase) were used.

Items in the questionnaire should follow a logical order, where the one question leads to the next (Bill, 2008). In the current questionnaire the items were randomly ordered, as there was no relation between responses to one item and the next. Nonetheless it can be noted that the random order of the questionnaire's items provided a balanced distribution of items across the questionnaire in terms of the order of short word items and phrases..

In order to get students to express their perspective about the personal characteristics of their university lecturer, the 109 items were responded to by means of a five-point Likert scale. One of the most widely used scales in the social sciences, Likert scale has several advantages: it is easy for participants to understand and respond to, and for researchers to construct and administer (see section 3.1.1.4). The five points of the Likert scale were: strongly disagree, disagree, I do not know, agree, and strongly agree).

The draft of the questionnaire was divided into two sections. Section one dealt with demographic information, such as gender, subject area, and level of study. Section two contained all the questionnaire items with five potential responses to be ticked (checked). Table 6.1 illustrates the scale responses for the questionnaire.

Table 6.1: Likert scale responses to questionnaire items

Items	Strongly agree	Agree	I do not know	Disagree	Strongly disagree
Modest Greets students					

The following section discusses the pre-test of the questionnaire before the main administration.

6.2.2 Third stage (pilot study)

Pre-tests of the questionnaire were conducted in order to check all the questionnaire aspects, including question content, instruction clarity, wording, sequence, form and layout, and difficulty; it highly recommended that a questionnaire should not be used in the main research before extensive pre-testing and review.

6.2.1.1 Participants

A total of 73 postgraduate Libyan students (48 males, 25 females, and comprising 53 PhD students and 20 MA students) studying at nine UK universities (Bradford, Derby, Liverpool, Manchester, Nottingham, Nottingham Trent, Sheffield, Sheffield Hallam and Swansea) participated in the pilot study (section 3.5.2 and Table 3.2 for illustration of the student sample who participated in the pilot study).

6.2.2.2 Materials

The questionnaire consisted of 109 items (Appendix 6), gathered from published research (Rubin, 1981; Obydat, 1991; Alshokiby, 1992; Pozo-Munoz, Rebolloso-Pacheco & Fernandez-Ramirez, 2000; Nasser & Fresko, 2002; Alweshahi, Harley & Cook, 2007), and the students' responses to the free list questionnaire were used in the current pilot study. All the questionnaire items are related to the personal characteristics of university lecturers, and all items were reviewed by the researcher and the supervision team.

6.2.2.3 Procedure of the pilot study

The questionnaire was administered by email to 73 postgraduate Libyan students studying at nine UK universities (see section 4.5.3). Participants were asked to answer the questionnaire and to give their review about the clarity of the questionnaire items and instructions, in addition to recording the time required to complete the questionnaire.

The participants' notes about the clarity of the questionnaire's words and phrases and about the clarity of the questionnaire instructions were carefully reviewed, and appropriate modifications were made.

6.2.2.4 Results

The result of the first step in this stage showed that the aims of the step were achieved; the results are summarised below.

- It was found that the average time for completing the questionnaire about the personal characteristics of university lecturers was 17 minutes. Participants gave very different answers about the time for completing the questionnaire: some of them said that the answers took more than 20 minutes; others said it took 11 minutes, but the majority considered that 17 minutes was ample time for completing the questionnaire.

Table 6.2: Time taken to complete questionnaire

Time	Participants	Percentages
11	8	11%
13	6	8%
17	55	75%
20 and up	4	5%

- Participants were very cooperative and provided some important comments in terms of linguistic structure to enable items to be clearer and more meaningful. Most comments focused on changing some words to make them clearer.
- It was found that participants were easily able to understand and follow the instructions for the questionnaire.
- Participants completed all questions, although some of them complained about the length of the questionnaire.
- Based on participants' notes some items were reviewed and modified in order to avoid any confusion these items might cause. Table 6.3 shows the modified questionnaire items.

Table 6.3: Modified questionnaire items

Original item	Modified item
Comic فكاهي	Funny مسلي
Laughs during the class يضحك كثيراً أثناء الصاف	Smile during the class بيتسماً أثناء الحصة
Doesn't get angry لا يغضب	Doesn't get angry quickly لا يغضب بسهولة أو بسرعة
Deals clearly with his/her students يتعامل بوضوح مع طلبه	Deals his/her students with transparency يتعامل بشفافية مع طلبه
Strict حازم	Strict if necessary حازم عند الضرورة
Absent from lectures يتغيب عن المحاضرات	Frequently absent from lectures يتغيب باستمرار عن المحاضرات
Doesn't speak much لا يتكلم كثيراً	Non-talkative ليس ثريثاً

6.2.3 Fourth stage (development of questionnaire)

The purpose of the fourth stage was to develop and reduce the number of items in the questionnaire and to examine the reliability of the item pool as a new measure of the personal characteristics of university lecturers in Libyan universities.

With respect to the issue of reducing the questionnaire items, there were three reasons behind that decision; first, as a result of the pilot study, participants complained about the length of the 109 item questionnaire. Moreover, designing a short questionnaire can help in enhancing the participation rate, given that respondents are usually more enthusiastic to answer a short questionnaire in contrast to a longer one. Second, the research intended to produce a questionnaire that can be used in studies with other measures, and that cannot be accomplished if the questionnaire is too long. Third, the current research includes four groups for different purposes; (group 1 aims to determine the personal characteristics, which students believe that a good university lecturer should have; group 2 aims to identify the traits seen by students as less significant for being a good university lecturer;

group 3 aims to see through the students' perspective the extent to which these characteristics are observed in their best lecturer; and group 4 aims also to determine through the students' perspective the extent to which these characteristics are observed, but in their worst lecturer), the main aim of the questionnaire is to be able to distinguish between groups and participants, thus, only the most discriminating items are required.

In order to reduce the number of items, item analysis and factor analysis were used.

6.2.3.1 Participants

A total of 436 undergraduate students representing five schools (Arts, Engineering, Law, Science and Medicine) in Sabha University were the sample of fourth stage of the study (172 males, 264 females; see section 3.5.3).

6.2.3.2 Materials

The 109-item revised questionnaire was used in this stage. Participants were divided into four groups: the first group were asked to choose one response for each item that they think a good university lecturer should have; the second group were asked to select one response for each item that they thought unimportant for a good university lecturer; the third group were asked to choose for each item one response that they consider their best university lecturer has; and the fourth group were asked to choose one response for each item that they believed the worst university lecturer has. Each item in the questionnaire was answerable by a five-point Likert scale (as described previously).

6.2.3.3 Procedure of the fourth stage

The questionnaire was administrated directly by the researcher to the 436 undergraduate students (see section 3.6.3). All but five participants completed the 109 items of the questionnaire; three missing participants left all the questions blank, and two placed their answer for all questions in one response column.

6.2.3.4 Analysis

All questionnaire items represented the personal characteristics of university lecturers as determined by previous research, but in this stage this study aimed to narrow these items to gain the best 15-20 traits in order to distinguish between the research groups (see section 6.2.3).

In order to reduce the number of items in questionnaire, the study conducted two analysis phases. The first phase was mainly aimed to test the ability of the questionnaire's items with regard to their discriminatory power, with a view to retaining only those that discriminated well between the research participants. The phase involved several methods:

- First, examination of response distributions for each item by running the frequency of endorsement. A five-point response scale response to an item with a range of less than 1-5 points indicated that all response choices of the item were not used by the participants, which will reflect on the discriminatory capacity of that item (WHOQOL Group, 1998).
- Second, the study highlighted any items with two adjacent scale points showing < 10 or 20 per cent, as Kline has recommended for five-point scales (Paul, 2000).

- Third, the study also used skewness to measure asymmetrical frequency distribution of items. The study defined the items that were skewed as those with more than twice the standard error as frequency problems (Hugh, 2009).

Items failing in two or more of these criteria were flagged for possible removal from the items' pool.

In the second phase, exploratory factor analysis was performed on questionnaire items in order to determine a number of factors that explain the variance among the participants' responses to questionnaire's items. The factors emerging from the data can help to discover the relationship among items that measure the same variable. In the current research, factor analysis can facilitate the determining of items that have non-significant relationships with factors, and which will therefore be excluded from the questionnaire. The factor analysis carried out on the current questionnaire used the principle components analysis method in SPSS, version 19.0. This was followed by Varimax rotation to determine the number of factors among the questionnaire's items.

Principle components analysis was used because the main purpose was to determinate how many factors underlie the questionnaire's items, as it is customary to use a principle components factor analysis, which technique allows for the extraction of as many significant factors as possible from a data set (Novembre & Stephens, 2008).

6.2.3.4 Results

The results of the item analysis highlighted potential issues with 58 items, but in only 15 of these were the issues serious enough to warrant deletion. None of the problems associated with these questions could be corrected through minor alterations to wording, and there were no obvious outliers in the data that would explain the poor performance of these items.

With regard to the item analysis, the results can be summarised as follows:

- All items showed good frequency of endorsement and got a score ranging from 1 to 5 (Table 6.4)
- A total of 41 out of 109 items displayed a poor frequency < 20 per cent in terms of two adjacent scale points (e.g. items 1, 2, 5, 9, 11, 14, 21, 22), while all 109 items showed good frequency (< 10 per cent of two adjacent scale points).
- The results revealed that 31 items have a frequency problem in terms of skewness, as their skew was more than twice the standard error (for example, items 2, 5, 9, 27, 44, 107).
- A total of 15 items were rejected from the scale, as they failed on two or more of these criteria (items 2, 5, 6, 9, 11, 27, 43, 44, 46, 50, 53, 64, 67, 86 and 88; see Table 6.4).

In factor analysis, initially, with the criterion of the eigen value > 1 , eleven factors were extracted. The first factor explained 60 per cent of the variance, the second factor 6 per cent of the variance, and the third factor 2 per cent of the variance. Factors from fourth to eleventh had eigen values of just a bit over one.

Table 6.4: Item analysis criteria for reduction of personal characteristics of university lecturer items pool

Skew	Range	Score ≤ 20%	Score ≤ 10%	Mean*	Items		
√	√	X	√	3.25	Has positive attitude	1	
X	√	X	√	3.56	Respects the students	2	
√	√	X	√	2.80	Does not have the capacity to engage in dialogue and debate with others	3	
√	√	√	√	3.61	Self-confident	4	
X	√	X	√	3.57	Organised	5	
X	√	X	√	3.24	Good looking	6	
√	√	√	√	3.30	Fair	7	
X	√	√	√	2.93	Accepts criticism from students	8	
X	√	X	√	2.43	Lacks respect for the views of students	9	
√	√	√	√	2.59	Unconfident in students	10	
X	√	X	√	3.52	Ready to speak to students	11	
X	√	√	√	2.87	Stubborn	12	
√	√	√	√	3.21	Contributes to the students' activities	13	
√	√	X	√	3.73	Respects the customs and traditions of society	14	
√	√	X	√	3.46	Calm	15	
√	√	√	√	3.47	Too strict	16	
X	√	√	√	2.84	Flexible	17	
√	√	√	√	3.30	Lacks seriousness	18	
√	√	X	√	3.53	Respects the viewpoints of students	19	
X	√	√	√	2.98	Accepts criticism from others	20	
√	√	X	√	3.33	Modest	21	
√	√	X	√	3.32	Respects the circumstances of students	22	
√	√	√	√	3.19	Accepts legitimate excuses for missing class or coursework	23	
√	√	√	√	2.57	Does not accept different opinions	24	
√	√	X	√	3.66	Not a collaborator	25	
√	√	X	√	3.34	Compassionates towards students	26	
X	√	X	√	2.48	Focuses on some students and neglects others	27	
√	√	√	√	2.65	Does not acknowledge his/her mistakes	28	
√	√	√	√	3.43	Smart	29	
√	√	X	√	2.66	Non-observance of the students' conditions	30	
√	√	√	√	2.78	Boring	31	
X	√	√	√	2.95	Talkative	32	
√	√	X	√	3.43	Encourages students to express their views	33	
√	√	X	√	3.24	Closes to the students	34	
√	√	√	√	3.27	Emotionally balanced	35	

Skew	Range	Score	Score	Mean*	Items	
						< 20%
						< 10%
✓	✓	✓	✓	2.64	Neglects his/her appearance	36
✓	✓	X	✓	3.69	Keeps good timing for lectures	37
✓	✓	✓	✓	2.58	Conceited	38
✓	✓	✓	✓	2.53	Selfish	39
✓	✓	✓	✓	3.22	Have beautiful handwriting	40
X	✓	✓	✓	3.19	Deals his/her students with transparency	41
✓	✓	✓	✓	3.45	Optimistic	42
X	✓	X	✓	3.53	Open-minded	43
X	✓	X	✓	3.56	Responds respectfully to students comments	44
✓	✓	✓	✓	2.34	Lies	45
X	✓	X	✓	3.58	Arrives on time for class	46
✓	✓	✓	✓	3.45	Lets students make a decision	47
✓	✓	X	✓	3.41	Uses impolite words	48
✓	✓	✓	✓	2.53	Pays attention to students when they state their opinions	49
X	✓	X	✓	2.28	Impatient	50
✓	✓	✓	✓	2.45	Frequently absent from lectures	51
✓	✓	✓	✓	2.47	Shows hatred	52
✓	✓	X	✓	2.11	Does not respect the cultures of others	53
✓	✓	X	✓	3.43	A perfect example to students in behaviour	54
✓	✓	✓	✓	3.26	Friendly all the time	55
X	✓	X	✓	2.34	Cheats	56
✓	✓	✓	✓	3.40	Positive with the students	57
✓	✓	X	✓	3.44	Allows students to discuss and debate within the classroom	58
✓	✓	✓	✓	3.45	Strict if necessary	59
✓	✓	X	✓	2.68	Shy	60
✓	✓	✓	✓	3.32	Wise	61
✓	✓	X	✓	3.45	Provides opportunities for students to talk to him or her	62
✓	✓	✓	✓	3.58	Honest	63
X	✓	X	✓	2.09	Beloved by his/her students	64
✓	✓	✓	✓	3.44	Speaks eloquently	65
✓	✓	✓	✓	3.23	Acknowledges his/her mistakes	66
✓	✓	✓	✓	2.49	Violent	67
✓	✓	✓	✓	2.45	Late for lectures	68
✓	✓	✓	✓	3.16	Smile during class	69
X	✓	✓	✓	3.15	Have confidence in his/her students	70
✓	✓	X	✓	3.04	Knows student names	71
✓	✓	✓	✓	3.37	Works on encouraging students	72
✓	✓	✓	✓	2.32	Unjust	73
✓	✓	X	✓	2.60	Does not give students opportunities for discussion	74
✓	✓	✓	✓	3.32	Respects the university's customs	75
✓	✓	✓	✓	3.33	Greets students	76
X	✓	✓	✓	3.00	Enjoys taking care of students	77

Skew	Range	Score ≤ 20%	Score ≤ 10%	Mean*	Items		
√	√	√	√	3.25	Tolerant of students	78	
X	√	√	√	3.15	Deals equally with students	79	
√	√	√	√	2.72	Lacks seriousness	80	
√	√	√	√	3.22	Have a good relationship with the students	81	
√	√	√	√	2.42	Brags	82	
√	√	√	√	3.29	Sociable	83	
√	√	√	√	2.73	Humiliates or embarrass students in class	84	
√	√	√	√	3.40	Patient	85	
X	√	X	√	3.54	Shows good behaviour	86	
√	√	√	√	2.67	Shows a lack of attention to the students' problems	87	
X	√	X	√	3.55	Illiterate	88	
√	√	√	√	3.54	Sincere in his/her work	89	
X	√	√	√	3.06	Doesn't get angry quickly	90	
√	√	√	√	2.36	Contemptuous of students	91	
√	√	√	√	3.20	Good at listening to students	92	
√	√	X	√	2.62	Uses impolite phrases and words to comment on the students	93	
√	√	√	√	2.48	Serious	94	
X	√	√	√	3.10	Does not allow students to interrupt him\ her in the sessions	95	
√	√	√	√	3.18	A friend to his/her students	96	
√	√	√	√	3.48	Funny	97	
√	√	√	√	2.61	Does not keep promises	98	
√	√	X	√	2.89	Dictatorial	99	
√	√	X	√	3.19	Gives students a lot of free time in class	100	
X	√	√	√	3.03	Contributes to solving the problems of students	101	
X	√	X	√	2.89	Non-talkative	102	
X	√	√	√	2.65	Nervous	103	
√	√	√	√	3.60	Literate	104	
√	√	√	√	3.42	Interacts with students during the class time	105	
√	√	X	√	3.39	Polite to students (e.g. Say thank you, and please)	106	
X	√	√	√	3.13	Aware of the problems of students	107	
√	√	X	√	3.45	Has a good smell	108	
√	√	√	√	3.21	Doesn't interrupt students while they are talking	109	

A total of 60 items were loaded onto the first factor (factor loadings =>.3), while the second factor had 39 items loaded. The third factor had only 11 items loaded, and the

remaining factors from the fourth factor to the eleventh factor had less than 10 items loaded on each (8, 2, 3, 2, 3, 2, 1 and 1) respectively. The factors loading matrix for the eleven factors is presented in Table 6.5.

Table 6.5: the loading of questionnaire items on eleven factors

Items	1	2	3	4	5	6	7	8	9	10	11
Has positive attitude	.758	.254	.213	.110	.162	.083	.067	.064	.082	.133	.019
Does not have the capacity to engage in dialogue and debate with others	.248	.269	.130	.148	.167	.216	.211	.110	.133	.238	.160
Self-confident	.062	.241	.243	.128	.114	.212	.426	.119	.127	.007	.135
Good looking	.469	.066	.86	.025	.101	.089	.090	.564	.092	.503	.111
Fair	.752	.031	.086	.025	.010	.089	.090	.004	.092	.203	.111
Accepts criticism from students	.721	.220	.106	.130	.024	.019	.047	.098	.0161	.153	.301
Unconfident in students	.268	.442	.054	.497	.122	.184	.047	.098	.161	.153	.058
Stubborn	.117	.015	.056	.161	.060	.032	.045	.009	.061	.122	.028
Contributes to the students' activities	.062	.231	.761	.010	.113	.095	.057	.169	.030	.136	.129
Respects the customs and traditions of society	.201	.248	.211	.306	.178	.247	.062	.021	.099	.196	.070
Calm	.447	.424	.248	.193	.276	.248	.018	.015	.091	.007	.019
Too strict	.482	.027	.057	.049	.063	.823	.043	.075	.094	.137	.037
Flexible	.486	.172	.288	.105	.438	.089	.136	.068	.120	.152	.052
Respects the viewpoints of students	.235	.238	.115	.220	.172	.108	.125	.027	.021	.150	.045
Accepts criticism from others	.688	.299	.081	.155	.107	.067	.028	.095	.057	.135	.016
Modest	.782	.032	.183	.063	.008	.072	.004	.035	.128	.162	.005
Respects the circumstances of students	.721	.440	.110	.001	.002	.20	.005	.055	.104	.197	.072
Accepts legitimate excuses for missing class or coursework	.739	.412	.096	.059	.051	.005	.194	.055	.229	.025	.106
Does not accept different opinions	.152	.256	.023	.656	.096	.024	.037	.255	.158	.022	.010
Not a collaborator	.560	.443	.107	.235	.250	.043	.051	.047	.098	.148	.055
Compassionates towards students	.753	.564	.158	.014	.083	.070	.015	.058	.084	.052	.149
Does not acknowledge his/her mistakes	.495	.635	.086	.408	.102	.039	.032	.176	.017	.028	.175
Smart	.384	.105	.079	.045	.109	.467	.495	.176	.017	.028	.175
Non-observance of the students' conditions	.584	.482	.005	.101	.047	.183	.050	.088	.269	.164	.022
Boring	.505	.601	.028	.014	.063	.050	.132	.119	.275	.044	.147
Talkative	.057	.514	.053	.117	.016	.003	.172	.163	.242	.014	.556
Encourages students to express their views	.036	.235	.140	.100	.078	.005	.126	.027	.064	.130	.065
Closes to the students	.425	.242	.103	.058	.058	.013	.146	.049	.095	.119	.009

Items	1	2	3	4	5	6	7	8	9	10	11
Emotionally balanced	.597	.039	.366	.027	.275	.033	.162	.132	.326	.027	.068
Neglects his/her Appearance	.120	.001	.102	.103	.045	.064	.062	.071	.132	.003	.005
Keeps good timing for lectures	.487	.394	.484	.155	.091	.242	.121	.066	.125	.006	.095
Conceited	.585	.765	.117	.040	.084	.040	.040	.001	.031	.179	.085
Selfish	.421	.685	.122	.169	.089	.024	.188	.064	.047	.181	.063
Have beautiful handwriting	.152	.160	.232	.210	.150	.113	.163	.144	.138	.087	.068
Deals his/her students with transparency	.071	.228	.188	.206	.063	.019	.049	.253	.029	.079	.114
Optimistic	.652	.589	.201	.205	.078	.162	.010	.159	.095	.072	.221
Lies	.557	.129	.524	.004	.130	.090	.258	.097	.251	.093	.129
Lets students make a decision	.729	.211	.302	.043	.106	.087	.084	.017	.033	.040	.056
Uses impolite words	.673	.063	.056	.504	.254	.167	.058	.005	.052	.172	.016
Pays attention to students when they state their opinions	.284	.708	.008	.004	.201	.021	.111	.047	.039	.037	.019
Frequently absent from lectures	.588	.509	.296	.106	.003	.037	.109	.056	.063	.127	.010
Shows hatred	.504	.601	.200	.136	.042	.077	.109	.033	.058	.087	.096
A perfect example to students in behaviour	.702	.234	.127	.241	.136	.076	.082	.131	.069	.133	.045
Friendly all the time	.819	.030	.024	.010	.055	.032	.063	.069	.013	.006	.041
Cheats	.607	.446	.430	.027	.089	.109	.178	.035	.019	.071	.045
Positive with the students	.792	.032	.007	.001	.008	.166	.005	.000	.037	.106	.010
Allows students to discuss and debate within the classroom	.768	.032	.081	.017	.097	.082	.107	.103	.036	.019	.052
Strict if necessary	.589	.403	.202	.012	.214	.283	.033	.086	.126	.078	.302
Shy	.068	.041	.005	.029	.026	.078	.002	.016	.040	.020	.017
Wise	.715	.2.7	.107	.176	.006	.090	.002	.072	.139	.018	.008
Provides opportunities for students to talk to him or her	.750	.518	.138	.175	.165	.007	.039	.105	.062	.017	.167
Honest	.639	.416	.326	.507	.157	.126	.204	.104	.022	.031	.072
Speaks eloquently	.791	.013	.250	.037	.095	.064	.136	.004	.093	.011	.128
Acknowledges his/her mistakes	.493	.434	.043	.455	.007	.093	.024	.036	.145	.097	.178
Violent	.337	.706	.220	.097	.045	.059	.075	.062	.217	.108	.085
Late for lectures	.221	.545	.428	.210	.164	.161	.026	.063	.113	.085	.187
Smile during class	.125	.155	.022	.112	.001	.112	.005	.079	.057	.123	.143
Have confidence in his/her students	.698	.507	.079	.215	.108	.014	.017	.083	.020	.058	.017
Knows student names	.214	.113	.110	.219	.072	.063	.110	.016	.025	.116	.026
Works on encouraging students	.773	.178	.102	.024	.033	.014	.124	.015	.146	.060	.104
Unjust	.424	.667	.341	.060	.067	.110	.129	.079	.046	.038	.000
Does not give students opportunities for discussion	.415	.596	.234	.037	.023	.051	.200	.195	.093	.076	.006
Respects the university's customs	.710	.380	.264	.013	.018	.242	.139	.063	.010	.017	.070

Items	1	2	3	4	5	6	7	8	9	10	11
Greets students	.672	.125	.072	.125	.066	.086	.156	.073	.152	.092	.007
Enjoys taking care of students	.787	.518	.053	.026	.094	.077	.039	.048	.054	.006	.086
Tolerant of students	.766	.262	.168	.154	.039	.090	.040	.222	.007	.077	.012
Deals equally with students	.715	.292	.049	.030	.005	.040	.020	.170	.113	.048	.014
Lacks seriousness	.596	.246	.345	.171	.401	.144	.188	.044	.084	.073	.045
Have a good relationship with the students	.753	.035	.029	.083	.012	.114	.122	.079	.002	.036	.061
Braggs	.244	.710	.238	.256	.073	.028	.003	.141	.075	.057	.070
Sociable	.690	.157	.253	.513	.160	.048	.017	.100	.077	.140	.068
Humiliates or embarrass students in class	.001	.640	.032	.132	.042	.037	.044	.069	.065	.078	.012
Patient	.533	.617	.073	.220	.221	.115	.036	.169	.093	.034	.020
Shows a lack of attention to the students' problems	.276	.639	.030	.264	.082	.053	.057	.097	.071	.051	.041
Sincere in his/her work	.239	.246	.052	.214	.140	.228	.028	.050	.047	.139	.038
Doesn't get angry quickly	.663	.275	.071	.315	.140	.228	.028	.050	.047	.013	.138
Contemptuous of students	.598	.545	.262	.252	.122	.166	.068	.029	.126	.125	.198
Good at listening to students	.797	.039	.034	.061	.023	.074	.101	.018	.019	.135	.045
Uses impolite phrases and words to comment on the students	.264	.589	.014	.129	.299	.101	.023	.146	.097	.005	.034
Serious	.246	.002	.020	.117	.104	.102	.079	.173	.113	.224	.074
Does not allow students to interrupt him/her in the sessions	.783	.023	.007	.098	.110	.035	.164	.105	.086	.136	.043
A friend to his/her students	.805	.194	.008	.224	.085	.050	.018	.152	.072	.166	.077
Funny	.668	.074	.409	.119	.127	.122	.026	.170	.015	.272	.092
Does not keep promises	.584	.608	.121	.082	.058	.091	.107	.124	.122	.045	.168
Dictatorial	.129	.226	.041	.199	.094	.123	.147	.065	.158	.006	.069
Gives students a lot of free time in class	.215	.226	.068	.108	.075	.165	.044	.014	.014	.138	.018
Contributes to solving the problems of students	.799	.292	.032	.014	.015	.018	.038	.103	.089	.134	.011
Nervous	.188	.032	.040	.172	.008	.019	.172	.052	.231	.201	.014
Literate	.642	.207	.461	.148	.107	.121	.132	.186	.093	.064	.047
Interacts with students during the class time	.032	.187	.194	.204	.060	.597	.141	.061	.004	.130	.203
Polite to students (e.g. say thank you, and please)	.052	.261	.182	.140	.110	.058	.003	.153	.030	.093	.704
Aware of the problems of students	.806	.225	.004	.027	.006	.029	.092	.065	.118	.064	.042
Has a good smell	.657	.573	.265	.170	.073	.191	.121	.074	.150	.088	.033
Doesn't interrupt students while they are talking	.521	.240	.043	.004	.027	.099	.074	.082	.044	.099	.037

A total of 15 items were eliminated because they did not contribute to a simple factor structure and failed to meet a minimum criteria of having a primary factor loading of .3 or above. Table 6.6 shows the loading of 15 items across the factors.

Table 6.6: Cross-loading factors of 15 items

Item	Highest loading	Lowest loading
Does not have the capacity to engage in dialogue and debate	.248 *(1)	.110 (8)
Stubborn	.161 (4)	.015 (2)
Respects the customs and traditions of society	.248 (2)	.021 (8)
respects the viewpoints of students	.235 (1)	.027 (8)
Does not accept different opinions	.245 (2)	.036 (1)
Neglected his/her appearance	.120 (1)	.001 (2)
Deals his / her students with transparency	.248 (2)	.019 (6)
Shy	.068 (1)	.0052 (3)
Smile during class	.155 (2)	.001 (5)
Knows students names	.214 (1)	.016 (8)
Gives students a lot of free time in class	.268 (2)	.014 (8, 9)
Nervous	.281 (10)	.014 (11)
Serious	.246 (1)	.002 (2)
Dictatorial	.226 (2)	.006 (10)
Have beautiful handwriting	.232 (3)	.068 (11)

*the number of factor

A principal components factor analysis of the remaining 79 items, using varimax rotation was conducted. Nine factors were extracted; the first factor explained 52 per cent of the variance, and each factor from second to fourth explained only 2 per cent, while the remaining factors (factors 5, 6, 7, 8, and 9) only explained just over 1 per cent. The scree plot in Figure 6.1 shows the eigen values of each factor. It been found that a total of 46 items loaded highly (factor loadings between .3 and .5) onto two factors or more; among them 20 items loaded onto three factors, and 26 items were loaded onto two factors; these items were omitted from the questionnaire. The factor loading matrix for these items is presented in Table 6.7.

Seven factors were extracted by conducting the principal components factor analysis and varimax rotation on the remaining 33 items. The first factor explained 48 per

cent of the variance, the second explained 4 per cent, and the remaining five factors explained only approximately 1 per cent for each. The factor loading matrix for these items is presented in Table 6.8.

A total of five factors were omitted with their items because they failed to get more than one item loaded significantly (a primary factor loading of .3 or above). Item “*self-confident*” with factor 6, the item “*Pays attention to students when they state their opinions*” with factor 9, the item “*Late for lecture*” with factor 7, the item “*humiliates or embarrass students in class*” with factor 5, and the item “*Doesn’t get angry quickly*” with the factor 3 (Table 6.8).

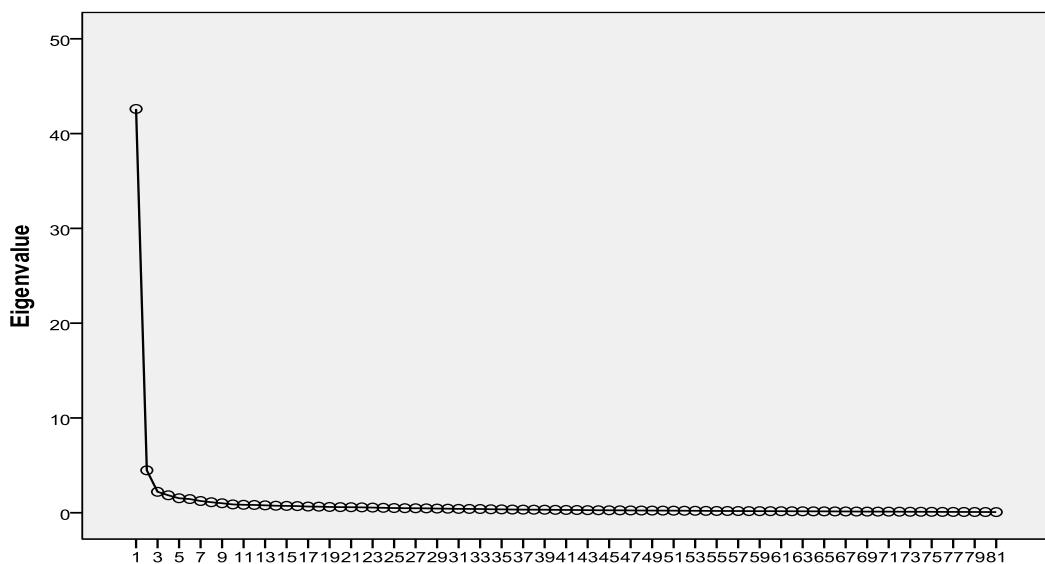


Figure 6.1: Scree plot - level of eigen values of each factor

Table 6.7: Factor loadings based on principal components analysis with varimax rotation for 46 items

Item	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9
Good looking	.483							.462	
Unconfident in students	.425				.384				.34 7
Contributes to the students' activities		.625					.371		
Calm	.549							.416	
Too strict				.392			.524		
Flexible	.483				.417				
Respects the circumstances of students	.537								.37 4
Accepts legitimate excuses for missing class or coursework		.516					.381		
Not a collaborator	.492				.394				
Does not acknowledge his/her mistakes	.385	.328			.314				
Smart	.425					.384		.326	
Non-observance of the students' conditions	.418		.384			.359			
Boring		.492					.385		
Talkative		.526							.39 6
Closes to the students	.513			.314			.382		
Emotionally balanced	.482	.394		.346					
Keeps good timing for lectures	.394		.342						.32 9
Conceited	.528	.418						.317	
Selfish	.482	.393			.327				
Optimistic	.491					.382			
Lies		.483		.372					
Lets students make a decision			.492			.376		.341	
Frequently absent from lectures	.561			.426					
Shows hatred			.482				.371		.31 9
Cheats	.513				.372		.317		
Strict if necessary						.341			
Provides opportunities for students to talk to him or her		.472							
Honest	.461		.371				.319		
Acknowledges his/her mistakes		.451			.384		.326		
Violent	.472			.372					
Have confidence in his/her students		.473			.372			.319	
Unjust			.492			.346			
Does not give students opportunities for discussion	.473			.382			.319		
Respects the university's customs		.516			.322				.31 4
Lacks seriousness			.486			.418			
Sociable	.529			.417					
Patient	.461			.341			.382		
Sincere in his/her work			.517			.372			
Contemptuous of students	.347		.311				.342		
Good at listening to students				.492				.371	
Funny	.482		.374			.329			
Does not keep promises		.492			.461				
Literate			.518				.392		
Interacts with students during the class time	.483			.391					.31 1
Has a good smell	.483				.322			.391	
Doesn't interrupt students while they are talking	.583			.412			.316		

Note. Factor loadings <.3 are suppressed

Table 6.8: Factor loadings based on principal components analysis with varimax rotation for 33 items

Item	F 1	F 2	F 3	F 4	F 5	F 6	F 7
Has positive attitude	.529						
Self-confident							.429
Fair	4.71						
accepts criticism from students	.391						
Accepts criticism from others			4.93				
Modest	.473						
compassionates towards students			.381				
Uses polite words	.461						
Pays attention to students when they state their opinions				.391			
a perfect example to students in behaviour	.492						
Friendly all the time	.375						
positive with the students	.463						
allows students to discuss and debate within the classroom	.476						
Wise	.542						
speaks eloquently	.386						
Lat for lecture							.392
Works on encouraging students	.461						
Greets students	.472						
Enjoys taking care of students			.461				
tolerant of students	.537						
deals equally with students	.428						
have a good relationship with the students	.494						
Brags		.492					
humiliates or embarrass students in class	-				.416		
Shows a lack of attention to the students' problems		.428					
Doesn't get angry quickly	-			.481			
Uses impolite phrases and words to comment on the students		.438					
Does not allow students to interrupt him/ her in the sessions	.416						
a friend to his/her students			.439				
contributes to solving the problems of students	.496						
polite to students (e.g. say thank you, and please)		.361					
aware of the problems of students		.382					
Encourages students to express their views	.349	.324					

Note. Factor loadings <.3 are suppressed

By using the principal-components factor analysis and varimax rotation on the remaining 28 items, two factors were extracted: the first factor explained 55 per cent of the variance, while the second factor explained 14 per cent. The scree plot in Figure 6.2 shows the eigen values of each factor. A total of 24 items were loaded significantly (items loading over .3) into factor 1, while factor 2 has only 4 items. The factor loading matrix for the remaining 28 items is presented in Table 6.9.

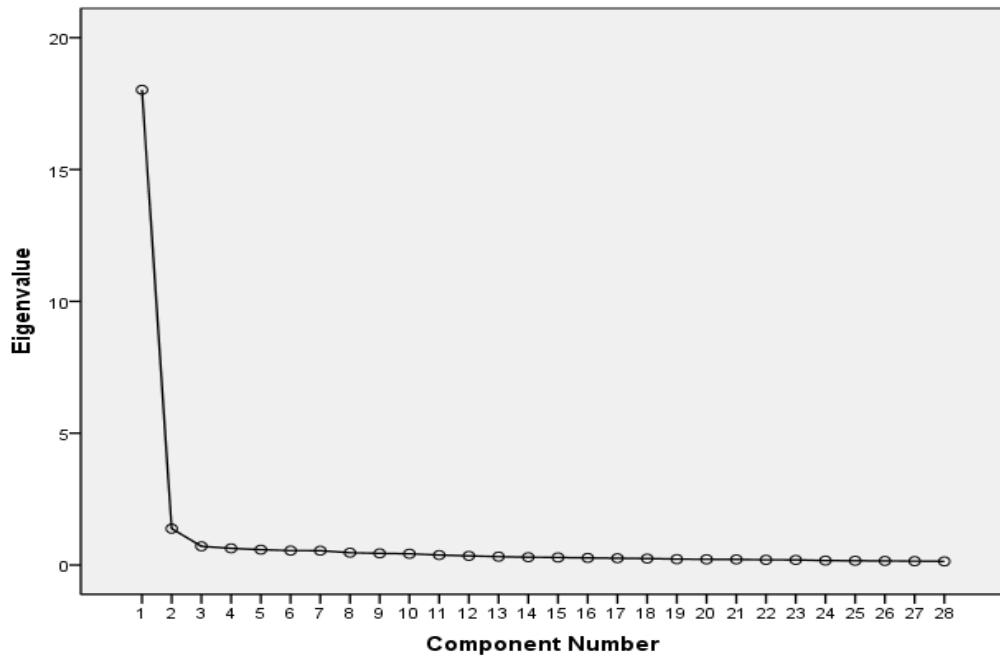


Figure 6.2: Scree plot - level of eigen values of each factor

Table 6.9: loading matrix for the 28 questionnaire's items

Item	F 1	F 2
Has positive attitude	.851	
Fair	.852	
accepts criticism from students	.751	
Accepts criticism from others	.741	
Modest	.887	
compassionates towards students	.853	
Uses polite words	.698	
a perfect example to students in behaviour	.796	
Friendly all the time	.872	
positive with the students	.866	
allows students to discuss and debate within the classroom	.838	
Wise	.843	
speaks eloquently	.805	
Works on encouraging students	.820	
Greets students	.779	
Enjoys taking care of students	.847	
tolerant of students	.839	
deals equally with students	.783	
have a good relationship with the students	.833	
Braggs		.609
Shows a lack of attention to the students' problems		.665
Uses impolite phrases and words to comment on the students		.633
Does not allow students to interrupt him/ her in the sessions	.841	
a friend to his/her students		.836
contributes to solving the problems of students	.850	
polite to students (e.g. say thank you, and please)	.867	
aware of the problems of students	.830	
Encourages students to express their views	.873	

Note. Factor loadings <.3 are suppressed

By reviewing the items in the second factor, it can be seen that this factor cannot be a real or independent factor, as most items in that factor are the same items in the first

factor, but in a negative format. For example: in factor one, “*uses polite words*” and “*uses impolite phrases and words to comment on the students*” in factor two; also the item “*brags*” in the second factor is opposite to “*modest*” in the first factor; the item “*shows a lack of attention to the students problems*” in the second factor can be the opposite of the items “*aware of the problems of students*” or “*contributes to solving the problems of students*” in the first factor. Therefore, as all these items were measured in the same questionnaire by other items, the factor with all four items can be omitted.

For principal components factor analysis and varimax rotation on the remaining 24 items only one factor was extracted, which explained 68 per cent of the variance. The items loadings on the factor were between (.855, and .482). The remaining 24 items’ loading matrix is presented in Table 6.10.

Table 6.10: loading matrix of the remaining 24 questionnaire items

Item	F 1
Has positive attitude	.855
Fair	.655
Accepts criticism from students	.556
Accepts criticism from others	.768
Modest	.787
Compassionates towards students	.656
Uses polite words	.702
A perfect example to students in behaviour	.791
Friendly all the time	.774
Positive with the students	.565
Allows students to discuss and debate within the classroom	.641
Wise	.615
Speaks eloquently	.529
Works on encouraging students	.624
Greets students	.721
Enjoys taking care of students	.572
Tolerant of students	.649
Deals equally with students	.728
Have a good relationship with the students	.534
Does not allow students to interrupt him/ her in the sessions	.498
Contributes to solving the problems of students	.537
Polite to students (e.g. Say thank you, and please)	.495
Aware of the problems of students	.482
Encourages students to express their views	.581

In the current factor, seven items were omitted due to duplicate meaning (e.g. *fair* and *deals equally with students*; *accepts criticism from students* and *accepts criticism from others*; *uses polite words* and *polite to students*). Inter-item correlation were conducted to check how these items were correlated when participants responded to these items; the inter-item correlation matrix of the 7 items is presented in Table 6.11

Table 6.11: Inter-item correlation for 7 selected items

Items	Items	R
Fair	<i>Deals equally with students</i>	.94
Accepts criticism from students	<i>Accepts criticism from others</i>	.91
Uses polite words	<i>Polite to students (e.g. Say thank you, and please)</i>	.96
Works on encouraging students	<i>Encourages students to express their views</i>	.93
Tolerant of students	<i>Compassionates towards students</i>	.97
Contributes to solving the problems of students	<i>Enjoys taking care of students</i>	.93
Contributes to solving the problems of students	<i>Aware of the problems of students</i>	.95

As can be seen from the Table, the selected items were highly correlated (correlation between .97 and .91); thus, these seven items were omitted from the questionnaire. These criteria have left the questionnaire with 17 items.

After several steps, a final draft of the questionnaire included 17 items. A total score for the questionnaire (431–2155) was calculated by summing the scores on individual items. The mean for each item was between 3.43 and 2.98, while the mean for the total score was 94.50 ($SD = 19.18$). Descriptive statistics are presented in Table 6.12.

Table 6.12: Descriptive statistics for the 17-item questionnaire

Item	M	SD
Has positive attitude	3.25	1.57
Fair	3.30	1.56
Accepts criticism from students	2.93	1.42
Modest	3.33	1.58
Uses polite words	3.41	1.50
A perfect example to students in behaviour	3.43	1.64
Friendly all the time	3.26	1.47
Positive with the students	3.40	1.37
Allows students to discuss and debate within the classroom	3.44	1.41
Wise	3.32	1.32
Speaks eloquently	3.44	1.50
Works on encouraging students	3.37	1.54
Greets students	3.33	1.42
Tolerant of students	3.25	1.42
Have a good relationship with the students	3.22	1.38
Does not allow students to interrupt him/ her in the sessions	3.10	1.38
Contributes to solving the problems of students	3.03	1.45

M= means SD = standard deviation

CHAPTER 7: RESULTS

7.1 Introduction

The sample of the current thesis was divided into four groups in order to examine students' perceptions of the personal characteristics of a university lecturer. The reason for having four different groups was to achieve four different perspectives: group 1 aims to determine the personal characteristics which students believe that a good university lecturer should have; group 2 aims to identify the characteristics seen by students as insignificant for being a good university lecturer; group 3 aims to ascertain the students' perspectives on the extent to which these characteristics are observed in their best lecturers; and finally group 4 aims to determine through the students' perspectives the extent to which these characteristics were noticed in their worst lecturer.

Cluster analysis was used in this research as a descriptive technique that "discovers" clusters of observations (students in the research) that are similar to each other based on a set of variables. The main goal of cluster analysis in this research was to identify clusters of students in each group who were similar to each other based on their responses to the personal characteristics questionnaire. In this way the use of cluster analysis is consistent with the approach that has been taken to assess learning styles, in which students are also sorted into different categories by virtue of their responses on a scale (see section 7.1.2). The hierarchical approach was selected since there was no preconception of the number of student groups that would be observed. The dendograms (also called cluster trees) were also used to present graphically and mathematically the information concerning which observations were grouped together at various levels of similarity. Mann-Whitney U Tests and Kruskal-Wallis

Tests were used to compare between clusters on several variables. In addition, the alpha level for all tests was set at .05.

The hierarchical cluster analysis provided several clusters in each group describing the personal characteristics of a university lecturer. In the first group there are three clusters representing different groups of students with similar judgments about characteristics that students want their university lecturers to have, while in the second group four clusters dealt with characteristics that students judge could prevent someone from being a good lecturer. In the third group, three clusters are organised according to characteristics that students observed in their current best lecturer, and finally, in group 4, three clusters are organised according to traits that students observed in the lecturer that they considered to be their worst lecturer.

7.1.1 Participants' demographic characteristics

It can be noted that the number of female students was higher than the number of males through all the clusters across the four groups, representing 60 per cent out of the sample total ($N=431$), with the exception of four clusters (the third cluster in group 1, the first cluster in group 2, the third cluster in group 3, and the second cluster in group 4). The number of Arts students was more than the number of students in other disciplines, representing 28 per cent of the total sample . With regard to the distribution of students' level of study, students who study at the second level of university were somewhat in the majority (32 per cent of the research sample). Tables 7.1 and 7.2 summarise the demographic characteristics of the sample.

Table 7.1: Sample demographics in groups 1 & 2

Variables	Group 1 (N=114)				Group 2 (N=109)				Overall Total
	*C1 (**N=67)	C2 (N=15)	C3 (N=32)	Overall Total	C1 (N=10)	C2 (N=56)	C3 (N=23)	C4 (N=20)	
<u>Gender</u>									
Male	27 (40%)	4 (26%)	11 (34%)	42 (36%)	3 (30%)	27 (48%)	9 (39%)	7 (35%)	46 (42%)
Female	40 (59%)	11 (73%)	21 (65%)	72 (63%)	7 (70%)	29 (51%)	14 (60%)	13 (65%)	63 (57%)
<u>Subject area</u>									
Art	20 (29%)	7 (46%)	8 (25%)	35 (30%)	1 (10%)	18 (32%)	8 (34%)	8 (40%)	35 (32%)
Sciences	16 (23%)	2 (13%)	5 (15%)	23 (20%)	0	11 (19%)	7 (30%)	4 (20%)	22 (20%)
Law	8 (11%)	2 (13%)	8 (25%)	18 (15%)	0	6 (10%)	2 (8%)	4 (20%)	12 (11%)
Engineering	16 (23%)	3 (20%)	2 (6%)	21 (18%)	1 (10%)	8 (14%)	6 (26%)	6 (30%)	21 (19%)
Medicine	7 (10%)	1 (6%)	9 (28%)	17 (14%)	6 (60%)	13 (23%)	0 (23%)	0 (23%)	
<u>Level of study</u>									
First	-	2 (13%)	2 (6%)	5 (4%)	0	10 (17%)	7 (30%)	3 (15%)	20 (18%)
Second	25 (37%)	3 (20%)	9 (28%)	37 (32%)	5 (50%)	11 (19%)	8 (34%)	13 (65%)	37 (33%)
Third	19 (28%)	4 (26%)	16 (50%)	39 (34%)	3 (30%)	20 (35%)	3 (13%)	3 (15%)	29 (26%)
Fourth	23 (34%)	6 (40%)	5 (15%)	34 (29%)	2 (20%)	15 (26%)	5 (21%)	1 (5%)	23 (21%)

• C=cluster **N= participants' number in a cluster

Table 7.2: Sample demographics in group 3 & 4

	Group 3 (N=104)				Group 4 (N=104)				Overall Total
	C1 (N=39)	C2 (N=52)	C3 (N=22)	Overall Total	C1 (N=33)	C2 (N=50)	C3 (N=21)	Overall Total	
<u>Gender</u>									
Male	18 (46%)	15 (28%)	7 (31%)	40 (38%)	15 (45%)	17 (34%)	10 (47%)	42 (40%)	
Female	21 (53%)	27 (51%)	15 (68%)	63 (60%)	18 (54%)	33 (66%)	11 (52%)	62 (59%)	
<u>Subject area</u>									
Art	10 (25%)	14 (63%)	3 (13%)	27 (25%)	9 (27%)	6 (12%)	7 (33%)	22 (21%)	
Sciences	7 (17%)	3 (5%)	7 (31%)	17 (16%)	9 (27%)	12 (24%)	7 (33%)	28 (26%)	
Law	5 (12%)	8 (15%)	6 (27%)	19 (18%)	6 (18%)	8 (40%)	2 (9%)	16 (15%)	
Engineering	8 (20%)	9 (17%)	4 (18%)	21 (20%)	6 (18%)	9 (18%)	3 (14%)	18 (17%)	
Medicine	9 (23%)	8 (15%)	3 (13%)	20 (19%)	3 (9%)	15 (30%)	2 (9%)	20 (19%)	
<u>Level of study</u>									
First	11 (28%)	7 (13%)	10 (45%)	28 (26%)	1 (3%)	4 (8%)	3 (14%)	8 (7%)	
Second	9 (23%)	10 (19%)	4 (18%)	23 (22%)	11 (33%)	22 (44%)	8 (38%)	41 (39%)	
Third	7 (17%)	12 (23%)	8 (36%)	27 (25%)	10 (30%)	16 (32%)	6 (28%)	32 (30%)	
Fourth	6 (15%)	10 (19%)	8 (36%)	24 (23%)	11 (33%)	8 (16%)	4 (19%)	23 (22%)	

• C=cluster **N= participants' number in a cluster

7.1.2 Learning styles characteristics

The distributions of the students' learning styles in the current research illustrates that 66% of the students in current research cross all research groups and clusters were found to have an active preference, 84% a sensing preference, 63% a visual preference, and 84% a sequential preference. Table 7.3 shows the current sample's learning styles across the group clusters.

Table 7.3: Sample's learning style characteristics groups 1&2

Variables	Group 1 (N=114)				Group 2 (N=109)					Overall Total
	*C1 *N=67 N (%)	C2 N=15 N (%)	C3 N=32 N (%)	Overall Total	C1 N=10 N (%)	C2 N=56 N (%)	C3 N=23 N (%)	C4 N=20 N (%)		
Active	41 (61)	9 (60)	22 (68)	72 (63)	10 (100)	43 (76)	11 (47)	9 (45)	73 (67)	
Reflective	26 (38)	6 (40)	10 (31)	42 (36)	0	13 (23)	12 (53)	11 (55)	36 (33)	
Sensing	56 (83)	12 (80)	28 (87)	96 (84)	10 (100)	47 (83)	20 (86)	18 (90)	95 (87)	
Intuitive	11 (16)	3 (20)	4 (12)	18 (15)	0	9 (16)	3 (14)	2 (10)	14 (13)	
Visual	43 (64)	9 (60)	24 (75)	76 (66)	6 (60)	40 (71)	11 (47)	8 (40)	65 (60)	
Verbal	24 (35)	6 (40)	8 (25)	38 (33)	4 (40)	16 (28)	12 (53)	12 (60)	44 (40)	
Sequential	56 (83)	12 (80)	26 (81)	94 (82)	10 (100)	47 (84)	20 (86)	18 (90)	95 (87)	
Global	11 (16)	3 (20)	6 (18)	20 (17)	0	9 (16)	3 (14)	2 (10)	14 (13)	

*N=number of students in each cluster, *C= cluster

Table 7.4: Sample's learning style characteristics groups 3 & 4

Variables	Group 3 (N=104)				Group 4 (N=104)				Overall Total
	*C1 *N=39 N (%)	C2 N=52 N (%)	C3 N=23 N (%)	Overall Total	C1 N=33 N (%)	C2 N=50 N (%)	C3 N=21 N (%)		
Active	30 (77)	31 (60)	12 (52)	73 (70)	22 (67)	34 (68)	14 (67)	70 (67)	
Reflective	9 (23)	11 (40)	11 (48)	31 (30)	11 (33)	16 (32)	7 (33)	34 (33)	
Sensing	33 (85)	33 (63)	15 (65)	81 (78)	26 (79)	47 (94)	19 (90)	92 (88)	
Intuitive	6 (15)	9 (17)	8 (35)	23 (22)	7 (21)	3 (6)	2 (10)	12 (12)	
Visual	22 (56)	31 (60)	10 (43)	63 (61)	22 (67)	33 (66)	15 (71)	70 (67)	
Verbal	17 (44)	11 (400)	13 (57)	41 (39)	11 (33)	17 (34)	6 (29)	34 (33)	
Sequential	36 (92)	36 (69)	16 (70)	88 (85)	25 (76)	43 (86)	19 (90)	87 (84)	
Global	3 (8)	16 (31)	7 (30)	26 (25)	8 (24)	7 (32)	2 (10)	17 (16)	

*N=number of students in each cluster, *C= cluster

7.1.3 Personality characteristics

The distribution of students' personality scores revealed that 96 per cent of students across the clusters in all four groups had a high Openness personality profile, and about 90 per cent scored high on extroversion, while only 30 per cent of the students in the current research scored high on Neuroticism. Tables 7.4, 7.5 show the distribution of the students' personality profiles.

Table 7.5: Distribution of students' personality profiles

Variables	Group 1 (N=114)				Group 2 (N=109)				
	*C1 *N=6 7 N(%)	C2 N=15 N(%)	C3 N=32 N(%)	Over all Total	C1 N=10 N(%)	C2 N=56 N(%)	C3 N=23 N(%)	C4 N=20 N(%)	Overall 1 Total
High extraversion	47 (70)	10 (67)	9 (28) (58)	66	9 (90) (73)	41 (78)	18 (80)	16	84 (77)
High openness	66 (98)	13 (87)	32 (100)	111 (97)	8 (80) (98)	55 (100)	23 (100)	20 (100)	106 (97)
High Neuroticism	10 (15)	2 (13)	2 (6)	14 (12)	3 (30) (46)	26 (46)	6 (26)	5 (25)	40 (37)

*N=cluster's sample, *C= cluster

Table 7.6: Distribution of students' personality profiles

Variables	Group 3 (N=104)				Group 4 (N=104)			
	C1 N=39 N(%)	C2 N=52 N(%)	C3 N=22 N(%)	Overall Total	C1 N=33 N(%)	C2 N=50 N(%)	C3 N=21 N(%)	Overall Total
High extraversion	29 (74)	28 (54)	15 (68)	72 (69)	26 (79)	38 (76)	21 (100)	85 (82)
High openness	38 (97)	40 (77)	21 (95)	99 (95)	32 (97)	46 (92)	21 (100)	99 (95)
High neuroticism	10 (26)	15 (29)	9 (41)	34 (33)	10 (30)	19 (38)	5 (24)	34 (33)

Clusters were derived by hierarchical cluster analysis of each group based on students' responses to the questionnaire concerning seventeen personal characteristics of university lecturers (see Table 6.1.2). Since there is no 'goodness of fit' index for cluster analysis, the identification of clusters was based on visual inspection of the dendrogram (appendixs 7,8,9, &10) (Everitt, Landau & Leese, 2001; Milligan & Cooper, 1985).

Cluster analysis was run on group 1 ($N=114$). A hierarchical cluster analysis produced three clusters. Clusters were identified and named as: (1) “Classroom behaviour” cluster ($N=67$), which was characterised by students who prefer the *sensing* and *sequential* learning styles (84%) in addition to students who scored highly on the openness scale (99%); (2) “Demeanour” cluster ($N=15$), characterised by students who prefer a *sensing* learning style (80%); and (3) “Relationship with students” cluster ($N=32$), which was characterised by ‘high openness’ students (100%).

In group 2 ($N=109$) the hierarchical cluster analysis produced four clusters. The first cluster ($N=10$) was named the “Friendliness” cluster, and was characterised by three learning style preferences: *sensing* (100%), *active* (100%) and *sequential* (100%). The second cluster, which was the largest ($N=56$), was labelled “Students’ treatment” cluster, and was characterised by students who prefer *sequential* learning style (84%), and students with a high neuroticism score (46%). The third cluster ($N=23$) was labelled as a “Classroom behaviour” cluster, and was characterised by students who prefer *sensing* and *sequential* learning styles (87%) in addition to students who scored highly on Openness scale (100%). The final cluster ($N=20$) was dubbed the “Relationship with students” cluster, and was characterised by students with high openness score (100%) in addition to those who prefer *sensing* and *sequential* learning styles (90%).

Three clusters were labelled based on conceptual issues and mean values of students’ responses in group 3 ($N=104$). The first cluster was labelled “Demeanour” ($N=39$), the second cluster as “Friendliness” ($N=52$), and the third as “Classroom behaviour” ($N=22$). The three clusters were mainly characterised by students who prefer more

sequential learning style (92%, 85%, and 70% respectively), with students who scored more than average on Openness scale (97%, 95%, and 91%, respectively).

Finally, in group 4 ($N = 104$), three clusters were labelled as (1) “Relationship with students” ($N=33$) (2) “Absent traits” ($N=50$), both of which were characterised by students who more preferred *sequential* learning style (79%, and 94%, respectively), followed by students who scored more than average on the Openness scale (97%, and 92%); and (3) “Existence traits” ($N=21$), characterised by students who scored on high on two personality scales – openness (100%) and extraversion (100%).

7.2 Variations Among Students’ Perceptions of Personal Characteristics of University Lecturers

In order to identify the variations among the clusters of participating students and research groups, the items’ score in each cluster obtained from the students’ responses to the questionnaire were used as a base for testing the variations between students’ clusters and groups according to the research variables. It should be acknowledged that the use of cluster analysis to classify the research participants of each group into clusters resulted in a number of clusters which have only a few participants (for example, group 1, “Demeanour” cluster, $N=15$; group 2, “Friendliness” cluster, $N=10$; group 3, “Classroom behaviour” cluster, $N=23$; and group 4, “Existence traits” cluster, $N=22$; see Table 7.1), which might affect exploration of absolute differences between some research variables. Therefore, some data trends (means, SD and MD) and logical thinking of items’ performances were used when interpreting these differences or to determine where the differences could be. Also, a Bonferroni adjustment was calculated to account for the increased

possibility of type-I error in two multiples (comprising level of study and subject area), in order to reduce the chance of obtaining false-positive results (Abdi, 2007)

One of the obvious issues that can be observed when we look over the different clusters in different groups is that each cluster tends to be distinctive in terms of the variable factors that characterised students within it. However, the results showed no statistical significance of differences among the research groups or within each group's clusters in all demographic variables. For example, a Mann-Whitney U Test revealed that there were no differences among the students' responses to the research questionnaire based on their gender across all the research groups and clusters, which leads to the assumption that both male and female students were in agreement in their judgements of the personal characteristics of good lecturers and the personal characteristics they perceived in their current lecturers. The results were consistent with the findings of Alshokiby (1992), who concluded that there were no significant differences between male and female responses concerning preferred characteristics of university lecturers.

The current research participants were also from four different levels of study. The Kruskal-Wallis Test was applied to examine differences among the participants' responses to the research questionnaire according to their level of study throughout all the clusters across the four sample groups. Using Bonferroni adjusted alpha levels of 0.0125 (0.05/4), no statistically significant differences were observed among students' perceptions of the personal characteristics of their university lecturers across all sample groups and within clusters, and the p values of Kruskal-Wallis Test were statistically non-significant ($p > 0.0125$) for all participants' responses to the questionnaire items.

It can be argued that, this result was unsurprising for two reasons. First, although the students belong to different academic levels, that may not be considered as a sufficient factor to influence the students' judgement of personal characteristics of their university lecturers, as it can be expected that because most university students are in a similar age range (in the current research, 19-23). Perhaps age effects limit the impact of the academic level of students as an important variable that could affect the students' judgements of the personal characteristics of a university lecturer. In other words, the similarities of judgments across the academic levels of students reflect age rather than experience, and one or two years' difference may not be sufficient to produce significant differences between students according to their academic level. Second, it was confirmed by several studies that there were no significant differences between students' perceptions of their university lecturers according to academic level in other Arabic settings. For example, Das and El-Sabban (1996) investigated the characteristics of a good university teacher working in the class as perceived by 120 university students at the United Arab Emirates (UAE) University; the study indicated that students of different academic levels have similar points of view, with no significant differences in their observations on this matter. The results of the previous study were similar to what had been noted in the study carried out by Anbar (2006) on 117 students at the King Saud University, which found no difference among the responses of the students on perceptions of their university teacher at different academic levels.

The current research also used the Kruskal-Wallis Test with Bonferroni correction alpha levels of 0.01 to find the differences among the students' responses to a set of personal characteristics according to their subject area across the research groups and clusters. The results indicated no significant differences were observed among

students' responses according to subject area within each of the sample groups ($p>0.01$). This is consistent with the findings of both Alshokiby (1992) and Obydat (1991), both of whom reported no differences among students' perceptions of the characteristics of a university lecturer according to their academic discipline.

It can be argued that the findings of this research, that there were no observed differences in preferences for personal characteristics across the sexes and across academic level and subject, is a potentially interesting one, suggesting that students' perceptions of their lecturers are, at least in terms of personal characteristics, more 'shared' than we might have expected.

It can be concluded that the statistically significant differences among the participants' responses to the questionnaire according to their demographic variables (gender, level of study and subject area) were not observed across all groups and clusters, indicating that students in different demographic variables agreed more than they differed in identifying the personal characteristics that a university lecturer should have, or in their perception of these characteristics as perceived in actual lecturers.

7.2.1 What personal characteristics are considered significant for a university lecturer by students?

It can be argued that the classroom behaviour of a university lecturer was one of the main focuses of students. The research indicates that throughout the three clusters in group 1, students tend to give high scores (item's mean above the cluster's mean) for characteristics that relate to a lecturer's classroom behaviour. The main characteristics in this regard were "A perfect example to students in behaviour," "Allows students to discuss and debate within the classroom," and "Speaks

eloquently,” since all these characteristics received high scores from students in each cluster in group 1. For example, in the *classroom behaviour* cluster, these characteristics were scored 4.69, 4.36 and 4.16 respectively; 4.27, 3.73 and 3.60 in the *charisma* cluster scores, and 4.24, 4.53 and 4.57 in the *relationship with students* cluster (see Table 7.6).

It can be assumed that the focus of students on lecturers’ classroom behaviour might be interpreted as a reflection of students realising the importance of the behaviour of the lecturer as the role model in their classroom, since one of responsibilities of the university lecturer (and educators in general) is to organise and manage the classroom environment, and his/her behaviour is critical to achieving positive educational outcomes (Dubov, 1990; Norris, 2003).

The importance of the classroom behaviour of lecturers stems from the fact that lecturers’ behaviour in the classroom may significantly influence not only the students’ learning approaches, but also the manner of interaction between students and lecturers. Browers and Tomic (2000) stated that teachers who experience problems with classroom behaviour were frequently ineffective in the classroom, therefore the teachers’ classroom behaviour is a factor involved in the development and maintenance of teacher self-efficacy (Giallo & Little, 2003).

Teachers’ classroom behaviour can be seen as a collection of characteristics or attributes that teachers use to deal with students in the classroom (Jahangiri & Thomas, 2008). Determining the teacher or lecturers’ classroom behaviour characteristics may not be a simple task, as these characteristics can vary according to several factors, such as level of education, age and personality of students, and surrounding environment, including the education system and cultural issues.

Muzher (2005) reported a set of challenges facing higher education in Arab universities, such as the quality of education, teaching methods and teacher quality, including the pattern of behaviour that a teacher should display within and outside the classroom, stressing that behaviour should be consistent with the culture and academic level of students. In the current research, the Libyan students in group 1 hold a set of characteristics for a lecturer to be considered as a good lecturer in Libyan universities, and it seems that, the most important criteria of these characteristics concern the lecturer's classroom behaviour ("A perfect example to students in behaviour," "Allows students to discuss and debate within the classroom" and "Speaks eloquently").

What can be noted in the students' preference for these three characteristics is that they reflect two important aspects: the cultural milieu of the students, and their educational needs. For example, students emphasised the position of a lecturer as a role model ("A perfect example to students in behaviour"). Traditionally, university lecturers are respected within society (Barakat, 1993), because it is believed that in addition to the presumption that they have expertise in their field due to extensive study, training and experience, they have the responsibility to pass information and knowledge on to successive generations. This elevates the position of a lecturer to that of a custodian of knowledge, and a social resource for providing information and knowledge for students and society in general, and their behaviour and actions are respected and imitated by students (Motwally, 1990).

One could argue that the university lecturer has this super-academic societal responsibility, and should manifest the qualities necessary to be a role model for students, because lecturers are expected to guide students to be successful people,

and students believe that their lecturers are able to help them in this regard, and consequently seek help from them. The deep value attached to the profession of teaching in general in Libyan society (Alhuat & Ashor, 2006), as in most societies, is manifest in the cultural factor behind choosing “a perfect example to students in behaviour” as one of the characteristics significantly associated with being a good university lecturer.

It notable that although the clusters in group 1 were characterised by different variables, the characteristic of “being a perfect example to students in behaviour” was the only personal characteristic that students scored highly throughout all the three clusters in group 1 (mean > 4.00; Table 7.6), which suggests that the students affirm this as the most important personal characteristic of a good university lecturer based on socio-cultural values, and this probably has no direct source from other variables.

Allowing students to debate and discuss in the classroom could provide students the opportunity to work in a collaborative and cooperative group setting, and lecturers who let students discuss their views enable their students to explore and discover new information and put what they learned in practice (Anne & Øyvind, 2010). Debates and discussion engage students through self-reflection and encourage them to learn from their friends in class. In addition, debates could prepare students to be more comfortable engaging in any dialogue related to their beliefs or their study areas (Anne & Øyvind, 2010).

The literature indicated that students who prefer an active learning style tend to retain and understand information by working in groups using discussion strategies (Felder & Spurlin, 2005), which might explain the apparent disparity between the

students who prefer an active or reflective style in their response to the characteristic of “allow students to discuss and debate within the classroom,” as although the results showed no statistically significant difference between the two learning styles, it can be noted from the students’ responses to the questionnaire according to their learning style that the mean scores of active students - in each cluster in group 1 - on this characteristic tended to be higher (mean 4.28-4.59) than the mean scores of students who prefer a reflective learning style (mean 3.40-3.56).

In addition, it should be noted that the Libyan students in addition to emphasising the importance of this characteristic for a good university lecturer, may be criticising the classroom behaviour of their current lecturers who are typically adept in traditional lecturing methods but who do not afford students the opportunity to debate or discuss during the class time (International Bureau of Education, 2000). Alhuat and Ashor (2006) reported the absence of student participation in classrooms, emphasising that in Libyan universities, the students’ role in the classroom was limited to taking notes from lecturers and rewriting these notes in examinations.

One of the characteristics perceived by students in two clusters (*classroom behaviour* and *relationship with students’ clusters*) as significant for a good university lecturer was the lecturer’s ability to speak eloquently. It can be argued that using language eloquently is extremely important not only for people interacting in daily life, but also for teaching in any level of education, as it is in fact the basis of communication between a lecturer and students and one of the significant ways of importing knowledge (Amuseghan, 2009), but that might not be enough to justify why students consider this characteristic as one of the most significant characteristics for a good university lecturer.

It is known from personality research that some personality traits could positively or negatively influence the attitude of people in judging or evaluating a situation (Bekk & Spörrle, 2010). It follows that the students' personalities are likely to play a significant role in their perceptions of the personal characteristics of their university lecturers, and their relative valuing of these characteristics. In the current research, students' personality traits were used alongside other variables in evaluating perceptions of university lecturer characteristics. It was observed in the group 1 data that the mean responses of "low openness" students' were higher than those measured as being high on openness for the characteristic of "speaks eloquently" in two of the group 1 clusters: *classroom behaviour* cluster (mean = 4.20) and *relationship with students* cluster (mean = 4.74). In personality, people with low openness personality profile are likely to be more conventional and tend to be traditional in their behaviour, and they prefer to follow familiar routines rather than new experiences (O'Connor & Paunonen., 2007). Therefore, it can be claimed that students with low openness personality profile are more likely imbued with the traditional image of the role of the university lecturer as someone who shows his/her knowledge through speaking ability (Shibani, 2001), and this might also directly reflect the historical teaching method adopted by most university lecturers, which mostly depended on oratory, with rhetorical speech playing a significant role (International Bureau of Education, 2000).

Table 7.7: The rank order per cluster in descending order of importance in group 1

Classroom behaviour cluster	Mean	Demean cluster	Mean	Relationship with students cluster	Mean
A perfect example to students in behaviour	4.69	A perfect example to students in behaviour	4.27	Works on encouraging students	4.88
Fair	4.63	Positive with the students	3.80	Wise	4.61
Allows students to discuss and debate within the classroom	4.36	Allows students to discuss and debate within the classroom	3.73	Speaks eloquently	4.57
Positive with the students	4.33	Modest	3.63	Positive with the students	4.53
Has positive attitude	4.31	Speaks eloquently	3.60	Allows students to discuss and debate within the classroom	4.53
Wise	4.28	Wise	3.60	Modest	4.49
Tolerant of students	4.16	Friendly all the time	3.33	Uses polite words	4.43
Speaks eloquently	4.16	Works on encouraging students	3.27	Friendly all the time	4.42
Friendly all the time	4.10	Has positive attitude	3.20	Has a good relationship with the students	4.39
Contributes to solving the problems of students	4.07	Greets students	3.10	Accepts criticism from students	4.37
Greets students	4.07	Uses polite words	3.00	Tolerant of students	4.33
Uses polite words	4.07	Tolerant of students	3.00	Does not allow students to interrupt him/her in the sessions	4.27
Modest	4.05	Has a good relationship with students	2.93	Fair	4.24
Works on encouraging students	4.03	Fair	2.87	A perfect example to students in behaviour	4.24
Accepts criticism from students	4.03	Contributes to solving the problems of students	2.87	Greets students	4.23
Does not allow students to interrupt him/her in the sessions	3.99	Accepts criticism from students	2.53	Contributes to solving the problems of students	4.10
Has a good relationship with students	3.91	Does not allow students to interrupt him/her in the sessions	2.39	Has positive attitude	3.69

It can be concluded that the findings indicate that in classifying the significant individual characteristics considered necessary for a good university lecturer to possess, students have given the highest scores to three characteristics that represent the classroom behaviour of a lecturer: “A perfect example to students in behaviour,” “Allows students to discuss and debate within the classroom,” and “Speaks eloquently.” The personalities and learning style of students in addition to their culture play a key role in forming the selection of these personal characteristics.

7.2.2 Personal characteristics considered “least important” by students

It can be said that the personal characteristics students perceived as less-significant for university lecturers were unexpected, since students across all clusters in group 1 tended to mark most of the characteristics as essential and important for a good university lecturer (Table 7.6), but this apparently did not prevent students from judging three personal characteristics to be less significant. The results derived from the clusters in group 2 reveal that three characteristics related to the students treatment were identified by students in three clusters as being less significant for a university lecturer’s effectiveness: in the *friendliness* cluster, students marked the characteristic of “tolerant to students,” in the *students’ treatment* cluster “uses polite words,” and in the *relationship with students* cluster, “greets students.” Across the four clusters in group 2, only these three personal characteristics received a moderate score (mean 3.60, 3.70 and 3.10) suggesting that they are characteristics that are seen by students as less important for being a good university lecturer. Students were asked to rate each personal characteristic according to a five-point Likert scale from 1=strongly disagree to 5=strongly agree (see Table 7.7).

Although each cluster in group 2 was characterised by certain variables, no sufficient reasons can be offered as justification of the students' selection of these three personal characteristics as less-significant, since the results show no statistically significant differences among students' responses concerning any of these characteristics across the clusters, and the means of students' responses were likely to be similar, which could lead to the conclusion that the reason behind some students' selection of these characteristics may not be due to one of these variables, but something related to students' culture. It can be suggested that students' selection of these characteristics as less significant reflects the culture that prevails in most Arab countries, whereby the exchanging of greetings between people or using polite words is always expected from every single member of society (Sayed, 1992); therefore, when students spotlight these characteristics as being less significant for being a good lecturer, they are indicating that these characteristics are ubiquitous and thus irrelevant to the qualities necessary in a lecturer (Motwally, 1990), and that might explain why some students believed that their current best and worst lecturers have these characteristics (see Tables 7.8 and 7.9).

On the other hand, participants considered being tolerant to students as one of the two characteristics that may not help a lecturer to be good; based on the author's personal experience as a lecturer, Libyan students typically consider tolerance to be an unappealing and negative characteristic in educators, and a lecturer who is tolerant to students is regarded as being over-familiar and unable to control students in the classroom.

Table 7.8: The rank order per cluster in descending order of importance in group 2

Friendliness	Mean	Students treatment	Mean	Classroom behaviour	Mean	Relationship with students	Mean
Tolerant of students	3.60	Uses polite words	3.70	Does not allow students to interrupt him/her in the sessions	2.87	Greets students	3.10
Wise	2.85	Friendly all the time	1.98	Works on encouraging students	2.00	Uses polite words	2.00
A perfect example to students in behaviour	2.60	Allows students to discuss and debate within the classroom	1.93	Tolerant of students	1.87	Positive with the students	2.00
Accepts criticism from students	2.50	Positive with the students	1.84	Speaks eloquently	1.78	Allows students to discuss and debate within the classroom	2.00
Positive with the students	2.50	Has a good relationship with the students	1.79	Uses polite words	1.70	Has a good relationship with the students	2.00
Has positive attitude	2.00	Accepts criticism from students	1.70	Greets students	1.30	Tolerant of students	1.35
Uses polite words	2.00	Greets students	1.66	A perfect example to students in behaviour	1.22	A perfect example to students in	1.20
Modest	1.80	Wise	1.66	Has a good relationship with the students	1.17	Friendly all the time	1.10
Fair	1.60	Fair	1.66	Contributes to solving the problems of students	1.17	Modest	1.05
Has a good relationship with students	1.60	Does not allow students to interrupt him/her in the sessions	1.63	Fair	1.13	Has positive attitude	1.00
Does not allow students to interrupt him/her in the sessions	1.60	Contributes to solving the problems of students	1.57	Wise	1.13	Fair	1.00
Friendly all the time	1.30	Speaks eloquently	1.55	Has positive attitude	1.00	Accepts criticism from students	1.00
Allows students to discuss and debate within the classroom	1.30	Tolerant of students	1.45	Accepts criticism from students	1.00	Wise	1.00
Speaks eloquently	1.30	Modest	1.43	Modest	1.00	Works on encouraging students	1.00
Works on encouraging students	1.30	A perfect example to students in behaviour	1.36	Friendly all the time	1.00	Does not allow students to interrupt him/her in the sessions	1.00
Greets students	1.30	Works on encouraging students	1.27	Positive with students	1.00	Contributes to solving the problems of students	1.00
Contributes to solving the problems of students	1.30	Has positive attitude	1.25	Allows students to discuss and debate within the classroom	1.00	Speaks eloquently	1.00

In summary, the results indicated that students in three clusters in group 2 marked three personal characteristics as less-significant for a university lecturer to be an effective lecturer: “tolerant to students,” “uses polite words” and “greets students.” These three characteristics were argued to be more related to the students’ culture rather than other research variables.

7.2.3 Students’ perceptions of current lecturers (Hypothetical and Real)

Students most demanded those personal characteristics related to the classroom behaviour of a university lecturer (“a perfect example to students in behaviour,” “allows students to discuss and debate within the classroom” and “speaks eloquently”), according to the observed results of the hierarchical cluster analysis for group 1 (personal characteristics which students believe that a good university lecturer should have; see section 7.2.1). The question which arises concerns the extent to which students believe that these characteristics are present in their current university lecturers, as the observation of such characteristics in current lecturers could predispose students in group 1 to select those characteristics. In order to investigate the extent to which students perceived these characteristics in their current lecturers, students in groups 3 and 4 were asked to choose one of their current lecturers. In group 3 students were asked to choose one of their best lecturers, and students in group 4 were asked to choose one of their worst lecturers (as defined by themselves) and rate that lecturer’s personal characteristics according to a questionnaire using a five-point Likert scale (from 1=strongly disagree, to 5=strongly agree).

The hierarchical cluster analysis for group 3 (students’ perspectives of the extent to which these characteristics were observed in their best lecturer) shows that for the

expectation of *classroom behaviour* cluster, the means of students' responses on each item across the two clusters tended to be high (mean 3.54-4.86), which indicates an initial impression that most students considered that these characteristics were currently perceived in their best lecturers. Table 7.8 shows the means of these items in each cluster. It can be noted that in the *demeanour* and *friendliness* clusters, the three characteristics identified by students in group 1 as most significant for a good university lecturer also received high scores in these two clusters and the means of students' responses on these characteristics were similar to those in group 1 (Table 7.6). However, what distinguished the *demeanour* cluster is that the classroom behaviour characteristics identified by students in group 1 were the highest, and the most important characteristics that students believed their best lecturers had, which may provide support for the assumption that the selected characteristics in group 1 might be chosen by some students because they take their best lecturers as archetypes of a good lecturer, thus their characteristics are adopted as hallmarks of being a good university lecturer.

Students in the *classroom behaviour* cluster identified the characteristic "accepts criticism from students" as less important in their best university lecturer (mean = 2.17). This characteristic was also marked as less observed by students in two clusters in group 4 (*relationship with student* cluster and *absent trait* cluster) with regard to their worst lecturer (mean 2.88, 1.88 respectively; Table 7.7). It can be argued that the students' perception of this characteristic as less important reflects the high power distance culture of Arab countries, where relations with authority Figures - such as fathers, teachers, or lecturers – are characterised by authoritarianism, fear of authority, and limitation of the interactive relationship with those figures (Badrawi, 2009). Libya is an Arabic country characterised by a high power distances in relation

to authority figures. The analogous North African Arabic culture of Egypt has been defined as a high power distance one by the cultural factor analysis of Geert Hofstede, a milieu in which:

“People accept a hierarchical order in which everybody has a place and which needs no further justification. Hierarchy in an organization is seen as reflecting inherent inequalities, centralization is popular, subordinates expect to be told what to do and the ideal boss is a benevolent autocrat” (Hofstede & Minkov, 2010).

Therefore, the students’ perceptions of this characteristic as less important in their lecturers may stem from the traditional role played by the lecturers as authority figures, which is limited to lecturing and student assessment, with almost no chance for a real debate or discussion between students and teachers in general, which renders it a fortiori unacceptable and taboo to consider criticising teachers. It is worth mentioning that this sort of thinking also appeared in group 1 through the *friendliness* cluster, as students in that cluster identified this characteristic as less significant for a good university lecturer (Table 7.6).

Notably, the differences between the mean responses of students who prefer an active learning style (on the one hand) and those who are reflective (on the other) on the characteristic “allows students to discuss and debate within the classroom” through clusters in group 1 (see 7.2.1) can also be noted on the same characteristic through two clusters in group 3 (*classroom behaviour* cluster; active mean = 4.40 and reflective mean = 3.56; *friendliness* cluster, active mean = 4.84, and reflective mean = 3.25). Albeit no statistically significant difference was identified between the two learning styles, the mean responses of active students were slightly higher than those who preferred a reflective learning style, indicating that the active students were more likely to regard this characteristic as significant, and they may also have

perceived that characteristic as more important in their best lecturer consequently. It can be argued that as the active students have a more general interest in learning through discussion and debate, this prompted them to note this characteristic in their lecturer and emphasise it as a significant characteristic for a good university lecturer.

It follows that the way in which students perceived these characteristics in those lecturers considered as best by students be investigated, to determine the extent to which those characteristics determined as significant in group 1 were observed by students who were rating their ‘worst’ lecturers. The results from group 4 (N=104) revealed three clusters that show the extent to which students believe that these personal characteristics were more noticeable in worst lecturers. In the three clusters of this group, students were exaggerating their rating for the observed characteristics, with the exception of “speaks eloquently” in the *relationship* cluster; it can be seen in Table 7.9 that all characteristics in the *absent traits* cluster (N=50) and *relationship with students* cluster (N=33; representing 80 per cent of the group sample) received low scores (mean 3.09-1.22), indicating that participants in these clusters observed these personal characteristics less in their worst lecturers. In contrast, characteristics in the *Existence traits* cluster (N=21) were rated highly (mean 3.24-4.67), suggesting that students believed that all these characteristics were present in their university lecturers, even if those lecturers were considered as their worst lecturer. Table 7.9 shows the means of all characteristics across the two clusters.

Table 7.9: The rank order per cluster in descending order of importance in group 3

Demeanour cluster	Mean	Friendliness cluster	Mean	Classroom behaviour cluster	Mean
A perfect example to students in behaviour	4.67	Modest	4.86	Modest	4.09
Speaks eloquently	4.46	Fair	4.81	Positive with the students	4.04
Allows students to discuss and debate within the classroom	4.44	Works on encouraging students	4.76	Uses polite words	4.00
Has positive attitude	4.41	Has positive attitude	4.74	Works on encouraging students	4.00
Tolerant of students	4.23	Has a good relationship with the students	4.71	Tolerant of students	4.00
Positive with the students	4.21	Speaks eloquently	4.69	Has positive attitude	4.00
Modest	4.21	Allows students to discuss and debate within the classroom	4.69	Allows students to discuss and debate within the classroom	3.96
Greets students	4.18	Positive with the students	4.64	Speaks eloquently	3.87
Works on encouraging students	4.18	Friendly all the time	4.64	A perfect example to students in behaviour	3.87
Uses polite words	4.15	Greets students	4.60	Friendly all the time	3.87
Fair	4.05	Accepts criticism from students	4.55	Has a good relationship with the students	3.83
Friendly all the time	4.00	Tolerant of students	4.52	Fair	3.83
Wise	3.87	Wise	4.50	Does not allow students to interrupt him/her in the sessions	3.78
Has a good relationship with the students	3.85	A perfect example to students in behaviour	4.40	Wise	3.74
Accepts criticism from students	3.79	Contributes to solving the problems of students	4.38	Contributes to solving the problems of students	3.50
Does not allow students to interrupt him/her in the sessions	3.77	Does not allow students to interrupt him/her in the sessions	4.38	Greets students	3.48
Contributes to solving the problems of students	3.54	Uses polite words	4.29	Accepts criticism from students	2.17

Notably, among the characteristics in the *relationship* cluster, “speaks eloquently” was the only one that students observed in their worst lecturer. Particularly, this characteristic was one of the personal characteristics that students in group 1 identified as significant for a university lecturer; as discussed previously, students who scored low on the openness personality scale tended to be traditional and followed conventional ways to judge a situation, and as the *relationship with students* cluster was totally characterised by students who scored low on the openness personality scale ($N=21$), it can be assumed that the effect of the traditional image of a university lecturer in society (as someone who shows his/her knowledge through the ability of eloquent speaking) still appears in student perceptions, indicating that whether or not lecturers speak eloquently, this has little effect on the way in which students evaluate them.

Comparing these results with the students’ perceptions of personal characteristics considered as least important for being a good lecturer in group 2, one can assume that the personal characteristics considered in group 2 as less significant for being a good university lecturer (“tolerant of students” and “greets students”) might be perceived more in the set of ‘worst’ lecturers. The results in group 4 reveal that students in two clusters (*absent characteristics* and *relationship* cluster) tended not to observe these characteristics in their worst lecturers (means low to moderate: 1.00-3.24). For these two clusters (*absent characteristics* and *relationship*), most of the personal characteristics identified by students as significant for a university lecturer or more observed by students in their best lecturer were less observed (Table 7.10).

Table 7.10: The rank order of two clusters in descending order of importance in group 4

Relationship cluster	Mean	Absent traits cluster	Mean
Speaks eloquently	4.00	Modest	1.00
Fair	3.24	Does not allow students to interrupt him/her in the sessions	1.00
Uses polite words	3.09	Speaks eloquently	1.02
Modest	3.00	Tolerant of students	1.10
Accepts criticism from students	2.88	Contributes to solving the problems of students	1.10
Has positive attitude	2.85	Greets students	1.18
Friendly all the time	2.85	Friendly all the time	1.22
Allows students to discuss and debate within the classroom	2.85	Wise	1.24
A perfect example to students in Positive with students	2.82	Works on encouraging students	1.26
Positive with students	2.61	Has a good relationship with students	1.28
Works on encouraging students	2.61	Fair	1.34
Tolerant of students	2.55	Positive with students	1.40
Has a good relationship with the students	2.45	A perfect example to students in	1.42
Contributes to solving the problems of students	2.45	Has positive attitude	1.46
Wise	2.42	Allows students to discuss and debate within the classroom	1.62
Greets students	2.09	Accepts criticism from students	1.88
Does not allow students to interrupt him/her in the sessions	2.06	Uses polite words	1.90

Additionally, it can be argued that three classroom behaviour characteristics determined by students as important for being a good university lecturer in group 1 (“a perfect example to students in behaviour,” “allows students to discuss and debate within the classroom” and “speaks eloquently”) were more observed in worst lecturers only by students in the Existing characteristics cluster (Table 7.10), indicating that students may believe that even those lecturers classified as worst still had the characteristics identified as being associated with a good university lecturer. In other words, students pointed out that having certain positive classroom behaviours does not stop some students considering such lecturers as their worst.

Table 7.41: Rank order of existence characteristics cluster in descending order of importance

Existence characteristics cluster	Mean
Accepts criticism from students	3.19
Wise	3.95
Allows students to discuss and debate within the classroom	4.05
Fair	4.14
Tolerant of students	4.14
Has a good relationship with the students	4.14
Does not allow students to interrupt him/her in the sessions	4.14
Contributes to solving the problems of students	4.14
Positive with the students	4.24
Has positive attitude	4.29
Friendly all the time	4.33
Speaks eloquently	4.38
Works on encouraging students	4.43
Uses polite words	4.48
Greets students	4.57
A perfect example to students in behaviour	4.62
Modest	4.67

It can be concluded that although the students differed in terms of the characteristics that they believed a university lecturer should have, positive classroom behaviours were the characteristics most students tended to agreed that a university lecturer should have. Only one personal characteristic related to classroom behaviour (“accepts criticism from students”) was marked by students who were low on openness on the personality scale as less observed in the best university lecturer, and the mean responses of students who prefer an active learning style were less than those who are reflective for the characteristic of “allows students to discuss and debate within the classroom.” None of the listed personal characteristics were observed in the worst lecturer by students in two clusters in group 4 (*absent traits* cluster and *relationship with students*), and the characteristic of “speaks eloquently” was the only observed characteristic in their worst lecturer.

7.3 Summary

The main focus of this chapter has been to present the perceptions of students on the personal characteristics of the Libyan university lecturers through four different groups who undertook four different rating tasks: group 1 focused on the personal characteristics that students believe a good university lecturer should have; group 2 aimed to identify the characteristics seen by students as less significant for being a good university lecturer; group 3 was to investigate the students' perspectives on the extent to which these characteristics were observed in their best lecturers; and group 4 was set up to determine through the students' perspective the extent to which these characteristics were noticed in their worst lecturer. Cluster analysis was used in the current chapter to categorise clusters of students in each group who were similar to each other based on their responses to the personal characteristics questionnaire.

The chapter highlighted three classroom behaviour characteristics that students believe are significant for a good university lecturer: ("A perfect example to students in behaviour," "Allows students to discuss and debate within the classroom" and "Speaks eloquently") and the results pointed out that the students' personalities, learning style and culture played a key role in the selection of these personal characteristics.

Three characteristics were selected by students as less significant for a good university lecturer: "tolerant to students," "uses polite words" and "greets students." These characteristics, and their relative valuing by students, were assumed to be more related to the general cultural factors, rather than the factors that were used as variables in this study.

Although most of the personal characteristics were more observed by students in their best lecturer, the results revealed that students who scored low in openness on the personality scale perceived one personal characteristic (“accepts criticism from students”) as less noticed in those lecturers, and it was noted that the mean responses of students who prefer an active learning style were lower than reflective learners for the characteristic of “allows students to discuss and debate within the classroom.” In contrast, in one of the group’s clusters, the characteristic of “speaks eloquently” was the only one that students observed in their worst lecturer.

Overall, the results from this research are characterised by a lack of noticeable differences in the responses to the questionnaire relating to the demographic variables of the research (gender, level of study, and subject area). Nevertheless, the students’ responses across the four groups, across the clusters, and in relation to some aspects of the learning styles and personality measurements, afford some insights into the importance, or otherwise, of student perceptions of their university lecturers. The following chapter focuses on discussing these results in relation to the thesis as a whole.

CHAPTER 8: GENERAL DISCUSSION AND CONCLUSIONS

8.1 Introduction

This thesis was undertaken to investigate the students' perceptions of personal characteristics of university lecturer in Libyan universities. These perceptions were investigated using three measures; including two scales which have been translated for the first time from English into Arabic; the 'Index of Learning Style' (Felder & Soloman, 1987) and Goldberg's personality scale (Goldberg, 1999) to measure students' learning style and personality type, in addition to the main study questionnaires that been developed by the researcher ('the personal characteristics of university lecturer's questionnaire'). The main sample in the current thesis comprised 431 students from Sebha University, Libya. This sample was divided into four groups focusing on four aspects of the research: (1) group 1 was focused on determining the personal characteristics which students believe that a good university lecturer should have; (2) group 2 aimed to identify the characteristics seen by students as insignificant for being a good university lecturer; (3) group 3 was to ascertain the students' perspectives on the extent to which these characteristics were observed in their best lecturers; and (4) group 4 was focused on determining through the students' perspective the extent to which these characteristics were observed, but in their least preferred lecturer.

Many of the previous studies on students' perceptions of university lecturers failed to provide a specific set of personal characteristics that can be generalised to all university lecturers (Patrick & Smart, 1998; Mohammed, 2005; Reichel & Arnon, 2009; Rieg & Wilson, 2009). It can be argued that conflicting findings were due to

regions and cultures, as students were different in their perception of these characteristics according to the place of study. Libyan culture has not been considered in investigations of students' perceptions of the personal characteristics of university lecturers. It can be expected to have strong cultural differences compared to Western cultures or other world regions, particularly in terms of language, religion, gender roles, and customs, which all may play a significant role in relation to perceptions of personal characteristics of university lecturers (Nasser, 2004; Alhuat & Ashor, 2006). Therefore, the current thesis investigated for the first time, the Libyan students' perception of university lecturers; also, the current thesis extended the findings from previous studies by measuring the students' learning styles and personality profiles and uses them as variables that may have a role in students' perception of personal characteristics of university lecturer. It can be argued that the unique and novel contribution of the current thesis was to investigate the Libyan students' perception of personal characteristics of their university lecturers, and in addition to use the learning styles of students and personality measures (with scales translated specifically for the current thesis) as variables that may mediate students' perceptions.

This chapter focuses on six key aspects of the current research: (I) discussing the most significant personal characteristics that students believe are important for a good university lecturer; (II) the extent to which students perceived the personal characteristics in their current university lecturers; (III) translation issues derived from translation of Goldberg' personality scale (Goldberg, 1999); (IV) practical implications and recommendations emerging from the research; (V) explanation of the limitations of the current research; and (VI) suggestions for future research. This

chapter concludes with a summary of the contribution of this research to existing knowledge.

8.2 Personal Characteristics Students Believe are Significant for a University Lecturer

The results from chapter 7 in the current thesis identified three characteristics of classroom behaviour of a university lecturer identified as desirable by Libyan students. These characteristics derived from three clusters in group 1 were: “A perfect example to students in behaviour,” “Allows students to discuss and debate within the classroom,” and “Speaks eloquently.” As discussed in chapter 2, although considerable research was conducted worldwide sharing the same current research subject, the findings of the current research were not entirely in line with most previous studies; this probably represents the influence of the cultural setting of the research.

Teacher behaviour in the classroom can be seen as a collection of characteristics that teachers use to deal and interact with students while teaching (Jahangiri & Thomas, 2008). In the current research, the Libyan students in group 1 (chapter 7) prioritised a set of characteristics for a lecturer to be considered as a good lecturer in Libyan universities, and the most important criteria of these characteristics concern the lecturer’s classroom behaviour.

Among these, the first was “A perfect example to students in behaviour.” Chapter 7 suggests that university teaching staff are among the most highly respected people within society in most Arab cultures (Barakat, 1993); thus, their behaviour and actions are respected and imitated in general by people in society and by students

specifically (Motwally, 1990). The significance of being a good role model in behaviour for a good university lecturer was supported in several previous findings. For example, Abdulhay Mahmmod (1998) reported that among the characteristics that university students regard as being significant for a university teacher was “to be a role model to his/her students,” although he pointed out that this characteristic lagged behind characteristics such as ‘knowledgeable’, ‘use several teaching methods’, and ‘has leadership skills’, but it was rated highest among the *personal* characteristics. The importance of university lecturers being role models for students was also confirmed in two Arab studies. Motwally (1990) reported the character of “Example in appearance and behaviour” as one of the characteristics important for a university lecturer in Omdurman University, Sudan, and Taiseer (1997) also indicated that one of the characteristics of a good university lecturer as seen by students at Biat Laham university in Palestine, students was ‘to be a good example to his/her students in behaviour’.

A possible explanation for students in the current research and previous Arab studies concerning the significance of being a role model might stem from the prevailing Arab culture wherein cultural factors appear to be contributing factors that could lead to some degree in the differences among people perceptions of certain issues according to the characteristics of that culture, and as the veneration of teachers (Barakat, 1993). Consequently, it is to be expected that the role model function contributes to guiding students to be successful, and students through their culture believe that their lecturers are likely to help them in this regard (Alhuat, 2004).

Second, “Allows students to discuss and debate within the classroom,” unlike other personal characteristics, is one of the most common characteristics among previous

studies, and several findings supported it as one of characteristics marked to be significant for a university teacher (Aregbeyen, 2010; Barnes & Lock, 2010; Chireshe, 2011). In addition, the importance of this characteristic for a university lecturer has also been emphasised in the Arab world (Obydat, 1991; Alshokiby, 1992; Taiseer, 1997).

It can be argued that the importance of this personal characteristic stems from it enabling students to debate and discuss in the classroom, providing students the opportunity to work collaboratively and cooperatively within their groups, and helping them to discuss their views and discover new information and implement knowledge. Also, debates and discussion could engage students through self-reflection and encourage them to learn from their peers in class. These reasons could explain why students across some reviewed studies have expressed the importance of this personal characteristic of university lecturer; however, the findings from chapter 7 in the current research provided further key findings concerning the students' perception in relation to this characteristic not discussed in previous studies.

The finding of the current research associated between students who prefer active or reflective learning style and their perception of this personal characteristic. It was noted that although the results have not found statistically significant differences among the two learning styles, it can be observed from the students' responses to the questionnaire according to their learning style that the mean scores of active students - in each cluster in group 1 - on this characteristic were higher (mean 4.28-4.59) than the mean scores of students who prefer reflective learning style (mean 3.40-3.56). This finding was in line with what the literature indicated about learning style;

students who prefer an active learning style tend to retain and understand information by working in groups using discussion strategies (Felder & Solomon, 2006), which might explain the apparent disparity between the students who prefer active or reflective style in their response to the characteristic of “allow students to discuss and debate within the classroom,” which suggests that the students learning style might be one of factors behind Libyan students’ selection of the personal characteristic “allows students to discuss and debate within the classroom” as significant for a university lecturer.

A further key finding in the current thesis concerns the Libyan students’ perception of the importance of the characteristic “allow students to discuss and debate within the classroom.” Libyan students identification of this characteristic for a university lecturer as significant relates to what can be called the “finding missing policy,” as the most widely used teaching method in most Libyan universities is traditional lecturing, which does not afford students the opportunity to debate or discuss during class time (International Bureau of Education, 2000). This could be interpreted as meaning that the Libyan students in this research were expressing the wish for there to be more opportunities within their studies for active learning, supported by debate and discussion. The ratings from Group 3 indicate that at least some lecturers in Libyan universities allow students to discuss and debate in the classroom, but we can perhaps conclude, when examining these data in relation to the work of Alhuat and Ashor (2006) who reported the lack of discussion and debate among students or between lecturers and students in the classrooms of Arab Universities) that this is not the norm.

Third, the results from chapter 7 in the current thesis show that one of the personal characteristics selected by Libyan students as significant for a good university lecturer was “Speaks eloquently.” It was argued in chapter 7 that although using language eloquently is extremely important in the education field, as it is in fact the main tool of communication between a lecturer and students and one of the significant ways of imparting knowledge (Amuseghan, 2009), that might not be enough to justify why students consider this characteristic as one of the most significant characteristics for a good university lecturer. Inspite of this, some Arab studies emphasise the importance for a teacher in general to be eloquent in his/her speech, and some people still consider eloquent speech to be one of the characteristics that distinguish scientists, including teachers, from other people (Shibani, 2001). It has been noticed from the literature that the clarity of university lecturers’ speech was the only feature universally mentioned by research in the Arab world, such as Almesnad (1997), Khalifa (1998), and Obydat (1991), all of which confirmed its importance. Therefore, the possible explanation for these differences between previous studies and the current research can be considered as a further key aspect of the current thesis based on students’ personality factor.

As claimed in chapter 7, students’ personalities play a significant role in their perceptions of the personal characteristics of their university lecturers, as some personality traits could positively or negatively influence the attitude of people in judging or evaluating a situation (Magdalena & Spörrle, 2010). For example, people with low openness personality profile were more conventional and tended to be traditional in their behaviour, and they preferred to follow the familiar routines rather than new experiences (Wood *et al.*, 2007). In the current research, it was observed in group 1 data that the mean ratings of “low openness” students were higher on

average than the ratings of “high openness” students for the characteristic of “speaks eloquently” in two of the group 1 clusters (classroom behaviour, mean=4.20; and relationship with students, mean=4.74). It seems then that students who are low on openness were imbued with the traditional image of the role of the university lecturer as someone who shows his/her knowledge through a well developed speaking ability (Shibani, 2001).

8.3 Personal Characteristics of the Current Libyan University

Lecturers (Reality & Preferred)

Firstly, perhaps it is worth reiterating that one of the aims of the current research was to identify the extent to which students actually observed (in their current university lecturers) the personal characteristics which were highly rated in theory, both with regard to their ‘best’ and ‘worst’ lecturers. In order to investigate the extent to which students perceived these characteristics in their current lecturers, students in groups 3 and 4 were asked to choose one of their current lecturers (in group 3 students were asked to choose one of their best lecturers, and students in group 4 were asked to choose one of their worst lecturers) and rate that lecturer’s personal characteristics according to the questionnaire using the five-point Likert scale.

Chapter 7 shows results from group 3 (section 7.2.3) that students across all clusters were tending to report that most of the personal characteristics were rated as characteristic of their best university lecturer (given that the characteristics that were included in the final version of the questionnaire were overwhelmingly positive). However, slight differences can be seen among the three clusters in group 3 in terms of the three classroom behaviour characteristics marked by students as the most

significant for a good university lecturer in group 1, as the rating of the students in the ‘demeanour’ cluster on these three classroom behaviour characteristics was higher than in the other two clusters (see Table 7.8).

In contrast, the findings in two clusters (absent traits cluster; N=50, & relationship with students cluster; N=33) in group 4 (representing 80% of the group 4 sample) show that most of the personal characteristics in the questionnaire received low scores (mean 3.09-1.22), indicating that participants in these clusters may tend to believe that all these personal characteristics have been less observed in their worst lecturer. However, in the relationship cluster, the characteristic of “speaks eloquently” was the only one observed more by students in their worst lecturer. Particularly, this characteristic was one of the personal characteristics that students in group 1 identified as most significant for a good university lecturer. The possible explanation for the emergence of this characteristic was presented and discussed previously (see section 8.2); students who scored low in openness are more likely to be traditional and follow conventional methods to evaluate and judge a situation, and since the ‘relationship with students’ cluster was dominated and characterised by students who scored low on the openness personality scale, this may indicate that the effect of the traditional image of a university lecturer in society (as someone who shows his/her knowledge through the ability of eloquent speaking (Shibani, 2001) still appears in student perceptions, indicating that the ability to speak eloquently is a component of a stereotypical or prototypical image of a university lecturer, rather than being a straightforwardly evaluative construct. In other words, the ability to speak eloquently does not necessarily equate to being the ‘best’ lecturer.

Two further key findings concern the pattern of students' perception of the personal characteristics of their current university lecturer. First, when attempting to link the findings of the current research with previous studies in the Arab world (chapter 2) in the area of students' perception of the current university lecturers' characteristics, Alshokiby (1992) was the only study that used students to evaluate and judge university lecturer characteristics, whereas the other studies were merely exploring the views of students about what the characteristics that a university lecturers should have, without involving them in determining whether or not they perceived and observed these characteristics in their current lecturers (Motwally, 1990; Obydat, 1991; Tiaseer, 1997; Abdul Latif, 1998). This supports the view that most Arab universities suffer from a lack of student involvement and consultation in educational issues, including those related to the rights of students to contribute to the observation and evaluation of their lecturers (Wheeler, 2002; Alhuat, 2004; Mohammed, 2005) This increases the importance of the current research, not only for being one of the few studies that focuses on both perception and evaluations of actual lecturers' characteristics in the Arab world, but the only one carried out in Libya.

Although the results of Alshokiby (1992) were not entirely in-line with the current research findings in terms of how students perceived these characteristics in their lecturer, since Alshokiby identified six teaching elements of a university lecturer, participants first needed to rate these elements according to their importance for a university lecturer, then re-rate these elements as they perceived them in their current lecturer, but the results of the study were in-line with the current research results in terms of confirming that there was no statistically significant difference between

students according to their gender or level of study in perceiving these teaching elements in their current university lecturer (see section 7.2).

Second, the other key finding in the current thesis concerning students' perception of the personal characteristics of their current university lecturer is that the characteristic "accepts criticism from students" was the only characteristic marked by students in both groups 3 and 4 as less observed in their lecturer (whether considered best or worst). Students in the classroom behaviour cluster in group 3 identified the characteristic "accepts criticism from students" as less observed in their best university lecturer (see Table 7.8); also this characteristic was marked by students in two clusters in group 4 (relationship with student cluster and absent trait cluster) as less observed in their worst lecturer (see Table 7.9).

It was argued in chapter 7 (section 7.2.3) that the students' perception of this characteristic as less observed in their current lecturer may be based on the principle of the high power differential found in most of the Arab world, including Libya, where relationships with those considered to be authority figures (such as fathers, teachers or lecturers) are limited, and characterised by authoritarianism and a fear of authority (Badrawi, 2009). This is consistent with what Shibani (2001) reported about the position of the teacher in Libyan society through history, whereby the teacher was the director of people in all aspects of their daily lives, and was accorded specific rights and customs when people interacted with him (sic).

It seems that this sort of thinking was not confined to the Libyan society, as it was stated by Motwally (1990) that a set of rituals must be observed by the learner when talking with a teacher, including full obedience and not arguing, and it can be claimed that this culture is still prevalent in most of the Arab universities where the

traditional role played by the lecturers as authority figures dominates, confining lecturers to the functions of lecturing and student assessment, and students to the role of ‘passive’ and powerless learners, with almost no chance for real debate or active engagement in the education process, rendering it a *a fortiori* unacceptable and taboo to consider criticising teachers (Alhuat & Ashor, 2006; Mohammed, 2005; Wheeler, 2002). Therefore, it is not surprising that the students perceived this characteristic as less important and less observed in their lecturers.

8.4 Can the Structure of the 50-items Goldberg' Personality Scale Be Generalised to Libyan Culture?

One of the common methods for investigating the cross-cultural comparability of personality trait scales is to show that the trait scales contained in the measures are internally reliable and check the factorial structure invariance across the targeted language and culture. If the traits in a scale show acceptable internal reliability, and invariant factor structure across different language and cultures is demonstrable, cross-cultural comparability can be claimed. In the current research, in chapter 4, the internal-consistency of the revised Goldberg's 25-item Personality Scale, with the exception of the Extraversion scale (0.66), was between moderate and low in most of the subscales (Openness and Neuroticism were respectively 0.43 and 0.57) and low in the scales domains of Conscientiousness and Agreeableness (respectively 0.30 and 0.10). These results are not entirely consistent with the reliabilities of other studies carried out across the world using Goldberg's 50-Item Personality Scale, such as; China (Zheng *et al.*, 2008), Scotland (Gow *et al.*, 2005), Croatia (Mlačić & Goldberg, 2007), all of which show good internal consistency.

The chapter four confirmatory factor analysis results in the current research showed a poor fit of the model with the raw data (model 1), with the minimum fit chi square of 2030.64 for 1070 degrees of freedom, a goodness of fit index of 0.82 (acceptable model fit is indicated by a CFI value of 0.90 or greater; Hu & Bentler, 1999), and a root mean square residual of 0.26. The modification indices suggested the need to omit items with a loading lower than 0.3. The effect of omitting these items (model 2) is strikingly shown by the increasing in the goodness of fit. The chi square drops to 513.55 for 289 degrees of freedom, the goodness of fit index increases to 0.91, and the root mean square residual drops to 0.088. The scale after the omission of the items loading less than 0.3 is consistent only for 25 items (Extraversion 4 items, Neuroticism 6 items, Agreeableness 3 items, Openness 5 items, and Conscientiousness 7 items). The 25 items show a good loading 0.3 or above of their scales, which gives a good indication that these items are related with their scales.

Although the results of chapter 4 to some extent support the five-factor IPIP structure in cross-cultural samples as well as the Libyan sample, they were not perfect. Specifically, in terms of the number of items in scales, Agreeableness had only 3, Extraversion factors had only 4, and Openness, Neuroticism and Conscientiousness factors had 5, 6 and 7 items (respectively), 52% short of the full Goldberg's 50-Item Personality Scale English version. Three of the scale factors (Extraversion, Openness, and Neuroticism) evaluated in the current research appear to have satisfactory psychometric properties. Across the research using different recruiting techniques, satisfactory loadings for all three scales was observed and satisfactory reliability. Therefore, it been claimed that these three scales from the Goldberg's personality scale only can be replicated in a Libyan sample. It can be

argued that these findings were in line with two previous studies which have been carried out in the Arab world using other Personality measures.

First, Bader Ansari in abu Hashem (2007) checked the efficacy of the Big Five Personality Model using NEO-FFI prepared by McCrae and Costa (1992) on 1005 students from Kuwait University. The results indicated that there were three factors that can be generalised for the Kuwait sample (Conscientiousness, Extraversion, and Neuroticism), demonstrating the potential limitations of the full Big Five Personality Model when applied to people from Eastern Cultures. Abdel-Khalek *et al.* (1998) studied 296 students from the University of Alexandria, Egypt, using the Cattell scale with 16 personality factors. The findings showed that only two factors can be replicated on the sample (Extraversion and Neuroticism).

It seems evident that the results derived from chapter 4 in the current research were consistent with the findings of previous studies conducted on Arab samples that investigated the extent to which personality inventories can simply be ‘translated’ for an Arab sample. The agreement among these studies was focused on two factors (Extraversion and Neuroticism) among the five factors of personality that can be replicated for an Arab sample and culture. There may be several explanations for the discrepancy between the present research and previous failures to replicate the other factors in Arab world.

It is possible that the nature of scales used in the previous and current research are affected because most of these personality scales were established in non-Arab cultures, and each society has unique characteristics that distinguish it from others, which in turn may saturate scales with characteristics irrelevant to a particular culture. For example, unlike the findings of chapter four in the current research (that

the full Big Five Factor Model of the personality cannot be replicated in the Arab culture), the psychometric properties of Ali Kazem personality scale (2001), which was designed specifically to measure the Arab Personality using the Five Factor Model, although the limitations which been pointed out by the author, such as that relating to the study sample and methods that used to measure the validity and reliability of the scale (Ali, 2001). The scale showed to some extend acceptable level reliability (alpha between 0.64 - 0.82), and the factor analysis showed a clear five factors, confirming the generalisation of the Big Five Factor Model for Arab culture. Clearly, there is a large contradiction between that result and outcome of chapter four in the current research about the extent to which the Big Five Model can be replicated for Arab Culture, these contradictions might be traced to the fact that, the nature of the scale that been used in each research. While the scale in the current research was established and developed in Western culture, then translated into Arabic language, the scale in Ali Kazem's study (2001) was designed and developed with full consideration of Arab culture; the procedures used to produce a scale in an original language or culture will avoid the influence of errors in translation if that scale was translated. It is worth to mention that, the Ali Kazem's personality scale has not been used on other sample or across other languages in order to conclude that the scale can be generated on all Arab countries or representing the Arab culture, therefore, these limitations should be considered when this scale addressed.

It is important also to note, however, that equivalence of meaning between a source and target version of a scale does not ensure that performance of the participants for whom these versions are intended will be equivalent. In other words, even though we may be confident that we have a valid translation of a scale, we cannot assume that normative data collected with the source version will be fully applicable to the

population for whom the translation is intended. Thus, it will not be surprising if a difference is observed between participants who respond to a translated scale and those responding to the original version.

One of the aspects related to generalising the Goldberg's 50-Item Personality Scale which can be easily observed in the results in chapter 4 is that the number of items in the final Arab version (25 items) was 50% shorter than the full Goldberg's 50-Item Personality Scale English version. This may attributed to two main important factors; first, it is possible that in some cultures people have a stronger tendency to agree with test items regardless of their content—a response bias known as the acquiescence bias (Schmitt *et al.*, 2007). In the Goldberg's personality scale, several items, such as “respect others” and “insulting people,” can be treated the same, as Arab people tend to believe that respecting others and not insulting people are cultural and religious duties, also items such as “Tend to vote for conservative political candidates,” and “Tend to vote for liberal political candidates”. The participants of this study could not respond to these items, as the sample's experiences are limited to Libya where the context of political parties was alien before 2012. The participants' responses to these items could be presumed, and these items should be carefully revised and reformed to be appropriate to the target culture.

Second, as noticed in the English version of the scale, some words and phrases have special connotations in some cultures and not in others (conceptualisation), since a term that is appropriate for some contexts in a culture could be less appropriate in others (Rode, 2005). For example, in the current study the scale item in the English version “Have a sharp tongue” was inappropriate for Arabic culture, where the term “sharp” generally cannot be used to describe human behaviour. Such items cannot be

equivalently translated into Arabic, and ultimately had to be omitted from the final version of the scale.

Overall, it can be argued that the findings of chapter four merely confirm that, although the reliability and validity of Goldberg's 50-Item Personality Scale has previously been examined in several cultures and languages, providing evidence that the Five Factor structure of personality is generalisable, the current research concluded that, with consideration of the limitations of the current research, the Goldberg's 50-Item Personality Scale was not fully replicated for the Libyan sample, and further investigation should be undertaken in this regard.

8.5 Research Implications and Recommendations

One of the purposes of empirical research in this kind of 'applied' domain is the identification of implications for practice in relation to the situation under investigation, and such implications should be derived from the findings of the research, the literature review, and (to some extent) the researcher's own judgment.

As the theoretical perspectives of the literature review and the findings of the research are analysed in the context of students' perception of the personal characteristics of university lecturer, the implications presented embody aspects of the argument that has been developed during the course of the investigation.

The literature review (chapters 1 and 2) showed how important it is that the voice of students be considered by decision makers in higher education institutions, and how that voice has been ignored in Arab universities (Alhuat & Ashor, 2006; Wheeler, 2002); therefore, students in Arab universities in general must be given platforms to voice their suggestions and grievances via student forums, debates and so forth.

Universities must ensure that students have a say in university matters and that their voices are respected. Students must be convinced that universities are taking action to recognise them and understand their problems, needs and perspectives in educational matters. Activities, programs and opportunities should be planned to focus on positive and appropriate actions of the students. To establish positive relationships with students, lecturers may resort to learning or behavioural contracts with students. Rewarding students for their positive contribution to the university community is also important, as it makes them feel that they are an important component of the university.

Libya has a complete absence of any means for the evaluation of university lecturers (Badrawi, 2009), so it is to be noted here that the evaluation of a university lecturer, including personal and professional characteristics, should be on-going, using multiple methods, and must involve students in both the evaluation process and decision making wherever and whenever possible. The findings of previous research show that the approaches can be integratively used, and there is no one perfect approach. Hence, it is not sensible for decision-makers to advocate or prefer one single approach and ignore others. Moreover, the participation of students in assessing the qualities of university lecturers has been justified as useful based on the findings of the research. Hence, Libyan students should be given a more active role to play.

Although the data from this research should be interpreted with care in relation to making suggestions for practice and policy development, the findings from chapter 7 provided evidence that students' perceptions of their lecturers are influenced by the lecturers' classroom behaviour ("A perfect example to students in behaviour,"

“Allows students to discuss and debate within the classroom,” and “Speaks eloquently”), moreover, these characteristics were among personal characteristics that been generated from students in free list study (chapter six) , where students were asked to describe and write about their lecturers, therefore lecturers may need to be made aware that their actions, inactions and reactions are constantly under the watchful eyes of the university students. Also, lecturers may need to mind their language during their interaction with students, as students consider them to be role models; they also should be aware of students’ cultural and individual sensitivities when discussing and debating with them, as culture factors clearly influence students’ perceptions of their lecturers.

General principles such as these need to be further refined in relation to considerations of the different learning styles of students. Lecturers should be made aware that different types of learners may have different expectations and preferences for how lecturers should be when teaching. Although the data from this research should be interpreted with care, in relation to making suggestions for practice and policy development, one of the key findings in the current research that there was a differences between the students who prefer active or reflective style in their response to the characteristic of “allow students to discuss and debate within the classroom,” as students who adopt an active learning style tend to retain and understand information by working in groups using discussion strategies more than reflective students (Felder & Spurlin, 2005) and although the findings in the current research pointed out that there was no statistically significant difference among the two learning styles, it can be noted from the students’ responses to the questionnaire according to their learning style that the mean scores of active students on this characteristic tended to be higher than the mean scores of students who preferred a

reflective learning style. Therefore, the relationship between learning styles and the characteristics of the lecturers may be important factors to take into account in future work.

The findings from chapter seven and the free list study in chapter six indicate that in classifying the significant individual characteristics considered necessary by students for a good university lecturer to possess, such as the three characteristics that represent the classroom behaviour of a lecturer (“A perfect example to students in behaviour,” “Allows students to discuss and debate within the classroom,” and “Speaks eloquently”). Therefore, the decision-makers of the educational policies in Libya should exercise stringent measures in the recruitment and selection of university lecturers, and training programs should ensure that candidate lecturers possess these personal characteristics expected before they are allowed to face students.

The finding of the scales translated in the current research (chapters 4 and 5) lead to the advice that the global reach of research scales should not be taken for granted. Cultural factors should be taken into consideration, as it has been found from the research that scales may not mean the same in different cultural settings. One solution to avoid constant doubt about whether the translated scales are applicable in the local context is that researchers should carry out and develop scales that take local culture into consideration. Also, awareness should be raised among the researchers that there may be a contradiction between the Western theories they have learnt from the literature (and indeed their own postgraduate education) and their own deeply held cultural beliefs. However, this should not diminish the importance of the scales translated from other languages or cultures, since there are many translated scales that have been successfully used, cross-culturally (from example,

Brislin, 1970; Maneesriwongul & Dixon, 2004; Mlačić & Goldberg, 2007). For instance, in the current research, unlike the finding of Goldberg's 50-Item personality scale translation, the Felder and Silverman's learning style scale ILS was successfully translated from English into Arabic, and although the findings highlight the need for future work on some of the scale items and properties, the preliminary psychometric estimates of most of the scale dimensions found that it was reliable and valid, and could be used to assess learning styles in Arabic populations.

8.6 Limitations of the Study and Suggestions for Future Research

It should be noted that there are some limitations in the current thesis which should be addressed and considered for future research on this topic. And it is worth mentioning here that, the one of the main of reasons that the current research was not able to overcome these limitations was the Libyan revolution. The Libyan revolution ended after nearly a year of fighting, however, its impact on Libyan society will be long-term. The direct consequences of the war on the current research was not only limited to the psychological aspect of the researcher, but also exceeded to include some of the current research aspects, implying that any thoughts of collecting further data for developing the current research had to be suspended when the revolution occurred, that forced the research to be totally dependent on data that was collected pre-revolution. The limitations of the current research can be summarised as:

1. Although the total of the research sample was acceptable ($N = 431$), when broken down into the four research groups the samples become relatively small (group 1: 114, group 2: 109, group 3: 104, and group 4: 104). Although the size of these samples may still be considered acceptable, this may restrict

the generalisability of the results. Therefore, it could be expanded in future research to involve a larger sample.

2. The research sample was drawn only from one of the Libyan universities (Sabha University) located in the south of Libya; this may limit the possibility of generalising the results to various other Libyan students' universities, particularly as Libya comprises a vast spatial expanse and diversity of culture (Shibani, 2001). This could open the way to assume that this diversity of culture among the Libyan people may have an impact on the students' perceptions of the university lecturer. Therefore, it would be useful to investigate the students' perceptions of the university lecturer across variant regions in Libya.
3. Another issue that may require additional consideration concerns the two research translated scales. Although in chapters three and four many criteria were used to assess the psychometric properties of both scales, they have not been subjected to test-retest assessment (see George & Domino, 2006) subsequent to its translation into Arabic. Therefore it is recommended that future research on these versions may need to check the scales' reliability and validity using other methods.
4. The voices of students should be used as one source of data about valued personal characteristics of university lecturer, and they must be triangulated with other sources such as classroom observation, peer review, and self-evaluation (Danielson, & McGreal, 2000) in order to gain a fuller picture of characteristics that the university lecturers should have or identify the traits and behaviours that decision makers in higher education ought to encourage. Thus, multiple sources of information along side with students' voices are

needed for more thorough evaluation of the personal characteristics of university lecturers, and their relationship to student learning.

It has been argued that cultural factors are crucial to understanding student perceptions of lecturers, therefore, future research should continue to examine this topic with a larger group of participants, possibly involving more university students across all the Libyan universities, in order to substantiate the validity of the findings.

Future work could be based on intensive qualitative research methods aimed at providing a more nuanced account of what these cultural factors, which have affected the translation of the scales from culture into other culture, might be, since the current research suggested that the reasons for the different psychometric properties of the personality scales between the original and the target culture may include different interpretations of the items, and the social desirability that affects personality measurements to a great extent, and the cultural context for the research.

It has been argued that high quality education and improved academic achievement for students requires an in-depth understanding of the socio-cultural milieu of communities, as this is considered important in teaching and learning (Zhu & Engels, 2014). Although educators have made great leaps in research about how students learn, they still face the challenge of including what students bring with them to their educational institutions in educational reform efforts (Çetin, 2012). Mitra (2004) suggested that the culture of an educational institution must be calibrated with students' attitudes toward specific issues or school problems and possible solutions, which reminds teaching staff and administrators that students possess unique knowledge and perspectives about their teachers and institutions that others cannot fully replicate; in other words, the students' voice can be considered as

a reflection of their culture, often couched in the description of what they love and hate about their teachers, schools, or education system in general, and it is important to explore the importance of collaboration with students in the improvement of educational institutions (Ermolaeva, 2014; van Beethoven, 2012).

Higher education institutions in Libya differ in their location as well as in their organisational cultures and ethnicities (e.g. Tuareg, Tabu, Amazigh and Arab). What has been found to work in one university located in one area of Libya may not be equally applicable to other university contexts. Therefore, the researcher is very keen in future to work in extending the current research (using the same scales) to include other local universities so as to find out if the situation of the present research is representative. finding that students' perception of their lecturer's personal characteristics are in-line with other students in Libyan universities, it may be necessary for the Government and decision-makers within the Libyan universities to take remedial action, such as to encourage the involvement of students in decision-making within their universities. In case of finding a major deference between students,further investigation could be made into why the students' perception of their lecturer's personal characteristics are uncommon among the students of the university involved in the present research (e.g. is it because of the regions or cultural variations?).

Finally, one of the key findings which been argued in chapter seven in the current thesis concerns that there were not many observed statistically significant differences among the Libyan students' perceptions of the personal characteristics of university lecturers, suggesting that students' perceptions of the characteristics of their lecturers might be more influenced by professional and role related concerns, rather than by

what kind of person a lecturer is, and it may therefore be presumed that if the research focused on teaching or academic characteristics related to a particular subject, different results may have been produced. As although the focus of the current research was on students' perceptions of lecturers' personal characteristics, it can be argued that the kinds of personal characteristics that were listed and then rated by the research sample might be more to do with valued personal characteristics of 'people in general', rather than anything that is specifically relevant and useful to understanding how good a university lecturer someone is. This probably explains why many results of studies that were previously conducted about the characteristics of university teachers were focused on academic qualities more than others (Chireshe, 2011; Aregbeyen, 2010; Alshokiby, 1992; Tiaseer, 1997). Of course this argument should not be taken to mean that the personal characteristics of a university lecturer should be ignored, but it is a matter of priorities in terms of what the Libyan educational system should pay more attention to. Moreover, it should not only publish findings from studies that produce striking and statistically significant findings. We should also be prepared to learn from studies that suggest that some factor (current case 'personal characteristics of lecturers) is less important than we first thought it might be.

8.7 Contribution to Existing Knowledge

It is the contention of the researcher that some of the aspects of the current research be regarded as contributory to new knowledge. The idea of using student voices in educational research is long-established in the West (Ting, 2000; Wheeler, 2002; Chamorro-Premuzic *et al.*, 2008; Reichel & Arnon, 2009). However, this idea is comparatively rare and new in Libyan settings. The research might be regarded as a

bold adventure in the Libyan context, as the subject concern for this research was students' perceptions of university lecturer, an area regarded as culturally sensitive. Few studies have investigated student perceptions of lecturer characteristics in the Arab world.

The present research has explored the interrelation between students with several variables (gender, level of study, academic area, students' learning style and students' personality) and how they perceive the personal characteristics of university lecturers. This in itself involves two advantages; first, the literature on students' perception of teachers does not include this number of factors in one study; and second, the findings from the current research pointed out that the students' personalities, learning style and culture played a key role in students' perceptions of their lecturers' personal characteristics, while the literature does not show the use of the students' learning style and personality in students' perceptions of university lecturers.

The current research translated from the English language to the Arabic Language two scales (for the first time): Goldberg's 50-Item personality scale, to measure the students' personality; and the Felder and Silverman's learning style scale ILS to assess the students' preference of learning style. The research used a back-translation method (Birbili, 2008) to translate both scales and used several criteria to check the scales' psychometric proprieties. It can be claimed that the two translated scales as presented in chapters 4 and 5 are ready to use with Arab populations subject to the limitations discussed with regard to the cultural relevance of the Goldberg sub-scales.

Student perceptions of lecturer characteristics were analysed in the context of lecturers' personal characteristics. The literature on these personal characteristics does not include or emphasise lecturers' function/perception of being models to students. The present research suggests that the Libyan concept of a lecturer being expected to represent a "perfect example to students in behaviour" adds to the concept of lecturers' personal traits and the personal side of teaching in Libya.

In Libya, as in all Arabic countries, university lecturers are traditionally highly respected within society (Barakat, 1993), since it is believed that in addition to the presumption that they have expertise in their field due to extensive study and experience, they have a sacred vocation to impart information and knowledge to successive generations. This elevates the position of a lecturer to that of a custodian of knowledge, and a social resource for providing information and knowledge for students; consequently, the behaviour and actions of lecturers are respected and imitated not only by students, but society in general (Motwally, 1990).

Consequently, the Libyan students could be anticipated to attach great weight to the trait of "being a perfect example to students in behaviour" due to their socio-cultural values and consider it as the most important personal characteristic of a good university lecturer. One could argue that the university lecturer has this super-academic societal responsibility, and should manifest the qualities necessary to be a role model for students, because lecturers are expected to guide students to be successful people, and students believe that their lecturers are able to help them in this regard, and consequently seek help from them. However, the deep value that Libyan students in the current research added to the characteristics of lecturers and the high importance they attributed to the concept of lecturers to be role models in

behaviour rather than to be role models in other traits has not been addressed in previous literature, and is an important finding of this research.

It can be argued that the importance of the role model function of lecturers was derived from representing the students' voice and their perception of personal characteristics as being significant for a university lecturer, which opens the way to predict that it will have a positive effect on both teaching and learning of students. As argued in section 1.5, the students' voice and their participation is considered to be one way of valuing people, thus exploring students' attitudes, and their feedback on teaching, teachers, and learning eventually leads to the improvement and development of educational institutions informed by the key stakeholder: the learner (Moore, 2007).

Finally, the items for the main research questionnaire were derived from the actual experiences of student representatives from three Libyan Universities (Sabha, Al-Margeb and Garyounes). The researcher did not use questionnaire items from previous studies. However, there were 16 characteristics (from the 109 items) included in the questionnaire, which had not been identified by students in the free list study, and which came from other sources (from the extant literature). As shown in chapter 6, only three items among these 16 items were included in the final 17 item version of the questionnaire. In other words, the majority of the items that were found, through empirical means, to be the most discriminating for students, came from students. This is further evidence for the importance to universities in general, and Libyan universities in particular, of the 'student voice' in evaluations of learning and teaching, and for the role that it can play in the development and improvement of educational institutions.

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APPENDIXES

Appendix 1: Consent Form

CONSENT FORM

Title of project: personal characteristics of university lecturers in Libyan universities

Name of participant

Please read and confirm your consent to take part for this project by initialling the appropriate boxes and signing and dating this form

1. I confirm that the purpose of the project has been explained to me, that I have been given information about it in writing, and that I have had the opportunity to ask questions about the research

2. I understand that my participation is voluntary, and that I am free to withdraw at any time without giving any reason.

3. I agree to take part in this project

Participant's code name*:.....

(***NB** Please also write the same code name on your answer sheet)

Date / /

Signature/

If you wish to receive an executive summary detailing the findings of the research in which you have participated, please give your email address. Your email address will only be used for this specific purpose and will not be shared with anyone outside the project team.

Email address:.....

Appendix 2: Participant Information

Title of project: Personal Characteristics of University

Lecturer in Libyan University

Thank you for agreeing to consider participating in this research project. Before you decide whether to take part in our project, it is important that you understand the reason why this research is being carried out, and what your participation will involve. We would be grateful if you would take time to read the following information carefully and discuss it with us if you wish. Please feel welcome to get back to us if anything is unclear, and to take as much time as you need to decide whether or not to take part.

What is the purpose of the study?

This study arises from the growing interest in personal characteristics of university lecturer as one of the most significant factors in learning process

The project commenced on 8 October 2007, and will run until the end of October 2011.

Its main purpose is to find out the personal characteristics of university lecturers in Libyan universities as perceived by students. This will be according to a set of variables related with the study such as the academic level of the student, subject area, sex, and learning style of students. We are particularly interested in learning more about how students would prefer the personal characteristics of their university lecturer to be.

The main method of gathering information in this study is an open-ended questionnaire that includes two main questions. The first one focuses on the personal characteristics

of university lecturers that students see as essential for their lecturer and the second focuses on the personal characteristics of university lecturers that students do not approve of their lecturer displaying

Who is running this study?

The project is being carried out by a PhD student at Nottingham Trent University **Abdulqader Abughrara**, and his supervision team **Dr Andy Grayson** (Nottingham Trent University) **Richard Trigg** (Nottingham Trent University) and **Vivenne Brunsden** (Nottingham Trent University)

Why have I been chosen to take part?

We are asking you to take part in our project, because as a student you form the most essential focus of my study. I would like to investigate your opinion as an undergraduate student who has enough experience to identify the personal characteristics of your university lecturer.

Do I have to take part?

Your participation is entirely voluntary. We have got permission to approach you, but you are free to take part or not, as you choose. Your university will not be told if you decline. They will also not be told any of your personal responses if you do decide to take part.

If you do decide to take part, you will be given this information sheet to keep, and you will also be asked to sign a consent form. You will still be free to withdraw at any time: this includes the right to withdraw your information from the study after it has taken place.

If you decide not to take part, or later decide to withdraw at any stage, you will not be asked to give us any reasons for doing so.

What do you want me to do?

We would like you to take part in our project by answering the two main questions. This may last for approximately half an hour. It will take place in your classroom, and will be arranged at a time convenient to yourself. You should read the question carefully before answering. You are free to provide your answer as words or paragraphs, and you are free to ask questions while deciding on your answer

What will happen to the information which I will give to you?

All information which will you have given will be analysed and fed into my study results. Your data will not be individually analysed, but will only be considered as part of a much larger data set consisting of other students' responses along with your own

At the end of the study, all the information which has been recorded from you will be stored securely for a 5 year period, than destroyed as confidential waste. All the information will be fully anonymised before they are archived. Any information that identifies you or your university, or that gives any clues to your identity, will be removed. We are confident that these precautions will ensure that no-one will be able to trace your data back to you or your university.

How will you protect my confidentiality and anonymity?

Your answers will be handled only by me and my supervision team. All hard copies of research notes are kept in locked filing cabinets, and you will not be named or otherwise identified in any publication arising from this project. Further, no unpublished opinions or information will be attributed personally to you.

We will exercise all possible care to ensure that neither you nor your university can be identified when I write up my study findings.

What are the possible benefits?

We hope that you will find your participant in our project interesting, and will take satisfaction from helping to develop knowledge of this important topic. We also hope that you will find the results of the project helpful to improve the university experience of both students and lecturers.

What will happen to the results?

I will write up the results in PhD thesis for Nottingham Trent University, and later will try to publish a book and academic articles on my research.

I will try also to publish a short, executive summary of my study results and recommendations, and will circulate this widely amongst policy makers and universities managers.

How can I find out more about this project and its results?

We will send a copy of the executive summary to all participants who ask to receive this, so that you can read about the study findings. Please write down your email address on the consent form if you wish to receive this.

Contacts for further information

Please feel very welcome to contact me for further information, at the following address:

Abdulqader Abughrara

Postgraduate School, College of Business, Law and Social Sciences,

Nottingham Trent University,

Victoria house,

Nottingham

England

Email: [Abdulqader.Abdelsalam @ntu.ac.uk](mailto:Abdulqader.Abdelsalam@ntu.ac.uk)

Telephone: +447774987789.

Or if you have any concerns about the research and wish to contact my supervisors to discuss this, please contact::

Dr Andy Grayson

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Appendix 3: Open-ended Questionnaire

Codename.....

Dear Students

Greetings...

Here are two main questions. We would like to read these questions carefully before giving your answer. The first one focuses on the personal characteristics of university lecturers that you see as essential for your lecturer and the second focuses on the personal characteristics of university lecturers that you do not approve of your lecturer displaying. We would like you to list your university lecturer personal characteristics as you see, and you are free to provide your answer whether in words or phrases.

With the utmost thanks and gratitude

Student Abdulqader Abughrara

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Abd_u@hotmail.co.uk

Sex Male Female

Level of study /

What are the personal characteristics which you see as essential in your University lecturer?

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....
- 7.....
- .8.....
- 9.....
- 10.....

What are the personal characteristics you don't approve of your university lecturer displaying?

- 1.....
- 2.....
- 3.....
- 4.....
- 5.....
- 6.....
- 7.....
- 8.....
- 9.....
- 10.....

Appendix 4: The Goldberg's Personality Scale

English version

Prepared by Goldberg (1999)

Instructions: on the following pages, there are phrases describing people's, please use the rating scale below to describe how accurately each statement describes you, describe yourself as you generally are now, not as you wish to be in future, Describe yourself as you honestly see yourself. Please put a tick (✓) under the column that you deem appropriate, your responses will be kept in absolute confidence. The rating scale will be as following

Very inaccurate	Moderately Inaccurate	Nether Inaccurate nor Accurate	Moderately Accurate	Very Accurate
1	2	3	4	5

N	Items	1	2	3	4	5
2	Have frequent mood swings					
3	Am not easily bothered by things.					
4	Suspect hidden motives in other					
5	Enjoy hearing new ideas					
6	Believe in the importance of art					
7	Have a vivid imagination					
8	Am the life of the party					
9	Am skilled in handling social situations.					
10	Am always prepared.					
11	Make plans and stick to them.					
12	Dislike myself.					
13	Respect others					
14	Insult people					

15	Would describe my somewhat dull					
16	Seldom feel blue.					
17	Don't like to draw attention to myself					
18	Carry out my plans.					
19	Am not interested in abstract ideas.					
20	Have a sharp tongue					
21	Make friends easily.					
22	Tend to vote for liberal political candidates.					
23	Know how to captivate people					
24	Believe that others have good intentions					
25	Am very pleased with my self.					
26	Do just enough work to get by.					
27	Find it difficult to get down to work					
28	Carry the conversation to a higher level					
29	Panic easily.					
30	Avoid philosophical discussions					
31	Accept people as they are					
32	Do not enjoy going to art museums					
33	Pay attention to details					
34	Keep in the background.					
35	Feel comfortable with myself.					
36	Waste my time.					
37	Get back at others					
38	Get chores done right away					
39	Don't talk a lot					
40	Am often down in the dumps					

41	Shirk my duties.				
42	Do not like art.				
43	Often feel blue.				
44	Cut others to pieces				
45	Have a good word for everyone				
46	Don't see things through.				
47	Feel comfortable around people				
48	Make people feel at ease				
49	Rarely get irritated				
50	Have little to say				

Appendix 5: Learning Style Inventory

Prepared by Richard M. Felder & Linda K. Silverman

Instructions: On the following pages, there are phrases describing how people learn, please read carefully each statement and choose only one answer for each question. If both (a, b) seem to apply to you, please choose the one that applies more frequently

1. I understand something better after

- a)** Try it out **b)** Think it through

2. I would rather be considered

- a)** Realistic **b)** Innovative

3. When I think about what I did yesterday, I am most likely to get

- a)** a picture **b)** Words

4. I tend to

- a)** Understand details of a subject but may be fuzzy about its overall structure.

- b)** Understand the overall structure but may be fuzzy about details.

5. When I am learning something new, it helps me to

- a)** Talk about it **b)** Think about it

6. If I were a teacher, I would rather teach a course

- a)** That deals with facts and real life situations **b)** That deals with ideas and theories

7. I prefer to get new information in

- a)** Pictures, diagrams, graphs, or maps

- b)** Written directions or verbal information

8. Once I understand

- a)** All the parts, I understand the whole thing

- b)** The whole thing, I see how the parts fit

9. In a study group working on difficult material, I am more likely to

- a)** Jump in and contribute ideas **b)** Sit back and listen.

10. I find it easier

- a)** To learn facts **b)** To learn concepts

11. In a book with lots of pictures and charts, I am likely to

- a)** Look over the pictures and charts carefully **b)** Focus on the written text

12. When I solve math problems

- a)** I usually work my way to the solutions one step at a time

- b)** I often just see the solutions but then have to struggle to figure out the steps to get to them

13. In classes I have taken

- a)** I have usually gotten to know many of the student's

- b)** I have rarely gotten to know many of the student's

14. In reading nonfiction, I prefer

- a)** Something that teaches me new facts or tells me how to do something.

- b)** Something that gives me new ideas to think about.

15. I like teachers

- a)** Who put a lot of diagrams on the board. **b)** who spend a lot of time explaining.

16. When I'm analyzing a story or a novel

- a)** I think of the incidents and try to put them together to figure out the themes

- b)** I just know what the themes are when I finish reading and then I have to go back and find the incidents that demonstrate them

17. When I start a homework problem, I am more likely to

- a)** Start working on the solution immediately

- b)** Try to fully understand the problem first

18. I prefer the idea of

- a)** Certainty **b)** Theory

19. I remember best

- a)** What I see **b)** What I hear

20. It is more important to me that an instructor

- a)** Lay out the material in clear sequential steps
- b)** Give me an overall picture and relate the material to other subjects

21. I prefer to study

- a)** In a study group
- b)** Alone

22. I am more likely to be considered

- a)** Careful about the details of my work
- b)** Creative about how to do my work.

23. When I get directions to a new place, I prefer

- a)** a map
- b)** Written instructions

24. I learn

- a)** At a fairly regular pace. If I study hard, I'll "get it."
- b)** In fits and starts. I'll be totally confused and then suddenly it all "clicks."

25. I would rather first

- a)** Try things out
- b)** Think about how I'm going to do it

26. When I am reading for enjoyment, I like writers to

- a)** Clearly say what they mean
- b)** Say things in creative, interesting ways

27. When I see a diagram or sketch in class, I am most likely to remember

- a)** The picture
- b)** What the instructor said about it

28. When considering a body of information, I am more likely to

- a)** Focus on details and miss the big picture

- b)** Try to understand the big picture before getting into the details

29. I more easily remember

- a)** Something I have done
- b)** Something I have thought a lot about

30. When I have to perform a task, I prefer to

- a)** Master one way of doing it
- b)** Come up with new ways of doing it

31. When someone is showing me data, I prefer

- a)** Charts or graphs
- b)** Text summarizing the results

- 32.** When writing a paper, I am more likely to
- a) work on (think about or write) the beginning of the paper and progress forward
 - b) Work on (think about or write) different parts of the paper and then order them
- 33.** When I have to work on a group project, I first want to
- a) Have “group brainstorming” where everyone contributes ideas
 - b) Brainstorm individually and then come together as a group to compare ideas
- 34.** I consider it higher praise to call someone
- a) Sensible
 - b) Imaginative
- 35.** When I meet people at a party, I am more likely to remember
- a) What they looked like
 - b) What they said about themselves
- 36.** When I am learning a new subject, I prefer to
- a) Stay focused on that subject, learning as much about it as I can
 - b) Try to make connections between that subject and related subjects
- 37.** I am more likely to be considered
- a) Outgoing
 - b) Reserved
- 38.** I prefer courses that emphasize
- a) Concrete material (facts, data)
 - b) Abstract material (concepts, theories)
- 39.** For entertainment, I would rather
- a) Watch television
 - b) Read a book
- 40.** Some teachers start their lectures with an outline of what they will cover. Such outlines are
- a) Somewhat helpful to me
 - b) Very helpful to me
- 41.** The idea of doing homework in groups, with one grade for the entire group,
- a) Appeals to me
 - b) Does not appeal to me
- 42.** When I am doing long calculations,
- a) I tend to repeat all my steps and check my work carefully
 - b) I find checking my work tiresome and have to force myself to do it

43. I tend to picture places I have been

- a)** Easily and fairly accurately **b)** With difficulty and without much detail

44. When solving problems in a group, I would be more likely to

- a)** Think of the steps in the solution process
- b)** Think of possible consequences or applications of the solution in a wide range of areas

Appendix 6: Questionnaire of Personal Characteristics of University

Lecturers

Instructions: on the following pages, there are a **variety personal characteristics which could make a good university lecturer**. All you need to do is complete this questionnaire by put a tick () under an appropriate column that you deem **could contribute to make a good lecturer.**

N	Items	Strongly agree	Agree	Nether agree nor disagree	Disagree	Strongly disagree
1	Has positive attitude					
2	Respects the students					
3	Does not have the capacity to engage in dialogue and debate with others					
4	Self-confident					
5	Organised					
6	Good looking					
7	Fair					
8	Accepts criticism from students					
9	Lacks respect for the views of students					
10	Unconfident in students					
11	Ready to speak to students					
12	Stubborn					
13	Contributes to the students' activities					
14	Respects the customs and traditions of society					
15	Calm					
16	Too strict					
17	Flexible					
18	Lacks seriousness					
19	Respects the viewpoints of students					
20	Accepts criticism from others					
21	Modest					

N	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
22	Respects the circumstances of students					
23	Accepts legitimate excuses for missing class or coursework					
24	Does not accept different opinions					
25	Not a collaborator					
26	Compassionates towards students					
27	Focuses on some students and neglects others					
28	Does not acknowledge his/her mistakes					
29	Smart					
30	Non-observance of the students' conditions					
31	Boring					
32	Talkative					
33	Encourages students to express their views					
34	Closes to the students					
35	Emotionally balanced					
36	Neglects his/her appearance					
37	Keeps good timing for lectures					
38	Conceited					
39	Selfish					
40	Have beautiful handwriting					
41	Deals his/her students with transparency					
42	Optimistic					
43	Open-minded					
44	Responds respectfully to students comments					
45	Lies					
46	Arrives on time for class					
47	Lets students make a decision					
48	Uses impolite words					
49	Pays attention to students when they state their opinions					

N	Items	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
50	Impatient					
51	Frequently absent from lectures					
52	Shows hatred					
53	Does not respect the cultures of others					
54	A perfect example to students in behaviour					

55	Friendly all the time					
56	Cheats					
57	Positive with the students					
58	Allows students to discuss and debate within the classroom					
59	Strict if necessary					
60	Shy					
61	Wise					
62	Provides opportunities for students to talk to him or her					
63	Honest					
64	Beloved by his/her students					
65	Speaks eloquently					

66	Acknowledges his/her mistakes					
67	Violent					
68	Late for lectures					
69	Smile during class					
70	Have confidence in his/her students					
71	Knows student names					
72	Works on encouraging students					
73	Unjust					
74	Does not give students opportunities for discussion					
75	Respects the university's customs					
76	Greets students					

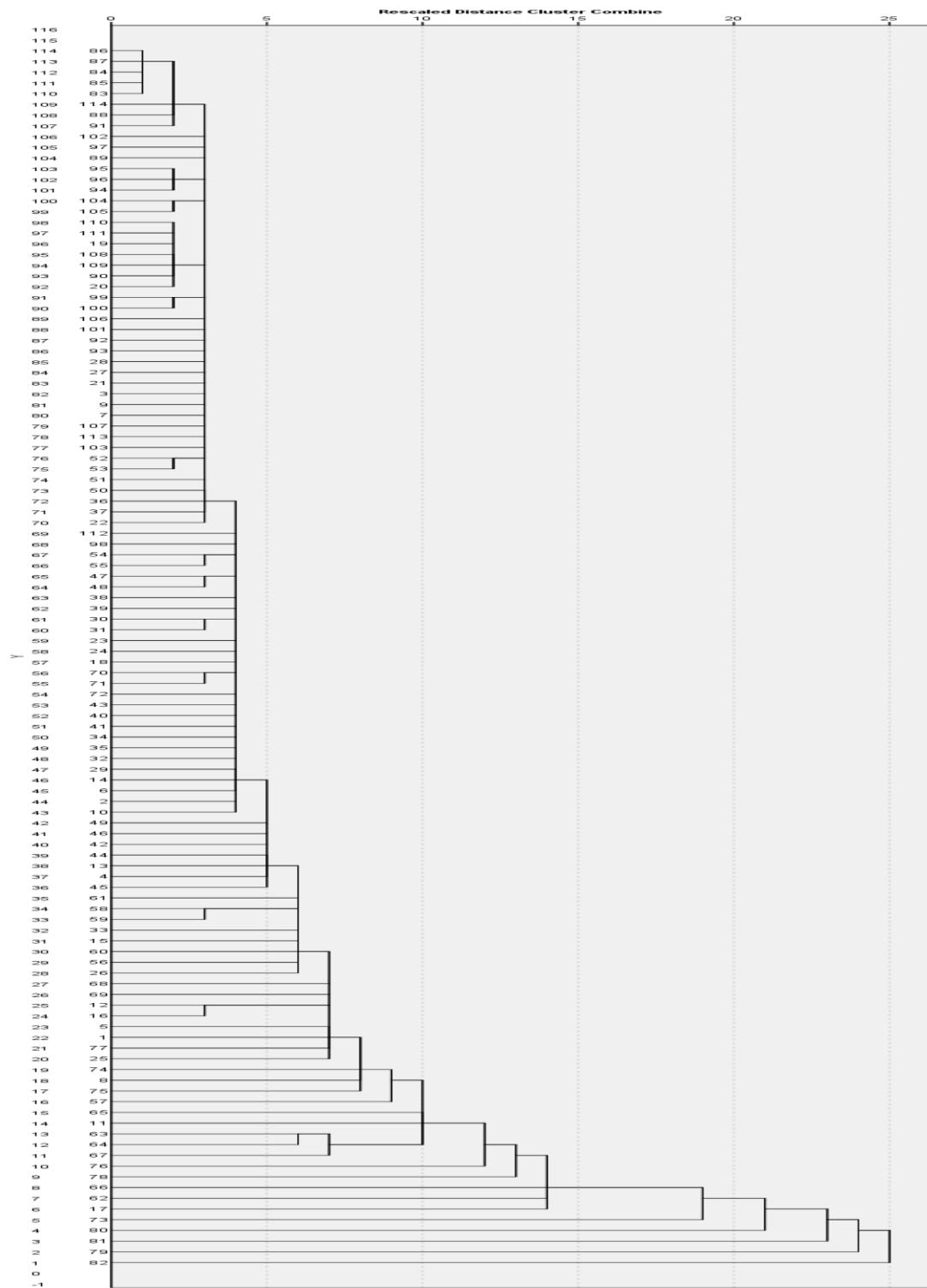
77	Enjoys taking care of students					
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78	Tolerant of students					
79	Deals equally with students					
80	Lacks seriousness					
81	Have a good relationship with the students					
82	Brags					
83	Sociable					
84	Humiliates or embarrass students in class					
85	Patient					
86	Shows good behaviour					
87	Shows a lack of attention to the students' problems					

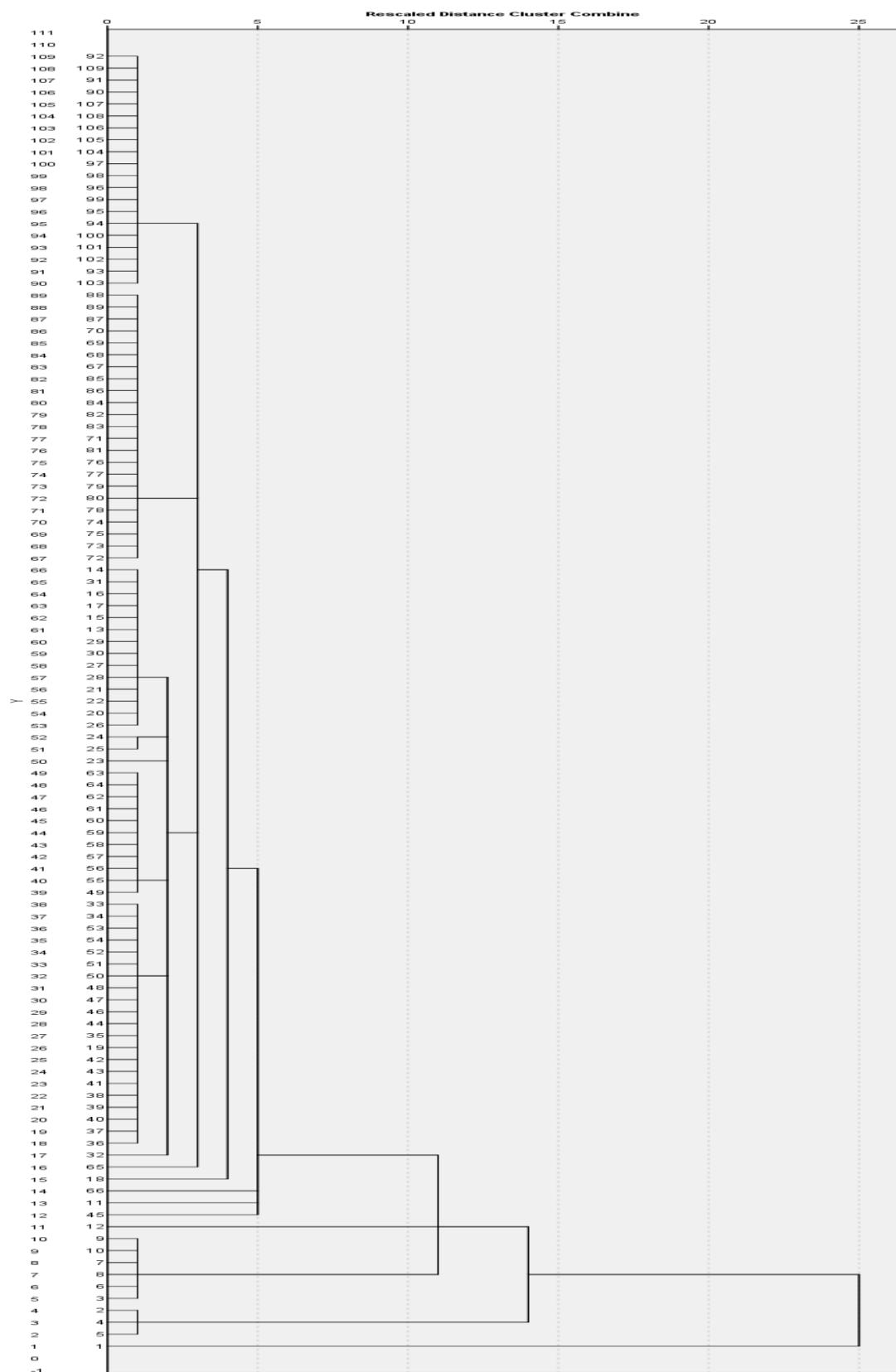
88	Illiterate					
89	Sincere in his/her work					
90	Doesn't get angry quickly					
91	Contemptuous of students					
92	Good at listening to students					
93	Uses impolite phrases and words to comment on the students					
94	Serious					
95	Does not allow students to participate in the sessions					
96	A friend to his/her students					
97	Funny					
98	Does not keep promises					

99	Dictatorial					
100	Gives students a lot of free time in class					
101	Contributes to solving the problems of students					
102	Non-talkative					
103	Nervous					
104	Literate					
105	Interacts with students during the class time					
106	Polite to students (e.g. Say thank you, and please)					
107	Aware of the problems of students					
108	Has a good smell					
109	Doesn't interrupt students while they are talking					

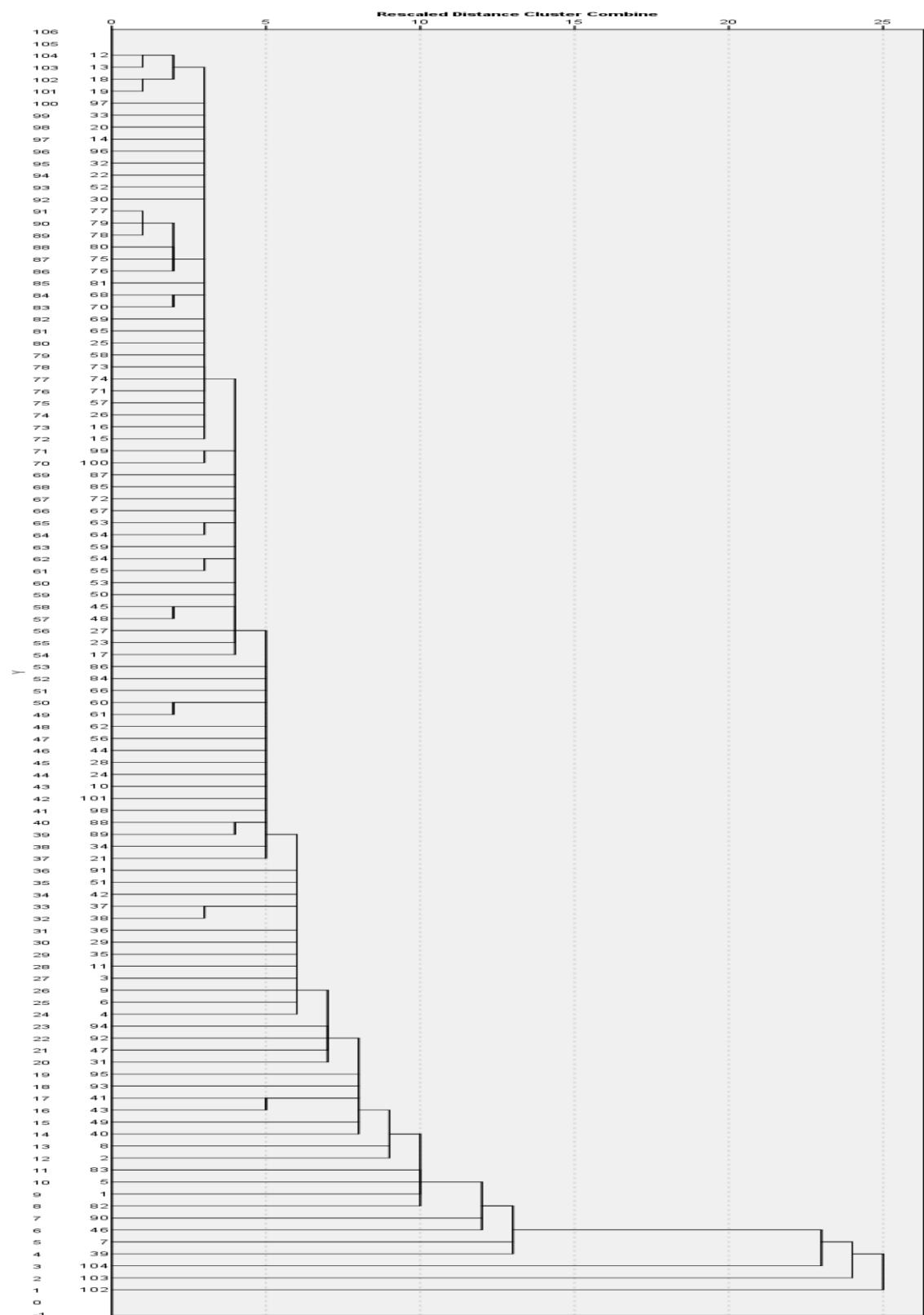
Appendix 7: Dendrogram for Group 1



Appendix 8: Dendrogram for Group 2



Appendix 9: Dendrogram for Group 3



Appendix 10: Dendrogram for Group 4

