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Editor:

Nirwan Idrus PhD_{Monash} IQA_{London}

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 - Appropriateness for the Journal
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**Transformational Leadership of Superiors and Creativity Level
among Faculty Members in Jordanian Universities**

EDITORIAL BOARD

Editor

Professor Dr Nirwan Idrus

Faculty of Engineering and Technology,
Multimedia University, Melaka, Malaysia. nirwan.idrus@gmail.com

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dr.rajendra.sharma@gmail.com

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EDITOR'S NOTE

I am pleased to welcome you to this first issue of JIRSEA for 2011 and if it is your first encounter with JIRSEA or SEAAIR, I am also pleased to welcome you to SEAAIR, the South East Asian Association for Institutional Research. In addition to publishing this journal, SEAAIR also organizes an Annual Conference hosted by a university in the region. The 2011 SEAAIR Annual Conference will be hosted by Chiang Mai University and held at Chiang Mai, Thailand. Please visit the SEAAIR website for more information (<http://www.seairweb.info>) .

The number of papers received for this issue is indeed very encouraging. While we have to spend a bit of time sieving through them, we are happy to say that everyone seemed well informed about our requirements, so that very few if any of the papers were returned or rejected due to not meeting our requirements or are out of the IR topics.

I am grateful to our panel of international paper reviewers who kindly and expertly evaluated papers on some perhaps esoteric topics. Of course we are also thankful to the authors not only for offering their papers to JIRSEA but importantly to raise items which in our opinion may still be debatable in the academic circles. We do hope that their publication would *incite* some debates nevertheless for the good and advancement of IR as a whole.

As in previous issues of JIRSEA, here again we have contributors from quite a number of countries, including Malaysia, Japan and Jordan. Interestingly some of these papers are joint papers whose authors are from a couple if not several countries. It pleases us to see that IR topics are being discussed and papers being written across nations.

Topics range from graduates employability to enhancing communication skills in the health sector showing perhaps that IR do cover a wide spectrum of topics.

Pleasant reading and we continue to extend our invitation to authors to submit papers to JIRSEA.

Thank you again to those who have contributed this time around.

Nirwan Idrus

Editor

Developing a Project Management Methodology for Use in Doctoral Research Projects

C.M.M. Chin

Research Assistant

rezca25@gmail.com .

A.C. Spowage

Associate Professor and Director of Studies

Andrew.Spowage@nottingham.edu.my.

E.H. Yap

Assistant Professor

EngHwa.Yap@nottingham.edu.my.

C.W. Lee

Assistant Professor

Chan-Wai.Lee@nottingham.edu.my.

Department of Mechanical, Manufacturing and Materials Engineering
University of Nottingham Malaysia Campus
Tel: +6(03) 89248600. Fax: +6(03) 89248017

Abstract

Doctoral student(s) generally do not accept that rigorous planning is necessary when it comes to conducting research projects. Findings from this paper indicate that doctoral student(s) are still ill-informed of the appropriate use of project management methodologies (PMM). PMM are valuable tools to assist the management of projects. If designed appropriately a PMM can assist doctoral student(s) to manage their research projects more effectively. The participants involved in this study strongly agreed that the adoption of a PMM would be beneficial when compared to the way they current manage their research projects. This paper aims to (1) the discuss doctoral research environment, the challenges and response strategies for successful management of research projects and (2) define and understand the importance of and requirements on a PMM designed to manage doctoral research projects. The findings of this paper will lay the foundations for the development of a PMM specifically for doctoral students.

Keywords: doctoral research, project management methodology, research environment

Introduction

Around the world, governments and leading corporations recognize that the development of a highly educated knowledge-based work force is essential for economies to maintain their competitive edge. At the highest level the pre-eminent vehicle for developing scientific, engineering and technological talent is the PhD program. Universities acknowledge the importance of doctoral student(s) to their overall research output, tagging them as their 'engine' for both academic and industrial research. Doctoral graduates are highly valued by governments, as an example of their perceived national importance, the Malaysian government has set a new target for producing 60,000 additional PhD graduates by the year 2020 under the MyBrain initiative (Star, 2008).

The role of a doctoral student tends to be complicated because despite being an 'amateur researcher' they are expected to make a significant contribution to the university, society at large and their own field while simultaneously being assessed as a student. It is these same challenges that impart the traits which make doctoral credentials so highly prized.

This paper examines the doctoral research environment with a specific focus on the research processes, challenges, critical success factors and how the adoption of an appropriate project management methodology (PMM) may assist doctoral student(s) to more effectively manage their doctoral research projects. An e-survey was distributed to both part and full time doctoral students from different disciplines at the University of Nottingham Malaysia Campus (UNMC). The university follows the UK's approach to doctoral education where the degree requirements are fulfilled almost entirely through independent research. It should therefore be noted that this research may not be applicable to other institutions although many of the findings will be generically representative.

Literature Review

A. The doctoral research environment

In a doctoral degree, the achievement and capability are demonstrated through the ability to carry out an academic research project that produces new knowledge. This process normally takes three years of full time or six years of part time study (Park, 2005). The level of self-discipline required in maintaining one's motivation throughout the years of study is substantial and should not be underestimated. Doctoral research is only one part of the overall professional research space which can be classified into five major areas according to Toncich (2006), as indicated below:

- *University departments*; involving research centres and institutes,
- *Benefactorial research*; where research institutions are independent from the university but receives funds from industrial donations and contributions,

- *Government research agencies*; for example research conducted in health, defence etc.
- *Hybrid research organizations and institutions*; where the university and industry work in collaboration,
- *Industry research facilities*; for example research in the pharmaceutical, aerospace or biotech industries.

As doctoral research projects may be carried out in any area, the projects can be at any chronological distance from the market place which greatly affects the way the project needs to be managed.

Challenges within the doctoral research environment

The literature shows the primary cause of tension in a doctoral research environment is associated with the supervisory system (Abiddin, 2005, 2007a; Grant, 2003; Latimer, 2005; A. Lee, 2008; A. M. Lee, 2007; N. Murphy, Bain, & Conrad, 2007; Vilkinas, 2002; Zhao, 2001). As shown by (Holzknecht, 2000), a student's relationship with his or her supervisor(s) profoundly affects the progression of their studies. Adequate supervision has been identified as a key factor in the successful and timely completion of a doctoral degree whilst inadequate supervision has similarly been correlated with attrition rates (Ives & Rowley, 2005). Effective research supervision is crucially a complex, subtle and responsible process (Zhao, 2001). Therefore, the supervisory aspects need to be understood in order to develop an effective PMM.

According to (N. Murphy, 2004), the first challenge faced by doctoral students is to obtain a balance between closely-guided and fully independent work and the amount of direction provided by the supervisor. Sharp and Howard identified several reasons why doctoral students experience difficulty in research. The most significant difficulties are the selection of a suitable topic, problem in selecting an appropriate analytical framework, inability to manage available resources and most commonly time management (Sharp & Howard, 1996). In general, when a student experiences difficulties in planning, students tend to deteriorate in performance which results in further delays in their progress. These dilemmas have been compiled and classified from the extensive literature in Table 1.

Table 1 – Categorical Challenges anticipated by Doctorates

Category	Challenges anticipated by doctoral students
Socio-cultural	<ul style="list-style-type: none"> • Language barriers (<i>Saiedi & Kamarudin, 2008</i>) • Change of undergraduate to doctorate culture (<i>Holzknecht, 2000; Saiedi & Kamarudin, 2008; Wisker, 2000</i>) • Difficult adjustment to meet 'real-world' demands (<i>Cabral-Cardoso, 2001</i>) • Over-qualified for industrial jobs (<i>Cabral-Cardoso, 2001</i>) • Too academic for industrial work (<i>Cabral-Cardoso, 2001</i>)

Category	Challenges anticipated by doctoral students
Personal	<ul style="list-style-type: none"> • Family difficulties (<i>Ahern & Manathunga, 2004</i>) • Resistance from family member (<i>Ahern & Manathunga, 2004</i>) • Financial difficulties (<i>Ahern & Manathunga, 2004; Wright & Cochrane, 2000</i>) • Lack of intellectual confidence (<i>Ahern & Manathunga, 2004</i>) • Poor interpersonal relations (<i>C. Manathunga, 2002; C. Manathunga, 2005</i>) • Isolation and avoidance (<i>C. Manathunga, 2002; C. Manathunga, 2005</i>) • Reading, writing and presenting data (<i>Ahern & Manathunga, 2004; Holzkecht, 2000; Russell, 1996</i>)
Institutional/ environmental	<ul style="list-style-type: none"> • Lack of institutional support (<i>C. Manathunga, 2002; C. Manathunga, 2005</i>) • Inadequate funding opportunities (<i>Latona, 2001; Wright & Cochrane, 2000</i>) • Unconducive research culture (<i>C. Manathunga, 2002; C. Manathunga, 2005; Mullins & Frost, 2004</i>)
Supervision	<ul style="list-style-type: none"> • Unclear role of supervisor (<i>Cullen D.J., Pearson M., Saha L.J., & Spear R., 1994; Fry, Tress, & Tress, 2004; Russell, 1996</i>) • Poor relationship with supervisor (<i>Aspland, Edwards, O'Leary, & Ryan, 1999; Cryer, 2006; Holzkecht, 2000</i>) • Undefined system for allocation of supervisor (<i>Buttery, Richter, & Filho, 2005; N. Murphy, 2004</i>) • Change of supervision (temporary/permanent) (<i>Ives & Rowley, 2005</i>) • Poor quality of supervision (<i>C. Manathunga, 2002; C. Manathunga, 2005; Wright & Cochrane, 2000</i>) • Inadequate/negligence in supervision (<i>N. Murphy, 2004</i>)
Project management	<ul style="list-style-type: none"> • Time management and procrastination (<i>Ahern & Manathunga, 2004; C. Manathunga, 2005; Russell, 1996</i>) • Poor planning and management of project (<i>C. Manathunga, 2005</i>) • No proper project management methodology as guidance for research (<i>Gist & Langley, 2007</i>) • Lack of communication channels (<i>C. Manathunga, 2005</i>) • Conflicting interest and research goals (<i>Abiddin, Ahmad, Ahmad, Idris, & Ismail, 2007; Cullen D.J. et al., 1994; Russell, 1996</i>)

From the project management perspective (see Table 1), there are four warning signs which are centred on four types of behaviour (C. Manathunga, 2005). These are: (1) constantly changing topics or planned works (poor planning and management of project), (2) avoiding communication with the supervisor (lack of communication channels), (3) isolating themselves from school and other students and (4) avoiding submission of work

for review (time management and procrastination). These symptoms are potential hindrances to student commitment and progression.

Success factors in doctoral research

With the challenges facing doctoral students being at the forefront of the academic mind, many investigations have been undertaken to identify and develop various response strategies to mitigate the problems identified in Table 1. This study has identified four main sets of factors that contribute to the success of doctoral research. One of the factors is the adoption of a suitable PMM, which will be the main focus of this work.

1. Identifying an ideal supervisor/student

The importance of the supervision process has led to various enhanced supervision models being proposed (Buttery et al., 2005; A. M. Lee, 2007; Vilkinas, 2002). One of the response strategies identified in the literature focuses on the importance of developing and establishing a good relationship between supervisor and student. There are many definitions and perspectives of a good relationship. A good supervisor should be able to provide guidance, advice and encouragement to the students in terms of professional work and personal problems. This is because the supervisor-student relationships are inevitably supportive towards each other to ensure the success of a research project. There are broadly two extremes on either side of the effective supervisory behaviour. The supervisor may act as the provider, mentor and resource in searching for information, amending and even to a certain extent, contributing a large percentage of the effort and commitment to the project. At the other end, the supervisor may be negligent in attending to problems, supervision and availability for regular meetings, jeopardizing the completion of doctoral thesis (Saiedi & Kamarudin, 2008). Hence, identifying the roles of supervisors in the supervision process is one of the key factors which ensures the student completes the research as scheduled (N. Murphy, 2004) (refer Table 2).

Table 2 – The roles of the Supervisor

Educative	Managerial	Relational
Facilitator	Director	Colleague
Teacher	Manager	Supporter
Academic guide	Inspector	Motivator
Freedom giver	Negotiator	Counsellors
Information provider	Time-manager	Friend
Assessor	Resource guide	Confidence- booster
Advisor	Checker (on progress)	Confidante
Critic	Career advisor	
Editor	Advocator	
Learner	Standards gate- keeper	
Researcher		
Enabler (foster student initiatives)		
Role model		

Secondly, a compiled recommended list for creating an effective or ideal supervisor (Abiddin, 2007b; Khoo, 2003; Saiedi & Kamarudin, 2008; University of Helsinki, 2007; University of Otago, n.d.), the qualities of an ideal doctoral candidate (Abiddin, 2007b; University of Helsinki, 2007; University of South Australia, 2003) are outlined in Table 3 and Table 4 respectively.

Table 3 – Ideal Supervisor

- Support (final examination, facilities and resources, approvals, growth into academic community, development as a researcher and expert)
- Ensure adequate and appropriate research resources
- Availability (for consultations)
- Interest and enthusiasm in research
- Knowledge and expertise in the field surrounding the PhD (ongoing research and contributions)
- Interest in the students' career
- Good communication (regular meeting)
- Constructive feedback (drafts, assessment)
- Provide regular evaluations and assessments
- Provide direction and structure
- Approachability
- Experience and interest in supervision and setting strategies
- Provide guidance, instructions and encouragement
- Contribute to proper examiners nomination
- See candidates as partners
- Supervise students according to their ability in mutual effort
- Commit to the student's research project
- Seek solutions to problems in supervision
- Create sufficiently close interaction with the student
- Supervising in line with the principles of research ethics

Table 4: Ideal Doctoral Candidates

- The students are responsible to complete their study as scheduled, work professionally and read a lot
- The students should produce written work to make progress
- The students should have regular meetings with their supervisor at an agreed frequency in order to make progress
- To commit himself/herself to his/her research project
- Furthers the systematic and planned progress of his/her research project

2. *Frequency of meeting*

The key to success is frequent meetings with the supervisor (Abiddin, 2005; Aspland et al., 1999). At some point, it depends on the arrangement and agreement between the supervisor and the student regarding the frequency of meetings. However, regular feedback by the student on the progress should be recommended although at certain points when there are no updates on the current progress, the student should still make the effort to meet their supervisor. This action plan creates a constructive interpersonal working relationship from the initial stage (Ives & Rowley, 2005). To help in building a co-learning relationship, successful supervisors tend to focus on three aspects of the candidature (Kandlbinder & Peseta, 2001):

- Establishing clear goals—usually framed in terms of finding a researchable question;
- Developing partnerships—by encouraging students to be reflective about the skills and abilities needed to complete the project;
- Managing the supervisory process—through regular meetings and seminar presentations.

3. *Creating an effective supervisory system*

In creating an effective supervisory system, traditional single supervision is recommended to be substituted by multiple supervisory arrangement (involving two or more active supervisors) (N. Murphy, 2004). The benefits from such arrangements include the ability to offer a range of academic and personal expertise. As identified, universities are moving away from the traditional supervisory mode to other models of supervisory practices known as group supervision, for example models of workshop, coursework, methodology, conferences, directed team and collaborative cohort (Buttery et al., 2005).

The quality of student-supervisor relationships has important implications towards the student's satisfaction level, completion time and attrition rates. Identifying the challenges and success elements in the doctoral research process can be difficult as student-supervisor partnerships are often unsure of the expectations from each other. The University of South Australia identified three principles and guidelines which provide ideas and strategies to help both supervisors and students in negotiating mutually acceptable expectations; Principle 1: each relationship is unique, where due to different individual personalities student should be supervised according to their ability and maturity level. Principle 2: expectations should be reasonable and Principle 3: that expectations are likely to change as the research progresses (University of South Australia, 2003). Hence, an ideal supervisor will need to regularly communicate with the students to provide guidance and direction thus an effective monitoring process is a prerequisite.

4. *Application of PMM*

Every doctoral student needs to be guided and mentored when it comes to starting their research. Managing this relationship helps students to overcome many of the common challenges. Consequently, these factors need to be an integral component of any PMM designed to manage such projects. However, many doctoral students do not believe such planning is necessary when conducting doctoral research projects in particular because they feel that they are the only human resource working on the projects and thus they have full control over their time (Toncich, 2006). This is certainly not correct in the majority of cases. Even if it were correct, the vast number of individual activities which need to be managed to successfully deliver a PhD in the most effective manner casts doubt on the effectiveness of such an approach.

Doctoral students believe that doctoral research is more of an interest-driven effort and their project will be delivered through a major self-disciplined, independent effort with the guidance of their supervisor(s). However, due to the fact that many doctoral students do not plan their research, many fail in the process of self-scrutinizing their dissertation at the second or final year. At times doctoral students may weigh their efforts towards one element of their thesis e.g. the literature review and so neglecting other aspects, this is particularly true if they do not follow a proper schedule. Planning appears to be one of the biggest problems arising in doctoral research projects (Toncich, 2006). Most formal planning is conducted to satisfy institutional or supervisory requirements rather than for operational management purpose. This was also equally evident in the undergraduate research environment (Chin & Spowage, 2008a).

B. Defining and understanding project management methodologies (PMM)

PMM can be defined as ‘an application of knowledge, skills, tools and techniques to meet or exceed the project requirements’ (PMI, 2000). In other words, by using the correct methodology, risks and costs can be identified and minimized whilst meeting project schedules. No PMM can be universally applied to manage all projects across the various sectors (Charvat, 2003; Cockburn, 2000). A range of methodologies exist although many are not fully developed and none fully meet the specific needs of doctoral research projects.

In addition, a number of studies have revealed that PMM are often underused, wrongly used, are unusable or simply over-sold (Charvat, 2003; Kautz & Pries-Heje, 1999). It follows that these issues would be amplified if a methodology designed for a different environment was directly applied to doctoral research projects (Chin & Spowage, 2010). It is also widely agreed that the use of a suitable PMM increases the likelihood of project success (Charvat, 2003; Milosevic & Patanakul, 2005; Pitagorsky, 2003). However, this condition only applies if the project manager, in this case the doctoral student, understands the nature of the project and is able to ‘reshape and scale’ the methodology.

There is no universal agreement as to what constitutes a complete PMM. It is definitely not merely a series of templates, forms and checklists (Turbit, 2005) although it will

typically contain these. PMM also identify specific approaches to managing each aspect of the project in the form of general and sector-specific procedures, rules and regulations which set the standard to ensure quality and control (Josler & Burger, 2005; Pitagorsky, 2003). Furthermore, it provides a mean of identifying the risks and opportunities associated with the product. In the broader sense, a PMM includes a wide range of knowledge areas, a set of tools and techniques for supporting and managing projects (Milosevic & Patanakul, 2005; Pitagorsky, 2003).

Effective methodologies are those that can be tailored to the specific environment and can be adapted to the dynamic nature of projects and stakeholder demands. Thus, an effective methodology must be flexible, yet it should provide a guideline which leverages on both best practice and past experience to ensure that the project goals are achieved. In addition, the methodology must be scalable to cope with various project sizes. In fact, it should help the project team to clearly understand the scope of their work, what to accomplish and how to accomplish it using the tools and techniques available within the methodology (Charvat, 2003). It is impractical to develop a new methodology for each new project within an organization. However, in the adoption and use of a methodology; it should be easily customizable to any project within a given environment (Charvat, 2003; Chemma & Shahid, 2005; Cockburn, 2000). Thus, the key is to develop a methodology specifically for the specific organization and type of project but which is also dynamic, flexible and adaptive facilitating easy tailoring to a given project.

Based on the literature discussed above and the research work of the project and engineering management group at UNMC, a PMM has been defined as a comprehensive set of best practices, tools and techniques that are dynamic, flexible, adaptive and customizable to different projects within a specific environment. The methodology should therefore, consist of a set of processes, templates, techniques and tools to assist in planning and managing the project throughout its entire life cycle. The components of the methodology will cover (1) project management processes such as initiating, planning, executing and monitoring project progress with (2) a selection of tools and techniques to communicate the delivery to the satisfaction of all stakeholders, (3) consolidated and integrated set of appropriate best practices and values of project management and (4) a list of terminology as a common dominator and language in the project environment (Chin & Spowage, 2010).

Methodology

Leveraging on the literature discussed above, an e-survey was designed utilizing a web based application and distributed via email to a total of 115 part and full time Year 1 to Year 3 doctoral students registered in doctoral courses at UNMC in the academic year 2009-2010. The surveyed doctoral students were from different disciplines; Bioscience, Business Management, Computer Science, Education, Pharmacy, Chemical Engineering, Electrical Engineering and Mechanical Engineering.

The primary limitation applied to this research is the need to balance the validity, reliability and rigor against the time and resources available. The sample size for this research may be considered small, however collecting data from fewer cases enabled more detailed information to be examined in-line with best practice (Saunders, Lewis, & Thornhill, 2000). The sample groups were selected for data collection to elicit the requirements and project management components for the development of the PMM. Clearly as all data was collected from UNMC, any conclusions developed will only be directly applicable to that research environment. However, the sample can be considered generically representative of doctoral students and the applicability of the findings to other research environments can be tested by other researcher using equivalent methods.

The return participation rate was 43% a total of 49 respondents. The survey aimed to investigate the application of PMM at the doctoral research level. It consisted of four sections; (1) project management awareness, (2) doctoral research process, (3) project management processes and (4) challenges anticipated. A Likert scale was used to measure the responses of participants. Weekly reminders were sent out to respondents resulting in successful collection of data within one month.

Results

1. Project Management Awareness

Significantly, the results obtained clearly indicated that doctoral student(s) understand some of the basic project management concepts. Additionally, many of them agreed that they lacked project management skills and knowledge (85.7%). The results indicated that 51% do not follow any specific methodology rather they utilize self-defined approaches (66.6%). Results also indicated that the majority of the doctoral student(s) have difficulty in planning and managing their time when it comes to starting their research. Managing this relationship and helping students to overcome the many common challenges are important. Consequently, these factors need to be an integral component of any PMM designed to help doctoral student(s) manage research projects.

The results from the survey as well as findings from the literature indicated that many doctoral student(s) do not believe that such planning is necessary when conducting doctoral research (Sharp & Howard, 1996; Tonicich, 2006). Tonicich made similar observations and concluded that this was because the students feel that they are the only person working on the project and thus they have full control over the duration of the project (Tonicich, 2006). Although this was apparent from our findings, it is certainly not accurate in the majority of cases. Even if it were true, the vast number of individual activities which need to be managed to successfully deliver a doctoral project in the most effective manner casts doubt on the effectiveness of such an approach.

2. Doctoral Research Process

To develop an effective PMM with acceptance for implementation, it is fundamental that the methodology does not conflict with the normal flow of work in the specific

environment. Therefore, it is important to understand the work flow (refer Figure 1) that doctoral students undergo during the lifecycle of a typical research project and to map the key project management processes to the flow of work (Chin & Spowage, 2008a).

The doctoral research process starts with the first meeting with supervisor to discuss and agree on the general scope of the research. Doctoral student(s) then proceed to develop either a formal or informal proposal in conjunction with the agreed research scope. The process contains a list of activities that are generally performed by doctoral student(s) over the three-year duration of a typical project. Year 1 activities would include pre-planning of the research, pre-literature review and their initial experimentation. The student's work must be evaluated to determine if they have made sufficient progress to be able to proceed to the next stage. There are various forms of evaluation e.g. written report, presentation, viva etc. Reports are submitted, reviewed and moderated internally by the university in the first and second years. These reviews are analogous to stage gate reviews in the terminology of more commercial projects and are important monitoring and controlling points for the student, supervisor and institution. Upon confirmation of transfer to Year 2 (PhD status), the process of planning, literature review and experimentation follows to substantiate the findings from the first year. A report is written at the end of Year 2 to be submitted for progressive review and the student is then transferred to Year 3. Once approved, the student proceeds to the final year and the level of details in the project plans should be enhanced and strengthened including activities such as final literature review and experimentation, all of which should be directed towards the completion of the thesis. The thesis is then submitted for review and moderated by both internal and external examiners. Finally as a common practice, a presentation is scheduled to assess the candidate's depth of understanding in the research area, knowledge, originality of work and their contribution to the field before being conferred a doctoral degree.

3. Project Management Processes

Actors in the academic, governmental and commercial sectors have developed a tremendous range of best practices for improving the way projects are managed. Although the research environment is certainly distinct from the more conventional projects, many of the best practices can be adopted for use in the research environment. In general, project management practitioners agree that projects should be planned to such a degree that indicates when, why, who, which and how the activities will take place within the research timeline. When such information is clearly available, the probability of successful delivery generally increases.

Project management best practices advise that more time should be spent on project planning to minimize the extent of misdirected work and work which must be redone. Although it is common for doctoral student(s) to only go through formal planning exercises to satisfy institutional or supervisory requirements rather than to achieve any operational management purpose (Toncich, 2006). In the data obtained, only 36% agreed that planning appears to be one of the biggest problems arising in doctoral research

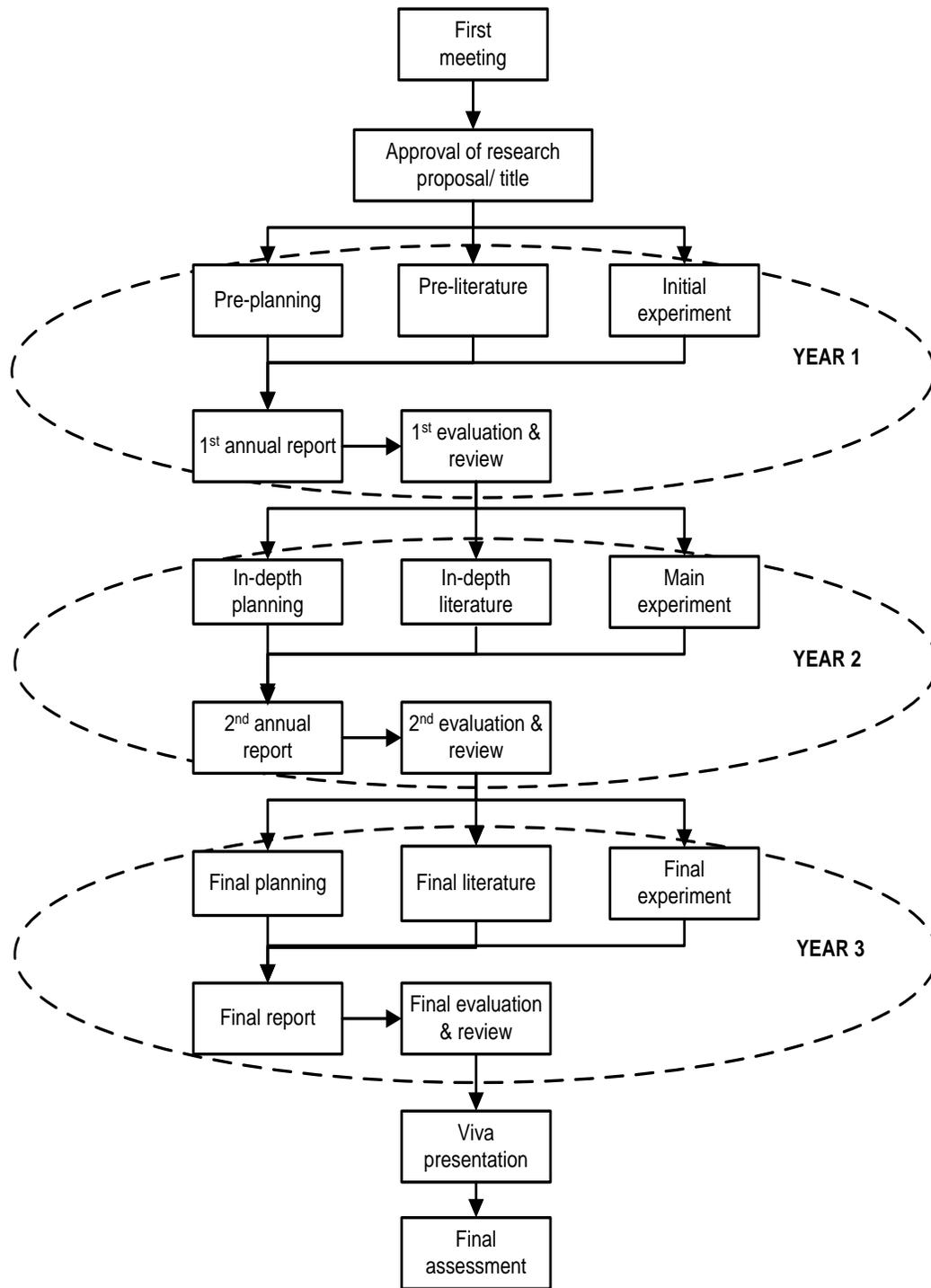


Figure 1 - Generic doctoral research workflow

projects. The results in this study were no exception as were the undergraduate students surveyed in a previous study (Chin & Spowage, 2008a).

4. Challenges Anticipated

Adequate supervision has been identified as a key factor in the successful and timely completion of a doctoral project whilst inadequate supervision has similarly been correlated with attrition rates (Ives & Rowley, 2005). According to Murphy, the balance between close guidance and independent work is the first challenge faced by doctoral students and the balance between technical training and attaining scholarships represents the second challenge (N. Murphy, 2004). However, the supervisory dilemmas mentioned above (refer Table 1) are in contrast with the results obtained. Overall doctoral students in UNMC do not portray it as a major challenge because the majority of them have good relationships with their supervisors; this is also reflected in the wider literature (Grant, 2003; Katz, 1997; Zhao, 2001). The challenges most often faced by UNMC students during their doctoral studies is associated with time management (39%), poor planning and the management of projects (36.7%), transitional change from undergraduate to doctoral culture (35%), lack of intellectual confidence (26.5 %) and family difficulties (22.4%). Finally, indications by students suggested that scope management is a major issue for doctoral student(s) due to the uncertain nature of research projects. This point further substantiates the importance of scope management as a key requirement in the development of a PMM.

Discussion and Conclusion

Utilizing PMM is widely cited to enhance the probability of completing projects on time, within budget and to deliver the product to the satisfaction of all involved (Charvat, 2003; Josler & Burger, 2005; Milosevic & Patanakul, 2005; Munns & Bjeremi, 1996; Pitagorsky, 2003). It should however be noted that these conclusions are typically based upon larger and more complex (from a managerial perspective) projects in a commercial environment. This is simply because PMM are concerned with the planning and coordination of projects from its conceptualization to closing with one objective in mind, to meet the requirements of the stakeholders. Numerous other benefits have been associated with the application of a PMM (Charvat, 2003; Pitagorsky, 2003; Project Management Fact Sheet, 2004; University of Tasmania, n.d.) including:

- Clarify project goals and objectives,
- Work processes are more efficient and effective,
- Greater flexibility and adaption of lessons learned from project to project,
- Increased accuracy in planning, identifying and managing risk/challenges/complexity,
- Assures a greater degree of standardization,
- Clear roles and responsibilities are identified, thus communication is enhanced,
- Optimizes deliverables and outputs,
- Integration of tools, techniques and knowledge to improve present and future projects.

Planning serves as a basis for executing, monitoring and controlling the progress of the project and the consumption of resources for doctoral students. This is because all research projects are unique; their size, scope, funding types and even the activities carried out could be similar or extremely different. For example, in planning research, students need to start with a preliminary plan which consists of how much time is available to conduct the research, what is the research contribution, outcome and structure of the research e.g. thesis chapters. Planning should also consider the experiment procedures, publications, reviews and thesis preparation. In other words, there are various needs and project management issues which need to be incorporated into a doctoral research environment (Toncich, 2006).

Secondly, the use and application of tools and techniques, templates and checklist and knowledge areas in PMM are recommended for implementation to sustain better control, to minimise the risks and maximise the opportunities. Table 5 displayed a list of project management tools used to manage the research projects of the students surveyed in this work. The findings indicated that in the initiation of projects, a total of 21.7% used a proposal to start the research projects. While in the planning process, many students concentrated on identifying research deliverables, potential risks and milestones in the project. Since research project requires constant monitoring, as many as 27% of doctoral students believes that it is important to execute project as plan using Gantt chart as a tool to keep them on track (19%). Indirectly it indicates that these are potential challenges doctoral student(s) foresee in the aspect of project management, an indicative of its need to be incorporated in the PMM.

Table 5 - Project Management Tools in Project Cycle

<p>Project initiation Start research project with a proposal (21.7%) Organize first meeting with supervisor (21%)</p>
<p>Project planning To list all research activities involved (21%) To create a Gantt chart (15.7%) To identify research deliverables at each phase (28.7%) To identify research milestones (26%) To list potential risks (28%) To define communication channel (24%)</p>
<p>Project execution & monitoring To execute project as plan (27%) Use Gantt Chart to keep track (19%) Arrange weekly meeting (17.4%) Submit monthly progress report (14.8%) Use of project log book (21.7%)</p>
<p>NOTES: numbers in bold indicate percentage of participants' agreement on the use of the identified project management tools in their research project.</p>

A critical review of the doctoral research environment identified that the PMM would need to be highly generic and the proposed methodology should incorporate the best practices and success elements which will assist doctoral student(s) to minimize the challenges identified in this work. Therefore, prior to the development of the PMM for use in a doctoral research environment, it is essential that we clearly define what requirements are to be placed in the methodology. The following list of requirements has been compiled from the available literature (Chin & Spowage, 2008a, 2008b) and data gathered in the present work. These requirements are summarized as below:

- The PMM would need to be highly generic,
- The PMM need to incorporate success elements which will assist doctoral students to minimize the challenges identified in this work,
- The PMM should be mapped to the work flow of doctoral research projects,
- The PMM will include guidance notes to assist doctoral students to understand what is expected and required to manage research projects,
- The PMM should consist of two major class of processes; research processes and project management processes,
- The PMM will integrate the project management best practices most suitable for the doctoral research environment.

Based on the requirements listed above, an initial conceptualised framework is designed to map the project management processes with doctoral research process. The project management processes are leveraged from project management best practices and the PMM developed for use at undergraduate level (Chin & Spowage, 2008a). The groups of project management processes selected to assist the management of doctoral research projects are based on Project Management Body of Knowledge (PMBOK) which are initiation, planning, execution and monitoring and closing (PMI, 2008). These processes are iterative and repeated on a yearly basis for the duration of the doctoral project. The proposed PMM designed for doctoral student(s) in managing their research project is conceptualised in Figure 2, Figure 3 and Figure 4. The following are the identified PMM components:

- Project management processes: four major processes; Initiation, Planning, Execution, Monitoring & Control and Completion all of which are iterative in the project cycle.
- Project management processes is mapped and integrated with the research process workflow.
- A set of activities which intersect with the timeframe of a doctoral research period. Each year consist of a list of activities which are decomposed as illustrated in Figure 2 (Year 1), Figure 3 (Year 2) and Figure 4 (Year 3).
- To include a set of tools, techniques and available templates to be used in executing each identified activities. To ease the navigation, it is also complete will hints and tips to aid doctoral student(s).

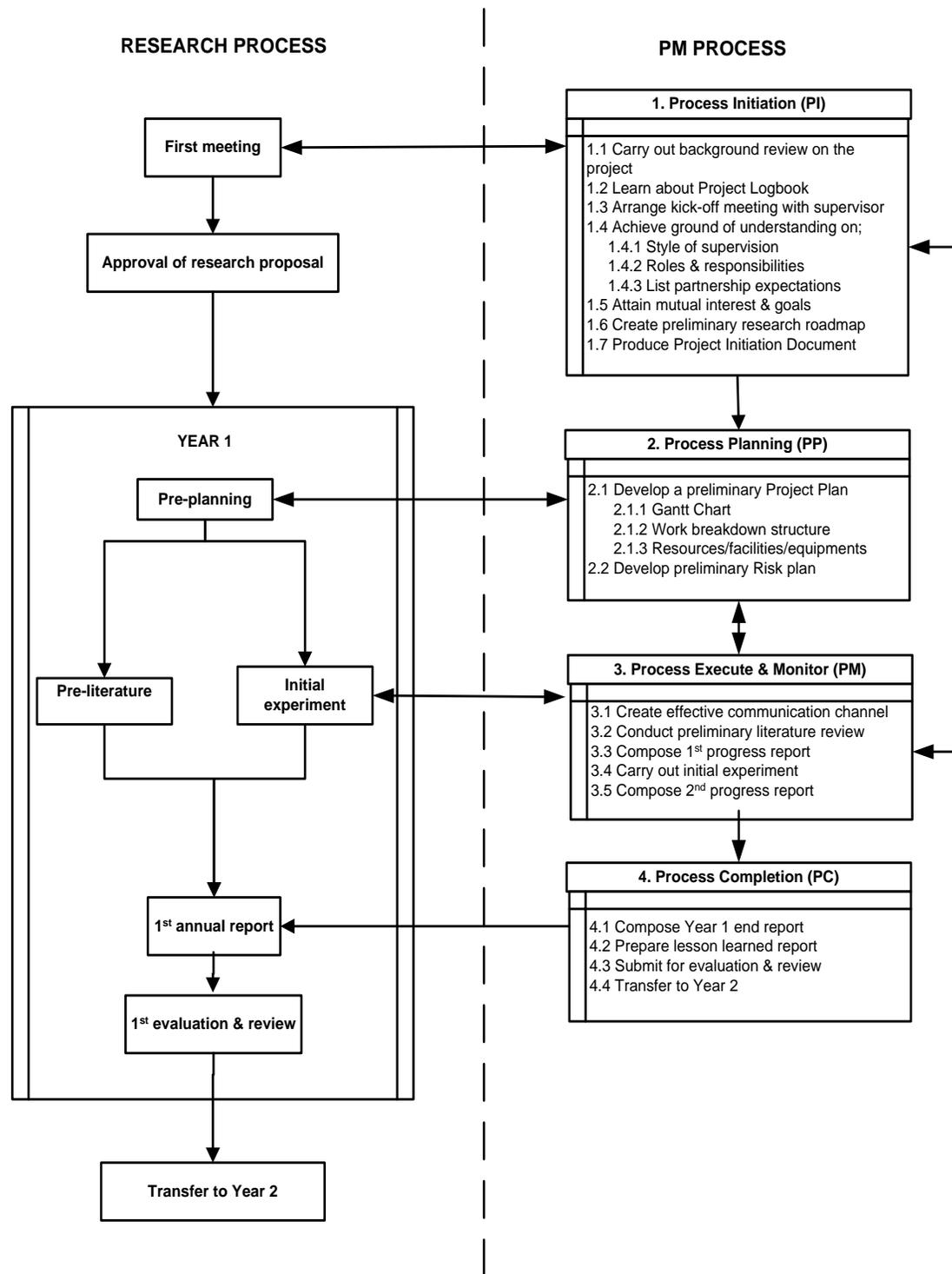


Figure 2: Research process and project management process flow in Year 1

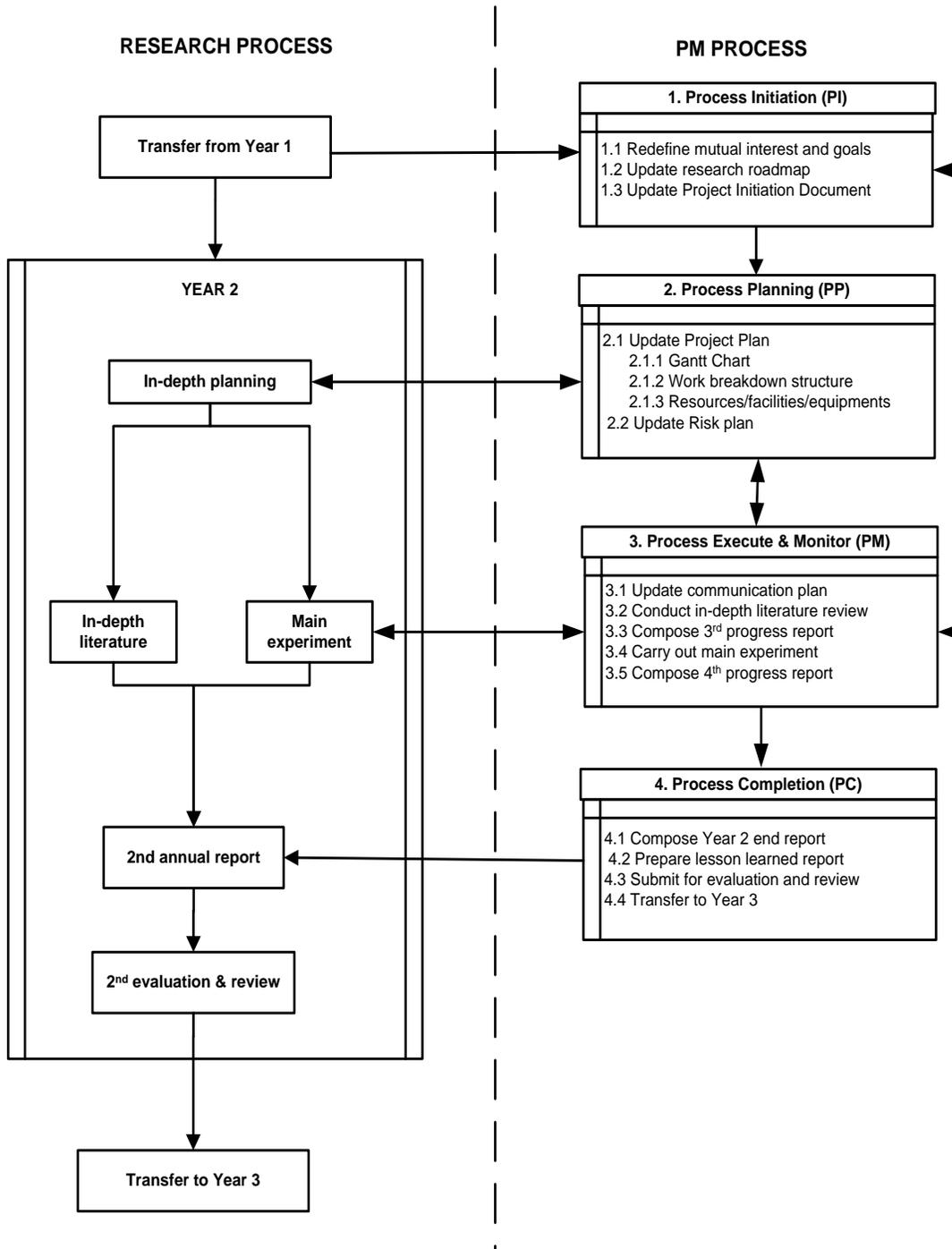


Figure 3: Research process and project management process flow in Year 2

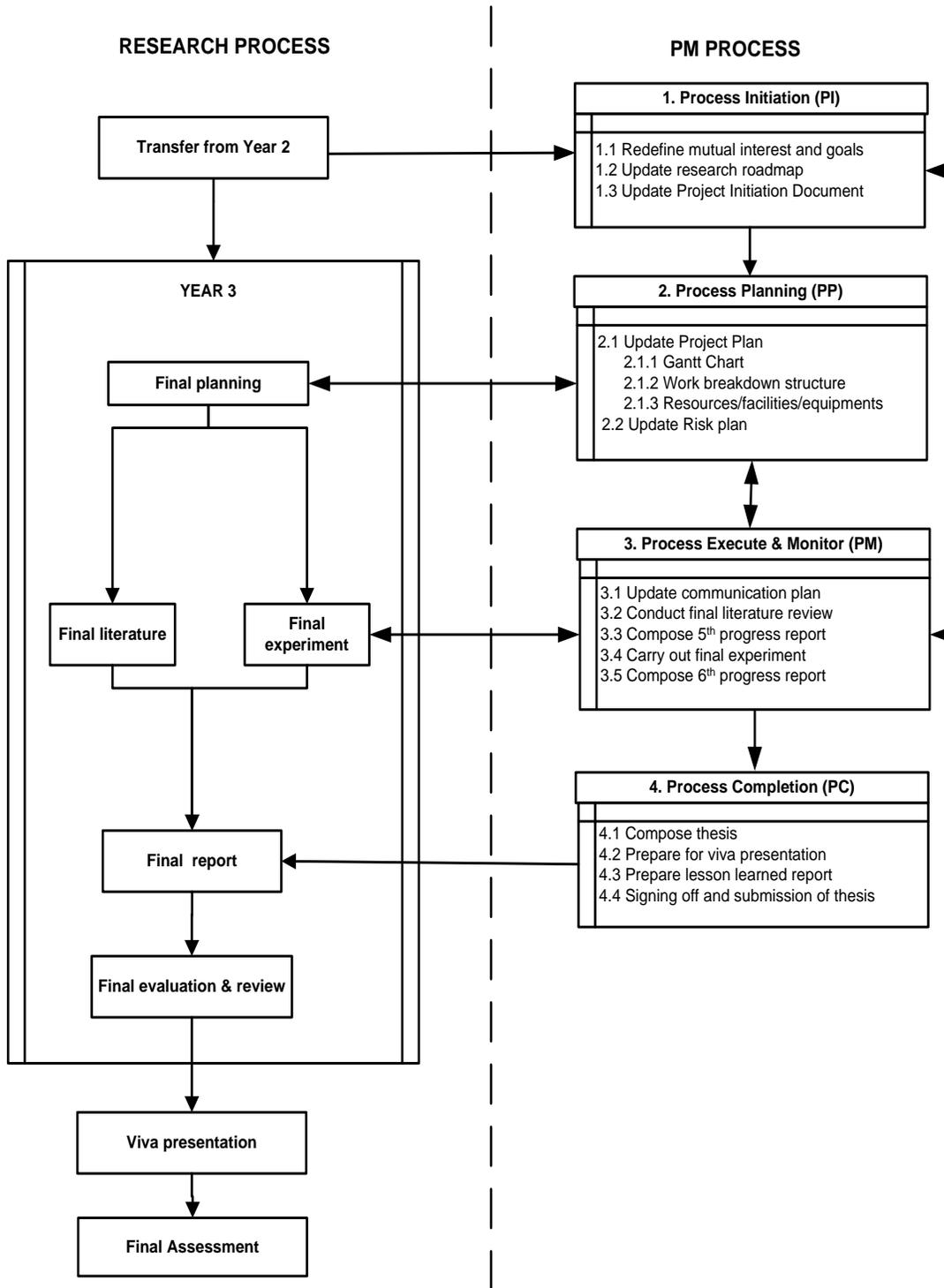


Figure 4: Research process and project management process flow in Year 3

Doctoral research environments are more implicit, involving a higher degree of expectations and requirements compared to the undergraduate environment examined in our previous study (Chin & Spowage, 2008a). Our objective in this study is to create awareness in the adoption of PMM as a means to more effectively manage research projects. Findings indicated that many doctoral student(s) are still relatively unaware of the use and merits of PMM as a potential tool to manage their own research projects more effectively. This is because doctoral research tends to be highly independent, individual and rarely involves teamwork. As a result there is a tendency to neglect the importance of project management. Significantly in this research, there were positive reactions i.e. a belief that the adoption of a PMM would be beneficial to the way they are currently managing their research projects. With this need in mind and the requirements identified, there is an aim to design a complete PMM guidebook and implement it for evaluation with doctoral students to test its feasibility and effectiveness. This will be the subject of future research.

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The impact of culture on student attributions for performance: A comparative study of three groups of EFL/ESL learners

Peter Gobel

Kyoto Sangyo University

pgobel@cc.kyoto-su.ac.jp

Setsuko Mori

Kinki University

Siew Ming Thang

Universiti Kebangsaan Malaysia

Ngat Har Kan

Universiti Malaya

Kean Wah Lee

Universiti Malaysia Sabah

Abstract

This paper describes a cross-cultural comparative study concerned with learners' attributions for success and failure in learning English as a foreign/second language. The study investigated perceived reasons for doing well or poorly on actual language learning tasks under a variety of teaching conditions, looking at how learners judge their successes and failures, and their range of attributions. Using a set of questionnaires, 355 Thai first-year university students, 350 Japanese first-year university students and 298 Malaysian first-year university students were asked to what they attributed their success or failure in chosen tasks. The results of the questionnaire uncovered striking similarities across the three groups, indicating a lack of the self-enhancement/self-protective bias proposed in previous (Western) studies, and suggesting a possible attributional cultural bias that extends to a number of Asian cultures. If this bias does indeed exist, the study suggests that it should be taken into consideration when considering language teaching methodology and the learning environment.

Keywords: motivation, attribution theory, culture, EFL, ESL

Introduction

In mainstream psychology, many researchers have tried to understand achievement behavior by analyzing perceived causes of success or failure (Burke, 1978; Elig & Frieze, 1979; Weiner, 1979). Research in this area has sought to identify the types of causal attributions people make to explain successes and failures in a variety of settings, and how these attributions affect expectations for future success or failure. Recent motivation models depict learners as actively attaching meanings to their learning situations, with learners' beliefs about their ability to control the outcome of a given task assumed to play an important role in their actions, motivation, and achievement (Dörnyei, 2001; Schunk, 1991).

Weiner's (1986, 2000) attribution theory represents a point of view that has contributed substantially to an understanding of peoples' beliefs and explanations of their performance. In Weiner's model, attributions refer to the explanations individuals give for their success or failure on a given task, and these explanations are described along the dimensions of locus, stability, and control. The locus of causality is concerned with whether a cause is perceived as being internal or external to the individual. For instance, ability and effort could be classified as internal, whereas task difficulty and luck would be classified as external. The stability dimension refers to whether a cause is fixed and stable, or variable and unstable over time. In this case, ability would be seen as stable, with effort being unstable, or variable over time. Finally, controllability indicates how much control a person has over a cause. The effect of luck or weather would both be uncontrollable by an athlete, for example. In addition, an outcome might also be attributed to a number of other factors including other people (such as teachers, coaches, or other students), mood, fatigue or illness, personality, and physical appearance. In attribution theory, these three dimensions form the basis of the taxonomy used to classify the specific causes of any success or failure and will be the dimensions used in this study.

Weiner (1986, 2000) states that attributions come from people's self-perceptions and can influence their expectancy, values, emotions, and beliefs about their competence, and in turn influence their motivation. Differences in attributions have been reported for individuals differing by culture (Kitayama & Uchida, 2003), and by success or failure in performance (Carr & Borkowski, 1989; Kristner, Osborne, & LeVerrier, 1988).

The present study attempts to examine the relationship in a foreign/second (FL/SL) language setting between performance attributions and culture. In contrast to previous studies, which used scenarios or hypothetical events to ask about individuals' reasons for the task outcomes, our measures asked about students' attributions for classroom tasks that were pertinent to them. Also, many previous attribution studies asked students to make attributions for hypothetical success and failure for the same task (e.g., Schunk & Gunn, 1986; Shores & Shannon, 2007). Instead, we used both an attributional dimension measure and a questionnaire asking students details about just one activity and one outcome (success or failure). The authors believe this would enable us to gain a clearer perspective on students' attributional beliefs.

Students' Attribution performance in different Cultural and Educational Contexts

According to Kruger (1999), self-enhancement bias is the tendency for individuals to describe themselves and their achievements in a more positive light than normative criteria would predict. Thus, when an individual does well on a task, s/he will attribute this success to personal (internal) reasons more frequently than external reasons. Related to this is the self-protective tendency, which denotes an individual's propensity for blaming outside agents (external attributions) when s/he fails. Many mainstream psychological studies have suggested that most people have self-enhancement tendency and that self-enhancement is a controllable bias, rather than a cognitive affect (Kruger, 1998; Sedikides, Gaertner, & Toguchi, 2003).

Some researchers have suggested that this phenomenon is pan-cultural in nature, i.e. it is not affected by cultural/social influence (e.g. Sedikides, Gaertner, & Toguchi, 2003; Sedikides, Gaertner, & Vevea, 2005). In a meta-analysis of self-enhancement and attribution research, Sedikides et. al (2003) claim that self-enhancement motivation is universal, and thus attributions enhancing image of self can be seen in both individualistic and collective cultures, although the attributions themselves may differ depending on the culture. On the other hand, a number of studies have suggested that self-enhancement is indeed affected by culture, cultural/social dynamics, and the cultural image of 'self' (Heine & Renshaw, 2002; Heine, Takemoto, Moskalkenko, Lasaleta, & Henrich, 2008; Kitayama, Snibbe, Markus, & Suzuki, 2004). These studies suggest that in collectivist cultures a self-critical tendency, rather than a self-enhancement tendency, is the norm.

Meta-analysis of studies conducted in Japan (Heine & Hamamura, 2007; Markus & Kitayama, 1991) confirmed such a self-critical rather than self-enhancing tendency and suggested that cultural differences may play a part in this. It may, therefore, be argued that Western cultures such as North America promote autonomy, while many non-Western cultures such as Japan emphasize interdependence and connectedness among individuals and the group. This means that in Western cultures the independent self is motivated to maintain autonomy and uniqueness, thus the individual engages in self-enhancing biases to support the idea that s/he is self-sufficient and worthy. In contrast, in interdependent cultures, an individual considers her/himself as part of an encompassing social unit, and as a result, is encouraged to adjust behavior to maintain meaningful social relationships (Kitayama, Markus, Matsumoto, & Norasakkunkit, 1997).

Studies (e.g. Vispoel & Austin, 1995) undertaken in a first Language (L1) setting that were concerned with the school milieu in general and that analyzed attributions and performance across academic subjects as well as other school activities produced results that support early theories as proposed by Sedikides, Gaertner & Toguchi, 2003; Sedikides, Gaertner & Vevea 2005. In contrast studies undertaken in the second language/foreign (L2/FL) context produced variable results.

A number of studies of foreign language learning in Britain and America undertaken on Western students have found a variety of factors, such as teacher influence, family, and

classroom environment, personal ability, attitude and learning context to be attributes related to either positive or negative outcomes, suggesting that these attributions may act as a filter for experiences in an attempt to maintain a positive self-image (Tse, 2000; Ushioda, 2001; Williams, Burden & Al-Bahama, 2001; Williams, Burden, Poulet & Maun, 2004). Williams et al (2004) study on British high school students further reported that the majority of attributions for both success and failure were considered internal, and that there were clear differences in attribution for success and failure based on gender, year groups and language studied.

Hsieh and Schallert (2008) attempted to combine two motivational constructs, self-efficacy and attribution to explore the motivation of 500 undergraduate foreign language learners in the US. The students were asked to consider their test scores in light of these two constructs and give actual reasons for the outcome. Analysis suggested that self-efficacy was the strongest predictor of achievement supplement by ability attributions.

A more recent study by Gobel & Mori (2007) out to explore perceived reasons for successes and failures in speaking and reading classes in an English for Foreign Language (EFL) setting among first-year Japanese university students revealed that students who reported performing poorly attributed poor performance to a lack of ability and lack of effort. On the other hand, students who reported performing well attributed their performance to teachers and the classroom atmosphere. This finding is in line with that of Heine and Hamamura (2007) and Markus and Kitayama (1991) and it further supports their claim that cultural differences do influence attributions to success and failure.

In a follow up study (Gobel, Mori, Thepsiri & Pojanapunya, 2010), comparing Thai and Japanese university student attributions towards doing well and doing poorly in an EFL context, similar attributional patterns were found with both groups. The theoretical structure of causal attributions between the two groups was also quite similar, suggesting a possible attributional cultural bias that extends beyond the Japanese environment, and possibly to a number of Asian cultures in the region. Thus, it would appear the argument put forth by Heine and Hamamura (2007) and Markus and Kitayama (1991) seems to hold true. However, further research in other Asian contexts need to be undertaken and that is the purpose of the present study. It attempts to further verify this hypothesis by extending the research to include another Asian country, that is Malaysia which has a multi-ethnic and multicultural background unlike Japan and Thailand which are both more mono-ethnic and mono-cultural in nature. The research questions addressed in this study are:

1. To what do Thai, Japanese and Malaysian students attribute their successes and failures in learning English in a foreign/second language classroom setting?
2. Are the dimensions proposed by attribution theory valid in these settings?
3. Are there differences in attributional responses based on country (Thailand, Japan and Malaysia)?

The main rationale for undertaking this international study is that if such a bias is found to be robustly widespread, then it should be taken into consideration when considering language teaching methodology and the learning environment.

Method

Participants

University students from three universities in the Asian region took part in the study. The sample population from Thailand comprised 355 first-year students from an autonomous state university in Bangkok. Most of them were engineering majors, and none of them majored in foreign languages. All these students had a minimum of six years of exposure to English as a foreign language in primary and secondary education. All students in this university have to take at least 3 compulsory task-based English courses in which all four language skills are taught using an integrated approach. Classes are for 50 minutes twice a week. A task-based approach is used.

The participants from Japan consisted of 350 first-year university students attending a private university in Kyoto, Japan. They were derived from various fields ranging from law, to business and economics, to the sciences and similar to the Thais students none of them major in foreign languages. Like their Thai counterparts they were also required to take English courses. The English courses offered in this university are reading and oral communication. These classes are held twice a week for 90 minutes. Each teacher has a choice of textbooks and teaching styles, but has to follow the guidelines for goals and objectives set by the university.

In the case of Malaysia, the study was undertaken with 298 university students from a university located in Kuala Lumpur. The students came from three faculties namely Science, Arts, and Economics and Business. Like the Thai and Japanese students, none of them majored in foreign languages. All the Malaysian students had a minimum of eleven years of exposure to English as a second language in their primary and secondary education. At their university, they are required to complete 6 credits of English courses which include proficiency and ESP courses in presentation skills, academic reading and professional writing. Classes are held once a week for two to three hours.

Although the actual contents of the classes and teaching methods of the three universities may differ in certain ways, the participants are all taking English as required courses for the purposes of graduation. However, a few differences between the students from Malaysia, Thailand, and Japan need to be pointed out. First, it is noted that English is considered a Second Language in Malaysia. Hence the number of years of exposure to English at schools is much longer in Malaysia. Second, all the Malaysian subjects do ESP courses, which is not the case in Thailand and Japan. Finally, the sample populations of Japan and Thailand are rather homogenous in that the students from Japan are primarily Japanese and their mother tongue is Japanese. Those from Thailand may not all be ethnic Thais but their mother tongue is mainly Thai. However, the sample population from

Malaysia comprises three ethnic origins namely Malays, Chinese and Indians, each with its own mother tongue. Their unifying factor is the medium of instruction in their schools, i.e. the Malay Language. This study only considers differences arising from country of origin and does not take into account possible differences arising from other variables such as proficiency level, ethnic origin and mother tongue. This is in line with the main objective of this study, which is to find out the similarities and differences in learners' attributions for success and failure in learning English across countries and cultures in the Asian region.

Measure

Two versions of a questionnaire were created based on previous research (Vispoel & Austin, 1995). In one version – called Attribution to Success Questionnaire (ASQ) – students were asked about a successful learning experience, and in the other version – called Attribution to Failure (AFQ) – students were asked about an unsuccessful learning experience (see Appendix). The questionnaires were translated to the learners' main language at their schools by experienced translators. Each version consists of two parts. In the first part of the ASQ, the students were asked to choose an activity from a list of 25 activities which they were particularly successful at. Although those activities were roughly divided into four skills, they were instructed to choose only one activity in order to avoid complications in the subsequent statistical analyses. As for the first part of the AFQ, students were asked to choose an activity at which they performed particularly poorly in the previous semester. The second part of both versions was the same. The students were asked to rate the twelve causes for success (for ASQ) or failure (for AFQ) on a six point Likert scale. The attributions included ability, effort, strategy, interest, luck, teacher influence, task difficulty, class atmosphere, grades, preparation, likes, and levels of the class.

Procedure

Students from the three universities were asked to fill in either the ASQ or the AFQ. Roughly equal number of ASQ and AFQ were distributed in each university in such a manner as to produce a fairly even distribution of sample population in terms of proficiency levels and students' major disciplines. However, there is a slight variation in approach used. In the Thai case, the students in each class were divided into two groups. One group had to fill the AFQ and the other group, the ASQ. In the Japanese and Malaysian cases, entire classes were asked to complete either the ASQ or AFQ. In all three cases, the questionnaire was completed within 15 to 20 minutes.

Results

Although 355 Thai and 350 Japanese students originally participated in the study, 55 Thai and 50 Japanese students were randomly eliminated to allow for proper statistical analyses. In addition, a total of eight participants were eliminated due to missing data.

Thus, the total number of students considered in the following statistical analysis is 300 Thai, 298 Japanese, and 292 Malaysian.

Research issue 1: Attributional responses based on country

Table 1 shows the means and standard deviations of the attribution category scores based on student responses on the 6-point Likert scale. A cross-comparison reveals that the three top common factors among the three universities are teacher influence, level of class and effort. A more detailed scrutiny indicates that the students in all three groups ranked teacher influence (an external, stable, uncontrollable factor) as more important to their success than their own effort which is an internal, unstable, controllable factor. Thai and Japanese students' tendency to endorse external, stable and uncontrollable attributions was found in previous research (Gobel, et. al., 2010). The difference between Thai and Malaysian students and Japanese students is that unlike Japanese students, Thai and Malaysian students attributed their successful experience to their interest in getting good grades.

Contrary to the results of success attributions, the four most endorsed failure attributions common to all three groups are lack of ability, preparation and effort, and inappropriate use of strategy. Thus, it would appear that the participants all showed a tendency to attribute their failure to personal factors and not to external factors beyond their control.

Although this is only an analysis of the descriptive statistics, the ranking among attributions showed similar patterns across countries and, particularly for the Japanese students, matches rankings found in previous studies (e.g. Gobel & Mori, 2007; Mori, 2008). Thus the findings suggest a general tendency towards lack of self-enhancement and lack of self-protective biases among the Japanese, Thai, and Malaysian populations studied, which in turn supports previous findings in Asian contexts.

Table 1. Means and standard deviations of success and failure attribution

Success attributions	Thailand		Japan		Malaysia	
	Mean	SD	Mean	SD	Mean	SD
Ability	3.41	1.00	2.93	1.35	3.71	0.95
Effort	4.39	0.81	3.61	1.29	4.38	0.87
Strategy	3.83	0.84	3.40	1.31	4.05	0.85
Interest	4.28	0.87	3.71	1.20	4.42	1.05
Luck	3.49	1.34	3.13	1.58	3.78	1.21
Teacher	4.66	0.99	4.37	1.37	4.57	1.00
Task	3.29	0.96	3.61	1.35	3.52	0.97
Class	4.45	1.05	4.05	1.60	4.23	1.01
Grade	5.22	1.10	3.54	1.26	5.15	0.90
Preparation	3.85	0.84	3.15	1.30	4.15	0.94

Success attributions	Thailand		Japan		Malaysia	
	Mean	SD	Mean	SD	Mean	SD
Enjoyment	4.11	1.14	3.52	1.46	4.36	1.00
Level	4.43	0.89	3.99	1.45	4.37	0.92
Failure Attributions						
Ability	4.02	1.14	3.21	1.51	3.59	1.36
Effort	3.42	1.14	3.91	1.53	3.21	1.30
Strategy	3.59	0.96	3.71	1.46	3.16	1.10
Interest	2.72	1.33	2.48	1.27	2.76	1.35
Luck	2.43	1.38	1.73	1.22	2.12	1.25
Teacher	2.77	1.37	1.65	0.94	2.46	1.07
Task	2.89	0.97	2.69	1.24	3.16	1.19
Class	2.78	1.30	1.79	1.06	2.70	1.24
Grade	2.91	1.73	2.20	1.26	1.52	0.92
Preparation	3.59	1.25	4.06	1.34	3.20	1.32
Enjoyment	3.15	1.41	2.34	1.42	2.07	1.14
Level	2.83	1.32	2.05	1.19	2.30	1.02

Research Issue 2: Dimensionality of Success and Failure Attributions

In order to investigate whether the dimensions proposed in attribution theory could be identified with the present data set, a principal components analysis was performed separately for failure and success. Principal components analysis is a statistical procedure used to determine the interrelationship among the variables and group together the variables that are closely related to each other.

For both the success and failure analyses, after varimax rotation, a three-factor solution was chosen, which accounted for 56.6%, and 56.9% of the total variance respectively. As Tables 2 and 3 show, a simple structure was achieved. The presence of a simple structure and small residual correlations indicates that the number of factors extracted was appropriate. The communalities shown to the right in these tables are the proportion of variance of each item due to the common factors. The fact that the communalities were largely homogenous with only two weak communalities (< .45 for Ability/Grade) also suggests that the present model is correct.

Table 2. Principal components results for success n=449

Attribution	Dimension			Component			h^2
	Locus	Stability	Controllability	1	2	3	
Ability	internal	stable	uncontrollable	0.63	0.04	0.04	0.39
Effort	internal	unstable	controllable	0.69	0.15	0.23	0.55
Strategy	internal	unstable	controllable	0.65	0.09	0.40	0.59
Interest	internal	stable	controllable	0.52	0.57	-0.20	0.63
Grade	internal	stable	controllable	0.59	0.36	0.13	0.49
Preparation	internal	unstable	controllable	0.75	0.17	0.21	0.64
Enjoyment	internal	stable	controllable	0.74	0.16	-0.17	0.61
Teacher	external	stable	uncontrollable	0.11	0.81	0.18	0.71
Class	external	stable	uncontrollable	0.04	0.77	0.20	0.63
Level	external	stable	uncontrollable	0.27	0.66	0.12	0.53
Luck	external	unstable	uncontrollable	0.13	0.11	0.69	0.50
Task	external	stable	uncontrollable	0.06	0.18	0.69	0.51

Table 3. Principal components results for failure n=448

Attribution	Dimension			Component			h^2
	Locus	Stability	Controllability	1	2	3	
Interest	internal	stable	controllable	0.59	0.28	0.16	0.69
Luck	external	unstable	uncontrollable	0.57	-0.07	0.13	0.65
Teacher	external	stable	uncontrollable	0.78	-0.02	0.08	0.63
Class	external	stable	uncontrollable	0.73	-0.01	0.23	0.45
Grade	internal	stable	controllable	0.64	0.35	-0.20	0.34
Enjoyment	internal	stable	controllable	0.55	0.31	0.39	0.62
Level	external	stable	uncontrollable	0.75	0.10	0.22	0.55
Effort	internal	unstable	controllable	0.11	0.80	0.08	0.58
Strategy	internal	unstable	controllable	0.10	0.78	0.10	0.57
Preparation	internal	unstable	controllable	-0.01	0.75	0.07	0.57
Ability	internal	stable	uncontrollable	0.08	0.24	0.79	0.55
Task	external	stable	uncontrollable	0.32	-0.03	0.67	0.62

As displayed in Table 2, factor 1 for success is very clear as all internal/controllable attributions loaded together on this factor. Thus, factor 1 is labeled as

internal/controllable success attributions. Factor 2 is also straightforward. Since three external/stable/uncontrollable attributions loaded together on this factor, factor 2 is defined as class-related external/stable/uncontrollable success attributions. On the other hand, the result for factor 3 is somewhat unexpected as easiness of the task, an external, stable and uncontrollable attribution, loaded with luck, an external, unstable, and uncontrollable attribution. A possible explanation for this is the students might have felt that encountering an easy task was part of their luck; thus, factor 3 is referred to as luck-related external/uncontrollable success attributions.

When it comes to failure attributions, as Table 3 shows, most external attributions loaded on factor 1 together with internal attributions such as lack of interest in the activity, lack of interest in getting good grades, and dislike of studying English. This may be because their lack of interest is so closely related to classroom factors that these attributions cannot be distinguished. In any case, for the sake of convenience, factor 1 is referred to as class and interest-related failure attributions. As opposed to factor 1, all internal/unstable/controllable attributions loaded on factor 2. Since they are somewhat concerned with effort, factor 2 is defined as effort-related internal failure attributions. Factor 3 received loadings from both internal (ability) and external (task difficulty) attributions. However, as they are both concerned with ability, factor 3 is labeled as ability-related failure attributions.

Research Issue 3: Differences in Attributions among the Three Countries

A one-way multivariate analysis of variance (MANOVA) was performed to determine the effect of the three countries on the three success attributional factors computerized as factor scores. Significant differences were found among the three countries on the dependent variables, Wilks' $\Lambda = .75$, $F(6, 886) = 2.33$, $p < .00$. The multivariate η^2 based on Wilks' Λ was .14. Table 4 contains the means and the standard deviations on the dependent variables for the three countries.

Analysis of variance on each dependent variable was conducted as follow-up tests to the MANOVA. The ANOVAs on internal/controllable success attributions and class-related external/stable/uncontrollable success attributions were significant, $F(2, 445) = 67.08$, $p < .00$, $\eta^2 = .23$, and $F(2, 445) = 4.65$, $p < .00$, $\eta^2 = .02$, respectively whereas the ANOVA on luck-related external success attribution was nonsignificant.

Post hoc analyses of the univariate ANOVA for the attributions consisted of conducting pairwise comparisons to find which countries affected success attribution ratings most strongly (Table 4). Thai and Malaysian students scored higher on internal/controllable success attributions (factor 1) than the Japanese students. This result implies that the Japanese students are less willing to acknowledge success to personal capabilities than Malaysian and Thai students. Moreover, Thai students scored higher on class-related external/stable/uncontrollable attributions (factor 2) than the Japanese students. This finding suggests that the Thai students had a greater propensity for attributing success to teacher influence and classroom atmosphere than the Japanese students.

Table 4. Analysis of variance of success attributions with proficiency as the independent variable

Attributions	Country	N	Mean	Std. Deviation
Internal/controllable	Thailand	150	0.20	0.75
	Japan	149	-0.66	1.07
	Malaysia	149	0.46	0.77
Class-related external	Thailand	150	0.18	0.83
	Japan	149	-0.16	1.26
	Malaysia	149	-0.02	0.83
Luck-related external	Thailand	150	-0.09	0.86
	Japan	149	0.00	1.26
	Malaysia	149	0.09	0.82

A one-way MANOVA was also performed to examine the effect of the three countries on the three failure attribution scales. Significant differences were found among the three countries on the dependent variables, Wilks' $\Lambda = .72$, $F(6, 874) = 2.66$, $p < .00$. Table 5 shows the means and the standard deviations on the dependent variables for the three countries.

Analysis of variance on each dependent variable was conducted as follow-up tests (Scheffe tests) to the MANOVA. The ANOVAs on all three factors were significant, $F(2, 439) = 33.09$, $F(2, 439) = 31.50$, $F(2, 439) = 10.57$, respectively. Post hoc analyses of the univariate ANOVA for the attributions were performed to discover which country affected failure attribution ratings the most. The results show that Thai students scored higher on class and interest-related failure attributions (factor 1) than Japanese and Malaysian students whereas the Japanese students scored higher on effort-related internal/unstable/controllable failure attributions (factor 2) than Thai and Malaysian students. Furthermore, Malaysian students scored higher on ability-related failure factor (factor 3) than Thai and Japanese students. In short, although the students from all three countries showed a self-critical tendency, Thai students blamed lack of interest and class factor more, Japanese students blamed lack of effort more, and Malaysian students blamed lack of ability more.

Table 5. Analysis of variance of failure attributions with proficiency as the independent variable

Attributions	Country	N	Mean	Std. Dev.
Class & interest-related	Thailand	150	0.45	1.14
	Japan	149	-0.43	0.86

Attributions	Country	N	Mean	Std. Dev.
	Malaysia	143	-0.03	0.74
Effort-related internal	Thailand	150	0.01	0.84
	Japan	149	0.42	1.11
	Malaysia	143	-0.45	0.83
Ability-related	Thailand	150	0.06	0.86
	Japan	149	-0.28	1.08
	Malaysia	143	0.23	0.99

Discussion

The goal of this study was to address gaps in the literature on motivation and learning by examining the relationship between foreign language students' attribution and culture in authentic learning environments. Complementing previous work based on this theory, our findings add new insights to understanding how successful and unsuccessful students in foreign/second language classes make attributions differently and how different attributions may relate to cultural norms.

Before discussing our findings, it should be pointed out that this study, like so many other studies, was conducted under several limitations. Two of the more significant ones are discussed as follows. First, as mentioned above, the curriculum for each group was different, with the educational environment affecting the learning goals and objectives for each group. However, in all three groups the participants were non-English majors. In addition, our current data suffers from the same limitations as all self-report questionnaire data in that it is difficult to determine whether some students may have interpreted items on the questionnaires in unintended ways, or chosen to represent themselves inaccurately. Acknowledging these limitations, we nevertheless see our results as providing several interesting theoretical implications. What follows is a discussion of our findings in order of the research questions.

First, all three groups showed some striking similarities in the manner in which they attributed their successes and failures. Students in all three groups tended to have stronger attribution ratings for successes than for failures. In particular, they seemed to focus more on external factors, especially teacher influence when they succeeded. On the other hand, when they failed, they all seemed to focus more on internal causes, namely lack of ability, preparation and effort, and inappropriate use of strategy. This is congruent with the findings of previous studies (Gobel & Mori, 2007; Mori, 2008) with Japanese university students. In those studies, participants did not show the self-enhancement or self-protective tendencies that are widely recognized in cognitive psychology. This also reinforces Markus and Kitayama's (1991) dichotomous independence and interdependence construct, in which many Asian cultures which are hypothesized as interdependent, tend to place greater importance to connectedness among individuals within a significant relationship (e.g. the FL/L2 classroom), thereby explaining why teachers' influence is attributed as influential for success.

Second, regarding dimensionality, the results of factor analyses presented in this study are very similar to those found in the above-mentioned studies. In terms of success attributions (ASQ), the dichotomy for locus was clearly identified across all studies. Specifically, ability/interest/ enjoyment (internal) always loaded together, and teacher/ class/ level (external) always loaded together. With the exception of the ability attribution, the dichotomy of controllability was clearly visible. The dichotomy of stability (stable/unstable), however, was not evident in the present study. Results for the AFQ revealed no clear dichotomy. However, as in previous studies mentioned above, teacher/ class/ level (external/ stable/ uncontrollable) loaded together, and effort/ strategy/ prep (internal/ unstable/ controllable) loaded together as well. The fact that teacher/ class/ level loaded together in both AFQ and ASQ implies that these may be viewed as distinguishable attributions.

Third, the results of MANOVA implied differences among the three countries. Specifically, Thai and Malaysian students had a stronger tendency to attribute their successful experiences to internal factors such as interest in getting good grades, preparation and enjoyment of studying English than the Japanese students. Grades, in particular, stood out as a main attribution for success. One possible general explanation for this result is the position of the English Language in these two countries. English is the language of international trade and commerce and it is the language that will assure the students a good job position in the private sector. This may be the main driving force behind their endeavor to do well in English. This is not such a major problem in Japan as Japanese is used for trade and commerce in Japan. In addition, earning credits (passing classes), rather than getting good grades is the major concern of most Japanese students, with grades seldom being considered when students are looking for employment.

With regard to failure attributions, although the students from all three countries showed a self-critical tendency, Thai students blamed their performance more on lack of interest, Japanese students more on lack of effort, and Malaysian students more on lack of ability. More Japanese and Thai students attribute their failure to factors that they can control whereas more Malaysian students attribute their failure to a factor that they cannot control. Of the three groups, Japanese students appear more critical of themselves than the other two groups as they blame themselves for not trying hard enough. The Thai students seem more nonchalant as their response implies if they are interested they can do better. As for the Malaysian students, they come across as shifting the blame to the lack of ability. One possible explanation could be due to the importance of English in Malaysia (status as L2 as opposed to FL in Japan and Thailand) and thus their failure is attributed to lack of ability, rather than interest or effort. Another likely explanation for the slight differences in the manner in which failure is attributed lies in the degree of self-critical tendency as alluded earlier. Thus Japanese are distinctly more self-critical than Thais; and Thais being more self-critical than Malaysians stemming from the fact that Japanese and Thais are predominantly monocultural while Malaysia is multicultural. As a result of the multicultural composition of her people, Malaysians comparatively speaking, tend to veer slightly toward a more self-enhancing bias. However, further investigation needs to be undertaken to confirm the truth of this interpretation.

Implications and Conclusion

Our findings have some important pedagogical implications. From the teacher's standpoint, cultural sensitivities must be considered. A deeper understanding of how these sensitivities affect students' behaviour and their motivation to learn a second/foreign language will help teachers design materials that cater to their students' needs. For teachers from Western countries teaching in non-Western contexts, they should be aware that Asian students do not react in the same manner as Western students typically do, so in designing tasks to motivate them they have to make sure that these tasks do not touch on cultural sensitivities and hence affect students' self-esteem negatively. For Asian teachers teaching Asian students, they have the advantage of being familiar with the culture sensitivities of their students but some of these teachers may adhere to principles and theories they have studied in books regarding motivation and apply them to their students without carefully thinking them through. All principles and theories should be used with discretion and adapted to the needs of the situation and environment. As this study has shown there are differences even among Asian learners from different countries. Thus, a method used in one Asian country may not be appropriate even in another Asian country. Another point to note is the evidence of self-critical tendency among Asian students. If this is exploited properly it can produce positive changes in students' motivation to succeed in language learning. As Weiner (2000) pointed out, self-critical bias is important because internal attributions produce greater changes in self-esteem affect than external attributions. However, if not dealt with sensitively students continuing to fail on a certain task may have a lower expectancy for success, and consequently become less persistent on future achievement tasks. Future failure is then seen as unavoidable and learned helplessness is then reinforced.

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Integrative and Instrumental Orientations among a Sample of University Students

Mahmoud Sulaiman Bani Abdelrahman

Al – Hussein Bin Talal University, Jordan

Abugaith66@yahoo.com

Abstract

This study analyzes and determines the various socio-psychological orientations of undergraduate students studying general English of the Faculty of Educational Sciences in Al-Hussain Bin Talal University. The study focuses on instrumental and integrative orientations of students in learning English as a foreign language. In order to determine the students' tendency towards the mentioned orientations a sample of 300 university students were given a questionnaire based on Gardner's Attitude/Motivation Test Battery (AMTB). The SPSS was used to analyze the data. The results of the study show moderate to high motivation toward foreign language learning. The results confirmed hypotheses one, two, three and five but not hypothesis four .

Relying on the results of the study, the researcher recommended the following:

- Instructors need to develop programs which maintain students' interest.
- Instructors need to create interesting lessons.
- Instructors need to encourage students to be more active.

Keywords: Integrative Orientation and Instrumental Orientation

Introduction

Motivational studies that started in psychology has become one of the most popular research areas among second language researchers in 1990s. Yet, there are few motivational studies which are conducted in English as a foreign language (EFL).

Motivating students is very important and should be seriously given due account to by language teachers. Therefore, teachers in the field should find different ways to motivate students. Oxford and Shearin (1994) conclude that motivation is one of the key factors in second and foreign language learning because it is the driving force that initiates and sustains learning. Baker and Macintyre (1999) said that it compensates for a deficiency in aptitude when the learning situation becomes difficult. In addition, Dornyei (1994) said that motivation influences the rate and success of learning.

Definitions of motivation have been proposed by a number of researchers. Gardner and Lambert (1959) identified two types of motivation from a socio-psychological view: integrative motivation and instrumental motivation. Integrative motivation is the desire to learn a language to integrate oneself into the target culture, and instrumental motivation is the desire to learn the language to get a better job or meet a language requirement. So, the definition of motivation originally proposed by Gardner (1985) is different from the one he used later. In recent studies, integrative and instrumental motivations were defined as learner orientations rather than motivation.

Gardner (1985:10) defines (second language) L2 motivation as "the extent to which an individual works or strives to learn the language because of a desire to do so and the satisfaction experienced in this activity." More specifically, motivation is conceptualized to subsume three components, motivational intensity, desire to learn the language, and an attitude towards the act of learning the language. Motivation in Gardner's theory does not contain any integrative or instrumental elements. There does exist an integrative or instrumental dichotomy in Gardner's model, but this, at the orientation level, is not part of the core motivation component.

Crookes and Schmidt (1991) expanded the theoretical framework of motivational studies and suggested seven motivational factors: (a) interest, (b) relevance, (c) expectancy of success or failure, (d) belief in forthcoming rewards, (e) decision to be involved, (f) persistence, and (g) high activity level. This expanded framework was derived from general psychological theories such as need-achievement theory and instrumentality theory. Oxford and Shearin (1994) stated that these expectancy-value theories are not closely related to Gardner's concept of instrumental motivation but are more elaborated and generalized.

Brown (2001:75) stated that

Motivation refers to the intensity of one's impetus to learn. An integrative orientation simply means the learner is pursuing a second language for social and/ or cultural purposes, and within that purpose, a learner could be driven by a high level of motivation or a low level. Likewise, in an instrumental orientation, learners are studying a language in order to further a career or academic goal. The intensity or motivation of a learner to attain that goal could be high or low.

The present study intended to highlight the extent of Faculty of Educational Sciences Students' motivation in Al-Hussain Bin Talal University in learning English as a foreign language and their differences in instrumental and integrative orientations. In addition, the findings of the study may contribute to improvements and changes regarding teaching and learning.

English in the Faculty of Educational Sciences at Al-Hussain Bin Talal University

There are three majors in the Faculty of Educational Sciences, namely: class teacher, kindergarten and special education. All students in the three majors of the faculty have to pass two general English courses of three credit hours each. They attend 3 class sessions of 50 minutes each per week or two class sessions of 75 minutes per week. The courses mostly teach grammar and reading comprehension. There is an average of 50 students in each class. Class teacher majors have to take another course of three credit hours in methods of teaching English. Kindergarten majors have to take another course of three credit hours in English Language skills. Special education majors have to take another course of three credit hours in articles about special education.

Literature Review

Lecturers frequently wonder why some students are continuously successful in language learning while others are not. Most lecturers often refer it to learners' motivation and note that unmotivated learners are insufficiently involved in language learning activities and have difficulties in developing English proficiency. One of the most widely accepted socio-psychological views of motivation is the integrative and instrumental dichotomy. Many researchers who focused on motivation as a crucial variable in language acquisition process were primarily concerned with the relationship between the degree of motivation and language acquisition.

Gardener (1985) developed a socio-educational model to investigate language learners' motivation, postulating that "integrative motivation was the primary determinant of learning behaviors and actual achievement (Gardener,1983; Gardner and Lambert, 1972). Gardner (1985) stated that integrative motivation refers to having interest in and a positive attitude toward the target language community, its users and its culture. Language learners are also motivated by instrumental values such as the chance of getting a better job of a good salary. In school, students who have a strong instrumental

motivation learn English simply and desire a good grade. Gardner and Lambert (1972) designed a self-report questionnaire to test the relationships among several motivational variables and language learning outcomes among Canadian students learning French as a second language. The items in the instruments were designed to explore certain social factors that influence learners' successful application of French, their degree of ethnocentrism, and their attitudes towards French Canadians. The data were factor-analyzed and results showed that integrative motivation most substantially accounted for the most influential motivational factor accounting for English-speaking Canadian students' success in learning French.

Baker, McInerney and Dowson (2002) investigated the effects of motivational goals on Australian students' recall skill of verbal information at shallow and deep levels. The experimental study was based on the assumption that goals affect cognitive performance. Results showed that a significant interaction between students' motivational goals and cognition occurred in the deeper levels of processing performance approach. Goal-oriented students outperformed their peers in the mastery goal, avoidance goal, and control groups. Unfortunately, Baker's study falls short in explaining the effectiveness of manipulating different goal states on different motivational states.

Finally, Marjan (n.d.) conducted a study about motivational orientation in English language learning in Sirjan University students. Marjan analyzes and determines the various socio-psychological orientations of undergraduate students studying General English in universities of Sirjan. The study focuses on instrumental and integrative orientations of students in learning English as a foreign language. In order to determine the students' tendency towards the orientations, 255 university students were given a questionnaire based on Gardner's Attitude/Motivation Test Battery (AMTB). The research shows that contrary to some researchers' beliefs that in foreign language situations instrumental orientation is the dominant orientation, students were highly motivated in both instrumental and integrative orientations.

Research Hypotheses

The following corresponding directional hypotheses were formulated for the following study:

- H1 : Students are highly motivated in learning a foreign language.
- H2: There is a statistically significant difference among the integrative orientations of the faculty of educational sciences' students of the three majors in Al-Hussain Bin Talal University.
- H3: There is a statistically significant difference among the instrumental orientations of faculty of educational sciences' students of the three majors in Al-Hussain Bin Talal University.
- H4: There is a statistically significant difference between the instrumental and integrative orientations of the faculty of educational sciences' students in Al-Hussain Bin Talal University.

H5: There is a statistically significant difference between the instrumental and integrative orientations of students of each major in the faculty of educational sciences in Al-Hussain Bin Talal University.

Limitations of the Study

The study does not take gender as a variable because there are few male students in the faculty in general and no male student in the kindergarten major.

Methodology

Population of the Study

The population of the study consists of all students (986) in the faculty of Educational Sciences in the three majors (class teacher students, kindergarten students, special education students) during the first semester of the academic year 2009/2010.

Sample of the Study

The sample was chosen randomly to represent the population following the cluster random way as shown in table (1).A sample of (300) students is assumed to represent the population.

Table 1 – Random sampling

Department	No. of students	Frequency (F) of sample	Percentage of sample
Class teacher students	502	112	37.3%
Kindergarten students	242	90	30%
Special education students	242	98	32.7%
Total	986	300	100%

Procedures and Instrumentation

Marjan (n.d.) stated that the integrative and instrumental orientation scales of the original 7- point Likert scale formed of Gardner's Attitude/Motivation Test Battery (AMTB) (Gardner, 1985) were adapted to a 5- point scale, ranging from "strongly Agree" to "strongly Disagree". The AMTB is reported to have good reliability and validity (Gardner, 1985, 1980; Gardner and Smythe, 1981) and the internal consistency estimate of reliability for the modified questionnaire was calculated, and Cronbach Alpha was (0.7) . The present research used Cronbach Alpha to calculate reliability. It was (0.8). This proves that the instrument has a good reliability. To check the validity of the instrument the researcher used the correlation coefficient between the degree on the item and the degree on the first dimension and found that the correlation coefficients were

between (0.715) and (0.735). Also the correlation coefficients between the degree on the item and the degree on the second dimension were between (0.662) and (0.701). Again the correlation coefficients between the degree on each dimension and the degree on the instrument as a unit were between (0.898 and 0.902) and all of them were statistically significant ($\alpha \leq 0.01$). Since the students came from different academic and socioeconomic backgrounds with different levels of proficiency in English, the questionnaire was translated into Arabic by the researcher. The researcher checked the validity of the instrument by giving the translation with the original copy to a jury of professors in translations from different universities. Their comments were taken into consideration to have the final draft of the questionnaire. The questionnaire was administered in Arabic along with the English original. The purpose of different terms of the questionnaire was explained before its administration. During the completion of the questionnaire, the researcher was present physically to monitor and also to help the respondents to understand the parts. Students were given enough time (10 minutes) to complete the questionnaire and were informed that the information they gave would be kept confidential and be used for research purposes only. The questionnaire is provided in Appendix (1). Marjan classified the levels of motivations as in the following table.

Table 2 - Desirable level of motivation among the Faculty of Educational Sciences Students in Al-Husain Bin Talal University

Less desirable	Desirable	Highly desirable
1-----2.2	2.3-----3.7	3.8-----5

Design

The questionnaire as mentioned above was adopted from Gardner's AMTB (1985). Following are the variables that were assessed using Likert scale (modified 7 point to 5 scale point) ranging from strongly agree to strongly disagree:

- a. Integrative Orientation: The scale includes four items to find out how much learners learn English with a genuine interest to assimilate with the target language, culture, community, their way of life, literature, etc. This would show their integrative towards the target language.
- b. Instrumental Orientation: On this scale, there are four items and the respondents are asked to measure their utilitarian reason for learning English.

Results and Discussions

The students (respondents) were asked to indicate on a five point scale how important each reason was for their learning English as a Foreign Language. The focus was on two types of motivational orientation: integrative and instrumental, following Gardner and Lambert's (1972) definition.

Eight statements were designed to find out the dominant reason for studying a foreign language among undergraduate students of the Faculty of Educational Sciences in Al-Hussain Bin Talal University in Jordan.

Descriptive statistics were carried out for all measures involved in this study.

SPSS was used to analyze the data. The results of the study are as follows:

Table 3 - Means and Standard Deviations of Integrative and Instrumental Motivations

Question	Mean score	Std Dev
1- behave like native speakers	4.27	0.85
2- meet and converse with more and varied people	3.81	0.98
3- appreciate literature	3.26	1.10
4- participate more freely in the activities and other cultural groups	3.73	1.04
5-for future career	4.00	1.03
6- be more knowledgeable person	4.05	0.93
7-to get high ranking job	3.95	1.01
8- to receive people's respect	2.77	1.22
Total	29.88	5.33

Table 3 shows that the mean scores of the departments illustrates that students were medium motivated as is shown in Q1, Q2, Q4, Q5, Q6 and Q7 . Questions 3 &8 showed the students' medial motivation, and no lack of motivation was observed among these eight questions. From the table it is seen that the mean score for the respondents on the first and second dimensions was (29.88). By referring to the previous table (2) we can see the level of motivation was desirable.

As shown in table 3, most of the Faculty of Educational Sciences students are highly motivated to learning a foreign language based on Marjan's classification of the levels of motivation. Question eight which asked if people have a more respect for those who have knowledge of a foreign language, showed the lowest level of motivation. This is probably the case because the cultural values might have prevented them from showing a higher motivation for this question. In addition, that most of the students are not from the capital Amman in which English can be used in a wider range. Again this question with question number 3 show a desirable amount of motivation. No question is reported to show lack of motivation. The results show moderate to high motivation toward foreign language learning. Therefore, the first hypothesis is accepted. This result is similar to Marjan's.

In order to find the answer to the second question and investigate the second hypothesis, the statistical method of one way analysis of variance (One way ANOVA) was used.

Table 4 - Value for differences among integrative motivation of Faculty of Educational Sciences Students in Al-Hussain Bin Talal University

Source of changes	Sum of squares	DF	Mean square	F	Significance of F
Between groups	58.09	2	29.4	3.43	0.034
Within groups	2514.827	297	8.46		
Grand mean (Total)	2572.917	299			

As shown in table 4, there are statistically significant differences in integrative motivation of each department students and also among the students of all the three departments.

The results confirmed the second hypothesis and showed that university students are closely related in their integrative motivation. Again the results do not agree with Marjan's results.

To find the significant differences, Scheffe test was used to make post comparatives. This is shown in Table 5.

Table 5 - Post comparatives for the means of the sample on integrative orientation

Mean	Department	Class teacher	Kindergarten	Special education
15.651	Class teacher		0.862*	0.947*
14.788	Kindergarten	0.862*		0.848
14.704	Special education	0.947*	0.848	

As shown in table 5, Scheffe methodology was used to check the differences between each department in the instrumental and integrative orientations together. It is seen from the table that there are statistically significant differences between class teacher and kindergarten students and between class teacher and special education students for the benefits of class teacher students. That is because class teacher students are in need to use English in their future career while other students do not need that. Class teacher students seen to keep in mind the need for the English Language because the Ministry of

Education started to teach English from the first grade. All the justification mentioned was due to the researcher's knowledge of the rules in the Ministry of Education in Jordan.

Table 6 - Value for differences among instrumental motivation of Faculty of Educational Sciences Students in Al-Hussain Bin Talal University

Source of changes	Sum of squares	DF	Mean square	F	Significance of F
Between groups	64.10	2	32.05	3.64	0.027
Within groups	2610.49	297	8.79		
Grand Mean (Total)	2674.59	299			

Table 6 illustrates the differences in instrumental motivations of each department students and students of the three departments. The table shows that there are statistically significant differences observed in the students' level of instrumental motivation. Again, the third hypothesis is accepted as well.

Table 7 - Post comparatives for the means of the sample on instrumental orientation

Mean	Department	Class teacher	Kindergarten	Special education
15.214	Class teacher		1.103*	0.265
14.111	Kindergarten	1.103*		0.837
14.7949	Special education	0.265	0.837	

Similar explanations apply here as for Table 5 previously.

In order to check the fourth hypothesis, table (8) was prepared.

Table (8) - Test for differences between integrative and instrumental motivations of Faculty of Educational Sciences Students in Al-Hussain Bin Talal University

Variable	Orientation	Mean	St.d	T-Test	DF	Sign. of T	N
Motivation (orientation)	Integrative	15.08	2.93	1.92	299	0.06	300
	Instrumental	14.79	2.99				300

Table (8) shows the differences between the instrumental and integrative orientations of faculty of Educational Sciences students in Al-Hussain Bin Talal University in Jordan. To check the differences among the students, T-Test for independent groups was used and the results do not show any meaningful differences in this regard. So, the fourth hypothesis is rejected.

Finally, in the last table the T-Test was used to determine the difference between integrative and instrumental orientations of each major. The following results show there was no significant difference between these two orientations of students who are both instrumentally and integratively motivated.

Table 9 Differences between Instrumental and Integrative Motivations and Standard Deviation of Each Department

Major	Orientation	Mean	SD	T	DF	Signif. of T	N
Class teacher students	integrative	15.65	2.71	1.88	111	0.063	112
	instrumental	15.21	2.64				
Special education students	integrative	14.70	2.52	0.92	97	0.35	98
	instrumental	14.94	2.65				
Kindergarten students	integrative	14.78	3.48	2.45	89	0.016	90
	instrumental	14.11	3.59				

Scheffe methodology was used to check the differences between each department in the instrumental and integrative orientation together. Table (9) indicates that there is a statistical difference between class teacher and kindergarten students; class teacher and special education students for the benefits of class teacher students. That is because class teacher students care a lot about the need for English in their teaching in the future. That

is because the Ministry of Education in Jordan started teaching English as a foreign language from the first grade. On the other hand, kindergarten students and special education students do not need English in their future jobs. That is according to the real practice and the researcher's knowledge of the rules in the Ministry of Education.

As can be seen from table 9, there are significant differences to the kindergarten students in the first and second dimensions. The differences as it appeared from the table are in favor of the integrative motivation.

Table 10 - Post comparatives for the means of the sample on integrative and instrumental orientation

Mean	Department	Class teacher	Kindergarten	Special education
30.866	Class teacher		1.966*	1.213*
28.900	Kindergarten			0.753
29.653	Special education			

As shown in previous tables that the differences were in favor of class teacher students for each orientation separately. By analogy, we can find differences in favor of class teacher as a whole.

This means that the last hypothesis is confirmed.

Conclusion

The results showed students' medial motivation in the following:

- behaving like native speakers
- meeting with and covering more and varied people
- participating more freely in the activities and other cultural groups.
- needing the language for future career
- being a more knowledgeable person, and
- getting a high ranking job.

In general, most students in the sample are highly motivated to learning a foreign language. While the item about people may have more respect for those who have knowledge of a foreign language showed the lowest level of motivation. The results showed that university students are closely related in their integrative motivation. Finally,

the results showed that there was no significance difference between these two orientations of students who are both instrumentally and integratively motivated.

Recommendations

In order to make the language learning process a more motivating experience, instructors need to put a great deal of thought into developing programs which maintain students' interest and have achievable short term goals. Instructors need to create interesting lessons in which students' attention is gained. Encouraging students to become more active participants in a lesson can sometimes assist them to see a purpose for improving their communication skills in the target language. Research in this field suggests foreign language achievement strongly affects the learner's motivation (Strong 1983, cited in Ellis 1997). Motivation is actually an important variable in examining successful second language acquisition.

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Appendix 1 Survey Questionnaire

Below is a number of statements with which some people agree and others disagree. There is no right or wrong answers since many people have different opinions. We would like you to indicate your opinion about each statement by ticking the boxes below which best indicates the extent to which you disagree or agree with that statement.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. Studying English can be important to me because it will allow me to be more at ease with other people who speak English.	?	?	?	?	?
2. Studying English can be important for me because it will allow me to meet and converse with more and varied people.	?	?	?	?	?
3. Studying English can be important for me because it will enable me to better understand and appreciate British art and literature.	?	?	?	?	?
4. Studying English can be important for me because I will be able to participate more freely in the activities of other cultural groups	?	?	?	?	?
5. Studying English can be important for me because I'll need it for my future career.	?	?	?	?	?
6. Studying English can be important for me because it will make me a more knowledgeable person.	?	?	?	?	?
7. Studying English can be important for me because I think it will someday be useful in getting a good job.	?	?	?	?	?
8. Studying English can be important for me because other people will respect me more if I have knowledge of a foreign language.	?	?	?	?	?

Music-Based Instruction and Academic Achievement of Social Studies University Students in Jordan

Mohammad Jawarneh, Salah Hailat, Sadeq Al-Shudaifat, Subhi Sharqawi
The Hashemite University, Jordan

Rateb Ashour
Yarmouk University, Jordan

Abstract

The primary purpose of this study was to determine whether there are differences in the academic achievement of social studies university students, as measured by the Social Studies Test (SST) between a group of students who listened to music during instruction and a comparable control group taught via traditional method of instruction. The SST was administered as a pre-test and post-test for both groups of students. Analysis of Covariance (ANCOVA) on the post-test results of the SST with the pretest scores as a covariate indicated significant differences between the groups at the .05 alpha level for the favor of the experimental group on their academic achievement. The study ended by offering a number of theoretical and practical implications for the field of study.

Keywords:

Music-based instruction, social studies, university students, academic achievement, and Jordan.

Introduction

Efforts to improve the quality of education have been increasing due to globalization, educational reforms, and new approaches to teaching and learning. Universities are now being held accountable to a number of stakeholders including students, parents, legislators, and private and public organizations (Tagg, 2003). As a

result, educators are now expected to deliver instruction via new teaching methods. The question of how students learn effectively has been a key focus for educators for decades (Krigbaum, 2004). Over the years, instructors have seen many negative behaviors in the classroom represented by lack of students' interest and motivation toward learning, limited discussion and interaction between students and instructors, and poor academic performance (Crosswhite, 2005; Emory, 2004; Smith, 1997) which prompt instructors to seek answers to cultivate such problem (Gohlinghorst & Wessel, 2001).

To explain such phenomenon, Heorr (2002) contend that students learn in different approaches and that traditional instruction alone does not help all students maximize their potential and interest to learn leading to negative attitudes toward education (Governal, 1997). Perhaps the most used traditional instructional technique is delivering information via lecturing. It has been documented that lecturing has many problems because it is placing students in the position of being passive recipients of information and reducing their opportunity to be affective learners (Hallam & Price, 2002). Furthermore, this method does not take into account the variety of students' experiences, learning styles, and motivational needs to create an environment in which every student can have a rich and relaxing learning experience. Thus each year, many instructors make hard choices seeking educational improvements. Whether to invest in class-size reduction, instructor professional development, textbooks, or tests depends on their estimates of the effectiveness of these approaches (Schacter, 1999). Other researchers focused on classroom climate as a method of improving academic achievement were students can have a relaxing experience by listening to music during instruction (Braynt, Mariam, Kymberriey, & Vega, 2003; Hallam & Price, 2002).

For decades, music has played an important role in our lives where our feelings of joy or sadness are expressed. Music is considered a universal language; therefore it is seen as an effective approach for enhancing students' learning in the classroom (Huang, 2004). As expressed by Lounsbury (1992), music may help students learn more effectively. To elaborate on this point, music can make a significant contribution to all education in terms of students' benefits by enhancing their self-esteem and creativity (Eady & Wilson, 2004). Using music as a teaching tool makes learning easier, faster, and more enjoyable which can help students be more focused and alerted during lectures. It has being concluded by many researchers that music should be an essential part of education (Broglia, 2003; Breeze, 2000; Olson, 2005). According to these researchers, music can help students remember information faster and easier, raise emotional involvement in learning, ignite inner creativity, and awakening consciousness and spiritual connections to the materials learned.

Many research studies have been carried out on the effectiveness of utilizing music in instruction in the classroom. Goeghegan & Mitchelmore (1996) found that mathematic performance improved as a result of exposure to music during education (mood calming). Gouzouasis (2003) investigated the effect of music on student's academic achievement in English, Math, and biology. Results indicted favorable results for students who participated in music learning. A recent study done by Hallam & Price (2002) concluded that music learning enhance the academic achievement of students in reading, language,

and mathematics. Therefore, it can be concluded that incorporating listening to music during instruction shows promising results in the area of education.

Statement of the Problem

University students need to have an opportunity to learn and enjoy learning in an environment that is rich and relaxing that contributes to better academic achievement (Fernsler, 2003). The issue of students' dislike of instruction has been an issue for educators for years (Emory, 2004). Class climate as a tool for enhancing students academic achievement has been largely overlooked in many countries worldwide (Hallam & Price, 2002). To the researchers' best knowledge, no research studies have been conducted in Jordan to determine the effect of listening to music during instruction on students' academic achievement. Therefore, the primary purpose of this study was to determine the effect of listening to music during instruction on the academic achievement of social studies students at the university level.

Research Question

The following research question was addressed in this study:

Is there any significant difference between the academic achievement of the experimental group students (listened to music during instruction) and the control group students (utilized traditional method of instruction)?

Significance of the Study

Many studies have been conducted to improve instruction and enhance students' achievement such as programmed instruction, project-based instruction, and cooperative learning. However, there is a lack of research on the role that music plays in impacting students' achievement. The results of this study should provide valuable information to educators, practitioners, and policy makers in Jordan about the role of music in education. Curriculums may be revised to better address the role of music as a promising teaching tool. Finally, the results of this study may also reveal common links between academic successes and music education or listening to music and give an impetus to expanding music education as a means to further improve academic achievement.

Methodology

Organizational Context

The present study took place at the Hashemite University, the fifth state university in Jordan. Teaching began at the Hashemite University in the academic year 1995/1996. Presently the Hashemite University includes 10 faculties. It also includes the Deanery of

Scientific Research and Higher Studies, the Deanery of Student Affairs, the Computer Center, and the Center of Studies, Consultations, and Community Service.

Population and Sample

The population for this study comprised of all undergraduate students with a major in classroom teacher from the Department of Curriculum and Instruction at one public university located in the middle part of Jordan. The sample of the study consisted of undergraduate students with a major in classroom teacher registered for the social studies course offered by the Department of Curriculum and Instruction during the first semester of the 2009/2010 academic year. There were two sections of the course with 58 students in the first session and 52 students in the second session. Session one with 58 students was treated as the experimental group and session two with 52 students was treated as the control group. The students were mostly females, 20 and 21 years old. Therefore, the students' gender and age were not considered to be of relevance in this study.

Instrumentation

Data for the study were gathered using the Social Studies test (SST) developed by the researchers. This test contained 24 multiple-choice questions and was developed based on information contained within the university textbook for the course. Moreover, on a separate sheet of paper attached to the test, the researchers gathered demographic information related to gender. The SST test was validated following strict and comprehensive procedures. First, the SST was reviewed and revised by a panel of four social studies faculty members to determine whether or not the number and content of item questions and the entire domain of the tasks are sufficiently measured. The validation panel agreed on 19 items while they had disagreement on five items which were deleted. Second, the validated test of 19 items was reviewed by six faculty members specialized in history and social studies from three different major universities in Jordan.

The test-retest reliability statistic was run and scores were analyzed using Cronbach's Alpha. The standards for instrument reliability for Cronbach's alpha by Robinson, Shavor, and Wrightsman (1991) were used to judge the quality of the SST scale: .80-1.00 – exemplary reliability, .70-.79 – extensive reliability, .60-.69 – moderate reliability, and < .60 – minimal reliability. The reliability coefficient was found to be .89, suggesting the test was reliable.

Data Collection

In an effort to review the impact of listening to music during instruction on the academic achievement of social studies university students, this study compared two sections of students enrolled in social study classes during the academic years 2009-2010. There were two sections of the same class with approximately equal number of students. One section was randomly assigned to the experimental group (students listening to music during instruction) and the other to the control group (students received traditional

instruction). The same faculty member (the primary researcher) taught both the control and the experimental group's class.

The process of data collection was as follows: first, after an explanation of the purpose of the study, the SST test was given by the instructor during the first week of the semester as the pretest for all students in both the experimental and control groups before the implementation of the intervention. After the intervention (students listened to music for three minutes during instruction for the experimental group), the same test was given to the same groups of students after three weeks to determine students' achievement scores. Finally, since both the experimental and control groups took the same pre-and posttest, and the experiment occupies the same time period for all subjects, and the same instructor taught both classes, testing, instrumentation, maturation, mortality, history, selection, and sensitization are not an internal validity threats in this study.

Data Analysis

A quasi-experimental, pretest-posttest control group design using a sample of intact groups was used in this study (Campbell & Stanley, 1963). Quasi-experimental design is used when intact classrooms are used as the experimental and control groups. This design is most appropriate when the researcher is not able to randomly assign subjects to groups but able to randomly assign groups to the levels of the treatment. Researchers use them to compare groups "that are defined by a naturally occurring, non-manipulated variable that is usually a subject variable or a time variable" (Gravetter & Wallace, 2000, p. 16). Moreover, this design is used to control or reduce threats to internal validity (Fraenkel & Wallen, 2003).

The main purpose of this study was to determine the effect of listening to music during instruction on the academic achievement of social studies university students. The independent variable is the method of instruction which has two levels (instruction by listening to music and traditional), the dependent variable is the academic achievement posttest scores, and the pretest is the covariate. Analysis of covariance (ANCOVA) is most suitable to be used when dealing with intact groups or subjects. ANCOVA on the post scores with pre scores as a covariate was used to determine whether there are differences in the academic achievement between the experimental and control groups before and after the intervention. Data analysis was handled by using Statistical Package for Social Science (SPSS 11.5) and a significance level of .05 was adopted (Fraenkel & Wallen, 2003). Finally, using ANCOVA has the benefits of adjusting for preexisting differences that may exist among the intact groups prior to the research, increase in the precision of the research by reducing the error variance, and it increases statistical power (George & Mallery, 2003). Questions two and three was also analyzed utilizing ANCOVA analyses.

Results

The data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 11.5. Descriptive statistics for all variables in this study were examined using SPSS frequencies. The minimum and maximum values for each variable were examined for the accuracy of data entry by inspecting out of range values. An examination of these values showed that no out of range values were detected. Missing subjects were not detected either.

Results Pertaining to the Research Question

The research question of the study was to determine whether there are significant differences between the academic achievement of the experimental group students (who listened to music during instruction) and the control group students (utilized a traditional method of instruction)? Analysis of covariance (ANCOVA) was employed to answer this question. In this case, the post SST-total score was used as the dependant variable, the group (experimental vs. control) was used as the independent variable, and the respective pre-SST total score was used as a covariate (in order to control for any differences between the groups at pretest).

Based on the analysis, significant differences were found among the treatment groups (experimental vs. control) based on the total SST score. The results indicated that there was a statistically significant difference in the academic achievement between the experimental and control groups for the favor of the experimental group (see Tables 1 and 2). The pretest (covariate) was not found to be a significant predictor of the post-test score indicating the equivalence of the treatment groups on the pretest. The Effect size and power of test were also reported to provide more detailed data.

Table 1 - Means and Standard Deviations and Adjusted means for the SST on the Posttest for the Control and Experimental Groups

Group	Mean	Std. Deviation	Adjusted Mean	N
Control	10.000	5.10	10.004	52
Experimental	14.038	4.78	14.035	58

Table (2) Summary of ANCOVA Results for the SST with Pretest as Covariate

Source	SS	df	MS	F	Sig.	Effect Size
Covariate (Pretest)	2.504	1	2.504	1.102	.320	.000
Group	1046.245	1	1046.245	42.511	.000	.944
Gender	14.820	1	14.820	.602	.438	.002
Group × Gender	4.481	1	4.481	.182	.670	.001
Error	6226.59	105	24.611			
Total	7302.686	109				

Discussion and Conclusions

The purpose of this study was to examine the effects of listening to music during instruction on the academic achievement of social studies university students in Jordan. To achieve this purpose, a quasi-experimental design with intact classes was employed in this study. One social studies class with two sections was selected for this study. The first section with 63 students was used as the experimental group and the other section with 62 students was used as the control group. In this study, students in the experimental group listened to music during instruction whereas students in the control group received traditional instruction. Researchers' developed test (the social studies test) containing 19 multiple-choice questions were administered to students as a pretest and as a posttest to measure its impact on their academic achievement. Analysis of covariance (ANCOVA) was the statistical test used to test the main and secondary research questions of the study.

The results revealed that students who listened to music during instruction experienced improvements in their academic achievement when compared to students who received traditional instruction. This outcome confirms the fact that music has a positive impact on students' learning and achievement (Huang, 2004). Music is a teaching tool which makes learning easier, enjoyable, and helps students become more focused and alert during lectures (Olson, 2005). Listening to music may also raise emotional involvement of students in the subject area taught, ignite spiritual connections to the materials learned, and ultimately improves academic achievement (Breeze, 2000; Dryden, 1992). The results of the study is also supported by White and McCormack (2006) who explained how listening to music during instruction triggers memory and evoke deep personal meaning which may help students to make connections to their inner word as it relates to the materials learned, which makes students more likely to be inclined toward learning and obtaining better scorers on tests given. Moreover, listening to music during instruction may play an important role in improving creative thinking skills and problem

solving skills among students which can be transferred to better performance (Kelstrom, 1998; Schneider & Klotz, 2000). Further, Fiske (1999) stressed the fact that listening to music during instruction develops memorization skills by triggering the inner part of memory which help recall the subject area and listening skills which maximize the potential of brain thinking of students who listened to music and increase its activity. Ultimately, students are expected to exhibit better scores on the test given because of their triggered memory (Kelstrom, 1998).

Another strand of results concerned the impact of gender and the interaction between gender and method of instruction on the academic achievement of students. Significant differences were not found between male and female students on their academic achievement due to participation in the control and experimental groups. These results may be justified in that students in Jordan receive equal access for educational opportunities, instructors of all genders are well qualified, and the family role in encouraging education and providing equal treatment for males and females.

Conclusions

The major findings of this study showed that listening to music during instruction is an effective tool for improving student' academic achievement when compared to the traditional method of instruction. Students in the experimental group did experience a significant increase in their academic achievement scores when compared to students in the control group. These findings lends support to the argument that listening to music during instruction should be applied to all university students learning social studies mixed with traditional methods of instruction because of its profound effect in improving students' academic achievement. Moreover, listening to music during instruction should be instilled in our education system to better meet the needs of our students. However, to the researchers' best knowledge, no research studies locally exist which investigates the effect of listening to music during instruction on the academic achievement of students. Therefore, this study is considered to be the first of its kind, thus becoming a major contribution to the literature.

Finally, the present research provides a number of practical and theoretical suggestions for the field of study. From the theoretical standpoint, the present study should be (a) replicated with all universities in Jordan (b) the instrument (SST) should be enhanced by establishing its criterion and concurrent validity, (c) advanced statistical techniques should be utilized such as MANCOVA to test the impact of demographic variables such as gender, age, educational level, and socioeconomic background on academic achievement, and (d) future studies should incorporate a qualitative element into the investigation to provide more in-depth data.

From the practical standpoint, the Ministry of Higher Education should encourage administrators and faculty members to (a) incorporate listening to music during instruction into their teaching/learning process, (b) incorporate music into curriculums,

and (c) hold seminars on the university campus to provide information about the benefits of listening to music during instruction in relation to academic achievement.

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Needs Analysis on the Importance of English Communication Skills for Medical Assistants

Nalini Arumugam, Naginder Kaur
Universiti Teknologi MARA
Malaysia

Abstract

Medical assistants (henceforth MAs) are the official gatekeepers in public and private hospitals, physicians' offices, clinics and other outpatient care facilities (henceforth medical centres). They provide the human touch when one registers at a particular medical centre to consult a physician. These MAs are cross-trained in clinical and administrative aspects of their duties and as such, requirement of certain English language skills to carry out duties and responsibilities is necessary. In light of this, this study was carried out to examine the communication needs of medical assistants so as to address this gap. A quantitative methodology was adopted to determine the proportion of their daily communicative tasks carried out in English, as well as to gauge the language skills more frequently used at the workplace. The study draws several preliminary conclusions about the use of English language at workplace communication, emphasising on spoken and written discourse. The results also indicate a need for a course-design for MAs to carry out their duties effectively. Recommendations for course-design are further discussed.

Introduction

Effective English communication at the workplace is increasingly recognised as a critical problem confronting employees (Waldvogel, 2007; Waldvogel, 2005; Kankaanranta, 2005). English language proficiency in the service sector is deemed imperative as it sets the benchmark in distinguishing high quality establishments from the mediocre ones.

Effective communication is critical during interactions that occur among healthcare staff and patients on daily basis. If effective communication is absent, the quality of service rendered to patients as well as staff is compromised. Communication competence is therefore, one of the essentials to be mastered by MAs. Moreover, medical jargons in English language are used by these medical assistants to record and explain specific information on treatment procedures to patients. In order to render this professional service appropriately, the MAs need to be competent in their listening and speaking skills to interact with patients and to respond to their enquiries. Table 1 shows some categories of linguistic knowledge, skills and abilities for medical assistants, with examples of tasks ranking from 1-100.

Medical English cannot be taught at the level of or in the same methods of basic English language teaching (Hull, 2004). Career-specific, highly technical language must be contextually based and the aim of learning English for MAs is not to learn grammar and structure primarily, but to acquire and use the language of practice and social relations within the career (Hull, 2004). The research of Pratt and Brookfield (2002) in Canada, USA, Hong Kong, China and Singapore identified that trades people for example, found traditional learning in a classroom to be artificial and devoid of the realities essential to learning that career-specific language in any way that would make it meaningful and useful. This most certainly applies to the study of Medical English.

Table 1: Linguistic Knowledge Required in Workplace Situations

<i>Skills</i>		<i>Ranking</i>
Linguistic Knowledge	English Language	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition and grammar. 75
Language Skills	Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times (obtain medical histories). 86
Abilities	Speaking	Talking to others to convey information effectively (provide prescription information to pharmacies). 79
	Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do (interview patients to obtain medical information). 78
	Oral	The ability to listen to and understand information and ideas presented

Comprehension	through spoken words (assist physician during exams).	88
Oral Expression	The ability to communicate information and ideas in speaking so others will understand (explain treatment procedures to patients).	84
Speech Clarity	The ability to speak clearly so others can understand you (answer telephones).	78

Labor Market Information Report State of New Hampshire (2007)

A study conducted by Health Care (2007) revealed that trainee medical assistants learned synonyms of new words and found them to be of great help in facilitating the learning of new medical jargons. It was observed that 75% of these trainees were also more prone to using skill-oriented strategies to comprehend their peers and superiors' speech of English specialised vocabulary. This would facilitate them to be understood by their counterparts and to get the message across in the most effective and concise way (Health Care, 2007).

Ineffective communications contribute greater risks with adverse results to be faced by patients. If patients fail to understand the implications of their diagnosis and the importance of prevention and treatment plans, they may have to experience unpleasant or even life-threatening occurrences. Thus, language and communication barriers lead to reciprocated misunderstandings between patients and medical assistants.

Statement of the Problem

A broad overview of the health sector in this country reveals that English is the primary lingua franca in the public or private hospitals. A large percentage of the correspondence in the medical sector is done in English. The Health Care Report (2007) revealed that MAs who had low literacy skills concealed their inadequacies as they were ashamed in admitting their inability to read and understand well in English while some had suffered silently, grasping far less than others had expected. Furthermore, English is the medium of instruction in the syllabus which encompasses medical and health care jobs. Besides that, the hospitals need to cater for foreign doctors who are working at the public hospitals all over the country. As such, medical staff, including medical assistants, need to be proficient in English. Various studies identifying the needs of medical assistants have been conducted (John, 2007; Massey, 2003). These studies have been confined to teaching approaches but none has addressed the needs of medical assistants at public hospitals. Hence, this study is intended to identify the communication needs of MAs in the general hospital with the aim to make recommendations of course design for teaching the target group language skills they require. These skills include oral and written comprehension and expression, speech clarity and recognition, problem sensitivity, and communication with superiors, peers and subordinates at the workplace.

Research Questions

The present study is based on Hutchinson and Waters (1987) and Dudley-Evans and St John (1998) who defined needs as "target needs (i.e., what the learner needs to do in the target situation) and learning needs (i.e., what the learner needs to do in order to learn)." The focus of this study is an analysis of the target needs of medical assistants at the workplace. This research attempted to answer the following questions.

1. What are the English language communication needs of Medical Assistants in public hospitals?
2. How important is specialised communication skills training in English?
3. What communication skills should be the focus of the course design for this target group?

Limitations of the Study

The study was carried out with a sample size of 50 medical assistants at a public hospital. It is acknowledged that the views and discernments of medical assistants at one particular general hospital may differ from the perceptions of medical assistants at other hospital(s), hence does not mirror medical assistants' views, in general. The small sample size ($n=50$) too does not make allowance for any generalisations to the general population of medical assistants in all general hospitals in Malaysia.

Methodology

A survey research methodology was adopted for this study. A set of questionnaire was adopted from Nair, Krishnasamy & De Mello (2003) to elicit information from sample population of 50 medical assistants. The questionnaire was divided into three sections: demographic profile and academic qualification, knowledge of languages pertaining to their occupation and the perception of a need for an English course and also to identify the preferred teaching style. To obtain in-depth information, the medical assistants, the administrator of the Human Resource Department and the Deputy Director of the general hospital were also interviewed. The medical assistants involved in this study were working in the wards at the General Hospital, Seremban, Negeri Sembilan. They were selected by the Human Resource Department.

41% of the MAs were above 50 years old. 12% were in the age category of 21-29 years, 17% were 30-39 years old, while 30% were in the category of 40-49 years old. 52.9% had obtained diploma and 47.1% had a certificate in medical assistant programme. This reflects that all of them had undergone a formal, professional training in healthcare facilities. 70.6% revealed that they went through Malay medium instruction and all of them (100%) further exposed that they had never attended any English course at all. Thus, it could be concluded that having gone through Malay medium instruction, it must have been very challenging for these medical assistants to learn English medical jargon pertinent to the medical assistant profession. Furthermore, the said group of medical

assistants admitted that they had encountered various hurdles in carrying out their duties in the hospital due to their low language proficiency.

Findings and Discussion

Language Competence

In terms of English language proficiency and knowledge, 64% mentioned that they can speak and write fairly. This can be interpreted as the outcome of the Malay medium instruction in schools which has posed a challenge at their workplace. 30% perceived to be good while 6% rated themselves as excellent.

The majority, 82% informed that they often use English at the hospital while 18% admitted that they use the language sometimes. 41% of them claimed that they often use English outside the hospital while 59% were frank and said that they use the language only sometimes. All the MAs (100%) agreed that most of the time they use English Language when on duty. 77% of the medical assistants agreed that they communicate in English with their colleagues while 65% said that they even use English outside the hospital when communicating with friends. This shows that the medical assistants do not only need English language for their career needs but also to serve the broader goal of enhanced functioning in society.

Importance of English Language to Medical Assistants

The perception of the MAs regarding the degree of importance of each skill is shown on a four-point scale. As shown in Table 2, the medical assistants opined that grammar, speaking, listening, writing and reading are vital to their career. It is a norm for the MAs to interact personally with the patients. In order to render quality service, they need to be equipped with good English communication skills. Hence, it is necessary to gain control and proficiency in the four language skills.

Table 2: Degree of Importance of English Language Skills

<i>Skills</i>	<i>Degree of Importance (%)</i>			
	<i>Very Important</i>	<i>Important</i>	<i>Fairly Important</i>	<i>Not important at all</i>
Speaking	52.9	47.0	0	0
Listening	41.2	58.8	0	0
Reading	35.3	64.7	0	0
Writing	41.2	58.8	0	0
Grammar	64.7	35.3	0	0

The Deputy Director of the general hospital stressed that it is crucial for the MAs to be competent in English language in order to understand doctors' instructions especially during ward rounds. He also explained that,

“Most of the medical genres are still in English and the MAs need to explain clearly to the patients if the need arises. Moreover, MAs are sent for staff development and mostly it is conducted in English. The MAs who are fluent in English stand a better chance of being promoted.”

It is observed that English is also needed for providing healthcare facilities. It is required in communication, improving language proficiency and most importantly, to fulfil the needs of patients and demands of doctors dealing with healthcare facilities (Health Care, 2007).

Capability in Coping with English Language

The results in Table 2 illustrate the language facility of respondents who face challenges due to incompetent language skills. The majority, 59% felt that they could cope with conversations in English and use medical terms but with lots of difficulties, while 47% had lots of difficulties to ask and answer questions, to give instructions, and to read guarantee letters. A total of 42% admitted that they had difficulties in speaking and taking down and conveying messages, and to read reports on latest developments concerning their work. Finally, about 35% indicated that they have problems in reading and understanding general notices, completing forms for the patients and to speak in front of a crowd. 30% said they have problems in reading latest development and reports relating to their work.

Table 3 shows that only a minority, 35% of the respondents are completely capable of conveying and taking down notes, reading reports and reading and understanding general notices. These respondents might have gone through the English medium education as there are a number of nurses who are more than 50 years old.

29% of the respondents indicated that they are able to explain instructions, read guarantee letters and help patients complete details in forms while a proportion, 23% felt that they are able to ask and answer questions, speak face-to-face or over the telephone, and able to speak in public. A significant 18% concurred to being confident using medical registers and understand conversations in English. This shows that a large percentage of the MAs realised that they are of average proficiency level. The data revealed that there is a 'perceived need' for an English Language course, since the majority are not very proficient. The MAs themselves felt that there is a dire need to improve their English to increase productivity and efficiency at work. One of the respondents explained that her duties require her to communicate with a large number of foreign doctors, within the hospital and externally. She added further that better grasp in English helps her to

Table 3: Capability in Coping with English Language

Ability	Capability (%)			
	Completely Capable	Very Few Problems	Can Cope With But Lots Of Problems	Cannot Cope At All
Ability to follow & understand conversations in English	18	23	59	0
Ability to use medical terms	18	23	59	0
Ability to ask questions & answer queries	24	29	47	0
Ability to explain instructions	29	24	47	0
Ability to read guarantee letters	29	24	47	0
Ability to speak either face to face or over the telephone	23	35	42	0
Ability to convey/ take down messages clearly	35	24	42	0
Ability to speak before a crowd	23	42	35	0
Ability to read & understand general notices/office circulars	35	30	35	0
Ability help patients to complete details in forms	30	35	35	0
Ability to read reports on latest developments concerning your work	35	35	30	0

understand seminars, and talks delivered by speakers. Another respondent revealed during structured interview that,

‘Mostly I have to resort to Bahasa Melayu (L1) when interacting with patients, but to the doctors I have to use English language because they somehow prefer to communicate in English not only while prescribing medication but also when explaining the treatment and giving instruction.’

As a result, the MAs felt that even though they can cope with their daily tasks, they are unable to carry out their duties efficiently with confidence. Thus, we can conclude that the MAs are in dire need of an in-service training in English.

Degree of Importance in Carrying Out Duties Efficiently

Table 4: Degree of Importance in Carrying Out Duties Efficiently

Ability	Scale of Importance (%)			
	Very Important	Important	Fairly Important	Not Important at all
Ability to communicate	78	32	0	0
- Ability to convey/ take down messages				

clearly				
- Ability to ask questions & answer queries				
Confident & Ability to do job better	70	30	0	0
- use medical terms				
- Ability to read reports on latest developments				
- Ability to get promotion at workplace	64	22	14	0
- Ability to elevate income	6	8	40	46
- Employers encourage learning English	22	22	40	16

A total of 78% felt that they need English to communicate effectively in their present job while 70% were confident that with English proficiency they can do their job well. 64% felt that this may enhance promotional prospects while 22% agreed that their employer encourages them to do so. However, only 6% felt that knowledge of English would enable them to earn more money. In the structured interviews, the MAs said that they prefer more English classes to brush up their listening and speaking skills and general English to be able to handle communication in everyday situations. They also showed preference to task-based and learner-centred activities and lessons. All the MAs (100%) admitted that they would like to have an English programme at their workplace. The researchers noted that English is widely used in every department at the hospital. The human resource administrator attested to this. He stated that most directives, both verbal and written, meetings, seminars, are all conducted in English. He further explained the necessity of English language in medical sectors especially at hospitals,

‘The government hospital industry use more English compared to any other government organizations. At hospital we have patients of all walks of life, foreign doctors and we often deal with expertise (specialists) from other countries. Therefore we need to prepare report in English.’

Most of the respondents used English at the workplace, which adds to the difficulty of improving the language. From a different point of view, the advantage of this situation is that the respondents need to use English while at work. The workplace would be an excellent practice ground, which would make a relevant course in English more successful.

Implications for Course Design

The Higher Learning Institutions and Nursing Education should come up with completely job related English courses for trainee MAs. Therefore, the relevant course should include use and usage of the language that is job specific as advocated by Hull (2004). Since English is needed for occupational purposes, the course designers should consider items related to tasks that medical assistants need to accomplish. As Swales (1989) put it, course design should be about the “what” and “why” to meet the demand of the target group.

Medical assistants should be able to perform administrative and certain clinical duties under the direction of physicians including the task of scheduling appointments, maintaining medical records, billing, and coding for insurance purposes. Clinical duties include taking and recording vital signs, medical histories, preparing patients for examinations and administering medications as directed by physicians. In relation to this performance requirement, medical assistants need to have good communication skills by furnishing themselves with the four language skills. They also must be proactive speakers, attentive listeners and instructors, have good oral and written comprehension and expression with extra sensitivity to problem solving and deductive reasoning. Immersion activities and exposure to English speaking environment are crucial elements in enculturating the trainee MAs into the way career-specific language is actually used. As suggested by Pratt and Brookfield (2002), the policy makers and the higher learning institutions should collaborate while designing English syllabus for MAs.

Discussion and Conclusions

Despite the limitations of this study which surveyed only 50 medical assistants in a General Hospital, several preliminary conclusions can be drawn, nevertheless. It is learned that medical assistants need English language competence in order to be efficient and productive in their work. The professional courses for the medical assistants have to take into account oral and aural comprehension as communicative competence makes future job seekers more marketable. Hence, a needs analysis, the cornerstone of ESP (English for Specific Purpose) will be worthwhile. However, the needs analysis only acts as a springboard to launch a course. How well the course proceeds will depend on factors such as how motivated the learners are, the type of materials used, the instructors and any other variables that impact the teaching-learning situation. It is hoped that the findings of this research will enable course designers to concentrate on the pertinent areas of English language in order to design a course, which is learner-centred. The medical assistants in the general hospital showed a lot of interest in using English extensively for the purpose of communication, though with varying degrees of success.

The results recommend that course designers and developers of teaching and learning materials should provide more specifically focused English courses to learners in their

respective fields of work, by introducing specific genres and jargons. Contextually based language learning is crucial.

The results reflect that medical assistants use English at the workplace, only when there is a necessity and are thus, compelled to use English when there is a need. The workplace would be an excellent naturalistic setting, which would make a relevant course in English more successful to enable them to render quality service. English is undeniably the medium of communication at the hospital. The medical assistants would need to increase their language abilities to enable them to render quality service. In a larger context, this would indirectly be in line with the vision and mission that the country aspires to achieve.

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Computer Self-Efficacy and University Students with Disabilities: The Future Jordanian Workforce

Jamal Abu-Alruz

Assistant Professor, the Hashemite University-Jordan.

Yousef Iyadat

Assistant Professor

Akram Al-Omari

Professor of Educational Technology,

Mohammad Alawneh

Assistant Professor

Yarmouk University-Jordan.

Abstract

The primary purpose of this study was to determine the level of computer self-efficacy among university students with disabilities in Jordan. The General Computer Self-Efficacy (GCSE), a 32-item instrument, adapted from Murphy, Coover, and Owen (1989) was used to collect data from a sample of 170 students from three public universities during the academic year 2010-2011. Results of the study, overall, indicated that university students with disabilities showed moderate level of computer self-efficacy. Moreover, item-by-item analyses indicated that students had high level of efficacy related to aspects of storing and running the software correctly; understanding software terms; understanding the software guide, and trouble-shooting computer problems. However, a moderate level of self-efficacy existed in understanding the functions and terms of a computer hardware including the keyboard, monitor, disk drives, and processing unit, and in writing a simple program to a computer. The results also indicate that computer self-efficacy was not a function of gender and academic standing. Finally, the study suggested a number of practical and theoretical solutions for faculty members and for the university administration to address the needs of students with disabilities.

Keyword: Computer self-efficacy, university students, disabilities, Jordan

Introduction

The growth of the Internet and computer technologies has changed how and how often students use computers in the educational environment. Computer-based technologies are widely used as an instructional tool in almost every learning setting and their use is continuing to expand across higher education institutions (Hogarty, Lang, & Kromrey, 2003; Ndahi, 2001; Shuell & Farber, 2001). Technology has been recognized as an effective tool to help students accomplishing a wide variety of tasks at minimum times (Devlin & James, 2003). Instructors usually require students to complete coursework assignments utilizing a mixture of computer software (e.g., PowerPoint, Macromedia), university-based technology (e.g., internet, digital drop box, discussion board), and library technology (e.g., indexes, databases) (Day, Janus, & Davis, 2005). Moreover, instructors have been concerned about the computing skills and experience students bring to college (Havelka, 2003).

It is widely believed by higher education administrators and leaders that effective use of computer technology in the classroom will increase students' learning and achievements in an environment characterized by being highly competitive. They further believe that utilizing technology-based instruction in the classroom can achieve competitive edge in the marketplace (Glenn, 2001; Shuell & Farber, 2001) because technological tools have the power to stimulate the development of intellectual skills, creativity, and help students construct meaning, a requirement for successful employment (Gregoire, Bracewell & Laferrriere, 1996).

This was behind the reason why many universities worldwide have developed computer literacy courses for their students to graduate technology-competent students (Chisholm, Carey, & Hernandez, 2002). These courses can raise students' computer self-efficacy (Abbitt & Klett, 2007; Milman & Molebash, 2008) and can improve one's level of confidence in using a computer (Compeau & Higgins, 1995). Further, DeBell and Chapman (2006) and Wagner and Kozma (2003) report that the use of computers and the Internet is associated with improvements in education, labor market prospects, and everyday lives.

There are indications in the literature that many university students suffer from a fear of computer technology. This may be multiplied by the instructional demands of computer-based instructional technologies which require students to be capable of using a variety of related technologies such as e-mail, internet search engines, chat rooms, databases and so on (Kinzie & Delcourt, 1991). Multiple demands of this kind can leave students at a loss for personal control and withdrawn (Sproull, Zubrow, & Keisler, 1986). Such reactions could weaken students' belief in their capacity to use and learn from the computer technology presently and in the future.

Bandura (1986) defined self-efficacy as a person's assessment of their own ability to carry out a course of action in order to complete specific types of tasks. More importantly, self-efficacy is not about the amount or quality of one's skills, but, rather,

what one believes he/she can achieve with those skills. Schunk, et al. (2008) explained self efficacy as “one’s perceived capabilities for learning or performing actions at designated levels” (p. 379). Ormrod (2006) stated that self-efficacy is a person’s self constructed judgment about one's abilities in completing tasks successfully. Further, computer self-efficacy refers to individual confidence in one's capability to use a computer to perform a computing task successfully (Compeau & Higgins, 1995; Hasan, 2003; Karsten & Roth, 1998; Stone & Henry, 2003).

This self-efficacy can influence the behavior and performance of people through effects on direction, intensity, and persistence of effort to achieve a certain task (e.g., use of computer technology) (Bandura, 1986; Pajares, 1997). This suggests that self-efficacy plays a key role in individual motivation to use and engage in any task associated with the use of computer technology (Bandura, 1986; Bandura, Adams, & Beyer, 1977; Linnenbrink & Pintrich, 2002; Zhang & Espinoza, 1998). Computer self-efficacy has been identified as a key determinant of computer-related ability and the use of computers (Hasan, 2003). Consequently the impact of computer self-efficacy upon learning is now a major concern within the education system (Brosnan, 1997; Rosen & Weil, 1995). Other researchers have emphasized that efficacy beliefs related to the utilization of computer technology is clearly essential to students’ learning and success in technology supported courses (Liaw, 2002; Linnenbrink & Pintrich, 2002; Pintrich & Schunk, 2002). Kinzie, Delcourt, & Powers (1994) argued that an individual needed a somewhat high level of self-efficacy in order to successfully use technology.

From a self efficacy perspective, this suggests that the effective use of computer technology will occur in classrooms in which students come with or build positive beliefs about what they are able to do with that technology (Holzinger, 1992; Venkatesh & Davis, 1996). Computer self-efficacy is a well researched construct that has provided valuable insights into the computing capabilities of individuals inside and outside the classroom (Marakas, Johnson, & Clay, 2007; Smith, 2004). A review of the literature suggests that the current study differs substantially from prior research in at least two ways. First, this study is initiated in an international region. Second, it involves university students with disabilities, a special group that has not been investigated in the literature before.

Statement of the Problem

Computer technology use in the university classrooms are gaining increased attention. Instructors are demanding students to utilize various technological tools to achieve course assignments and projects. To accomplish such assignments, students should have the confidence in their ability to use technology such as Microsoft software, e-learning systems, the internet, and university based databases. Having high levels of computer self-efficacy considered necessary for success at universities and at future work. However, research into the levels of computer self-efficacy of university students with disabilities, to the researchers' best knowledge, is non-existent in many parts of the world including Jordan. Therefore, the primary purpose of this study was to determine the levels of computer self-efficacy among university students with disabilities in Jordan.

Another purpose of the study was focused on determining variances in the level of computer self-efficacy based on gender and academic standing. These two variables have not been explored in the literature with relation to students with disabilities and deserve further attention.

Research Objectives

To accomplish the primary purpose of this study, the following objectives were formulated:

1. To determine levels of computer self-efficacy among university students with disabilities in Jordan.
2. To determine if significant differences exist in the levels of computer self-efficacy based on the demographic characteristics of respondents including gender and academic standing.

Importance of the Study

The findings of the present study are important for a number of reasons. First, considering the facts that disabled students should be provided with the same learning opportunities as other students in the university environment, university administrators may form a better picture of the status of students with disabilities with regard to computer use. Second, proactive steps may be undertaken by the university administration to better prepare students with disabilities to better meet course requirements and workplace requirements. Third, faculty members may be more inclined to pay special care to students with disabilities by removing learning, physical, and environmental obstacles that hinder their abilities and confidence to use computer technology.

Methodology

Population and Sample

The target population for this study was defined as all university students with disabilities (e.g., hearing and physical) in three public universities in Jordan. The sample for this study consisted of a purposive sample of 198 students selected from three public universities located in the north, south, and middle regions of Jordan. A total of 170 students completed the survey with a response rate of 80%. The resulting sample included 79 males (46.5%) and 91 females (53.5%). There were 49 freshmen (28.8%), 59 sophomores (34.7%), 39 juniors (22.9%), and 23 seniors (13.5%). The mean age of the sample was 19.8 years ($SD = 1.13$; range = 18 to 22).

Instrumentation

A two-part instrument was used to collect data in this study. The first part contained the General Computer Self-Efficacy (GCSE) scale developed by Murphy, Coover, and Owen (1989). This scale has been one of the most frequently used and widely respected measures in computer self-efficacy studies (Marakas, Yi, & Johnson, 1998; Marakas, Johnson, & Clay, 2007). The GCSE is composed of 32 items measuring individuals' perceptions of their ability to accomplish specific tasks and activities involved in operating a computer. These items are rated on a five-point Likert type-scale ranged as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. This scale takes approximately 10-15 minutes to complete. Internal consistency for the GCSE was reported to be .93 (Stephens, 2006). The second part of the instrument collected information related to gender and academic standing.

Instrument Translation Process

Two translators bilingual in English and Arabic translated the English version of the GCSE into Arabic (forward translation). Those translators were instructed to retain both the form (language) and the meaning of the items as close to the original as possible but to give priority to meaning equivalence. When the Arabic translations were finalized, the GCSE was then back-translated (from Arabic to English) by two other faculty members, bilingual in English and Arabic. The back-translated items were then evaluated by a group of five faculties to ensure that the item meanings were equivalent in both the original English versions and the back-translated versions. If differences in meaning were found between items, those items were put through the forward and back-translation process again until the faculties were satisfied there were substantial meaning equivalence. The Arabic version of the GCSE was then pilot tested with a group of 10 students to collect feedback about instruments content and usage. The feedback from the students did not lead to any substantive changes. The instrument (GCSE) was pilot tested with a group of 27 students with disabilities. These students were excluded from the main sample of the study. Changes recommended by the validation panel and those identified as needed during the pilot test were incorporated into the instrument. These changes occurred in the wording of items and in the instructions for completing the instrument.

Data Collection

The data collection took place during the first term of the academic year 2010-2011 from university students with disabilities from three public universities in Jordan. The researchers identified these students through on-campus contacts, called them by phone and/or met them by person, explained to them the nature and purpose of the study, assured them confidentiality and voluntary nature of the study, and answered questions regarding the administration process. The instruments were distributed and collected by

the researchers during pre-scheduled times. Data gathering took approximately four weeks to complete.

Data Analysis

To achieve the first research objective, descriptive statistics including means and standard deviations were utilized for each item and for the overall mean value. To accomplish research objective two, independent t-tests and one way analysis of variance (ANOVA) were used to compare if differences exist in the levels of computer self-efficacy based on demographic characteristics of students. In the case where there were two levels of the variable (gender) the t-test was used while ANOVA was used when the variable has more than two levels (academic standing).

Results

The data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 11.5. Descriptive statistics for all variables in this study were examined using SPSS frequencies. The minimum and maximum values of each variable were examined for the accuracy of data entry by inspecting out of range values. An examination of these values showed that no out of range values were detected. Missing subjects were not detected, either. Results of the study are addressed by each research objective.

Results Pertaining to Research Objective One

Research objective one was about determining the level of computer self-efficacy among university students with disabilities in Jordan. Means and standard deviations were used to accomplish this objective. Table 1 presents means and standard deviations for each item as well as the overall mean value for all items ordered by the highest mean value. Higher mean values indicate a higher level of computer self-efficacy whereas lower mean values indicate a lower level of computer self-efficacy. Description of mean values was based on the following classification as follow: 1.5 - 2.49: weak value; 2.5 - 3.49: moderate value; 3.5 - 4.49: high value; and above 4.5: exemplary value. As shown in the table, the mean of the first fourteen items were above 3.50, indicating a high level of computer self efficacy related to computer software, networking, and trouble shooting. However, the rest of the items had mean values ranging from a low of 3.08 to a high of 3.49, indicating a moderate level of computer self-efficacy related to computer operations, dealing with printers and floppy disks, and programming.

Table 1 Means and Standard Deviations for all Items of the General Computer Self-Efficacy (GCSE) Scale.

Items	Means	Std Deviations
1. I feel confident storing software correctly.	4.05	.92
2. I feel confident getting software up and running.	4.00	.96
3. I feel confident understanding terms/words relating to computer software.	3.98	1.01
4. I feel confident learning to use a variety of programs (software).	3.98	.99
5. I feel confident escaping/exiting from a program or software.	3.96	1.03
6. I feel confident learning advanced skills within a specific program (software).	3.86	1.04
7. I feel confident using the user's guide when help is needed.	3.85	1.11
8. I feel confident getting help for problems in the computer system.	3.82	1.06
9. I feel confident logging onto a computer network.	3.72	1.22
10. I feel confident logging off a computer network.	3.71	1.23
11. I feel confident working on a computer network.	3.68	1.02
12. I feel confident troubleshooting computer problems.	3.65	1.14
13. I feel confident explaining why a program (software) will or will not run on a given computer).	3.58	1.16
14. I feel confident using the computer to analyze number data.	3.50	1.22
15. I feel confident using the computer to write a letter or essay.	3.49	.95
16. I feel confident entering and saving data (words and numbers) into a file.	3.43	1.08
17. I feel confident calling up a data to view on a monitor screen.	3.31	1.21
18. I feel confident copying an individual file.	3.27	.89
19. I feel confident getting rid of files when they are no longer needed.	3.26	.94
20. I feel confident working on a personal computer (microcomputer).	3.25	1.12
21. I feel confident making selections from an on-screen menu.	3.24	1.14

Items	Means	Std Deviations
22. I feel confident moving the cursor around the monitor screen.	3.23	1.23
23. I feel confident copying a disk.	3.22	1.01
24. I feel confident adding and deleting information to from a data file.	3.21	1.03
25. I feel confident organizing and managing files.	3.18	1.17
26. I feel confident describing the function of computer hardware (keyboard, monitor, disk drives, processing unit).	3.17	.95
27. I feel confident using the computer to organize information.	3.15	.98
28. I feel confident understanding terms/words relating to computer hardware.	3.15	1.03
29. I feel confident using a printer to make a "hardcopy" of my work.	3.12	1.11
30. I feel confident handling a floppy disk correctly.	3.11	1.06
31. I feel confident understanding the three stages of data processing: input, processing, and output.	3.08	1.08
32. I feel confident writing simple programs for the computer.	3.08	1.01
Overall	3.17	.32

Results Pertaining to Research Objective Two

Research objective two was if significant differences exist in the levels of computer self-efficacy based on the demographic characteristics of respondents including gender and academic standing. The t-test for independent samples was used to examine the differences in mean values between males and females. Table 2 shows that there were no significant differences at the 0.05 level between university students' males and females on the overall score of the computer self-efficacy scale. With regard to academic standing, analysis of variance (ANOVA) shows that there were no significant differences between the four group levels on the overall score of the computer self-efficacy scale.

Table 2
The Differences between Male and Female University Students with disabilities on the Overall Score of Computer Self-efficacy.

	Gender	N	Means	Std. Deviations	T	p
Computer Self-efficacy Overall Score	M	79	3.47	.35	-.20	.83
	F	91	3.48	.36		

Table 3
Differences between the Four Levels of Academic Standing on the Overall Score of the Computer Self-Efficacy Scale.

Sum of Squares		df	F	p	
Computer Self-efficacy Overall Score	Between Groups	.712	3	1.88	.13
	Within Groups	20.863	166		
	Total	21.575	169		

Discussion and Recommendations

The purpose of this study was to determine the level of computer self-efficacy among university students with disabilities in Jordan. Another purpose was to determine differences between responses to the overall level of computer self-efficacy based on gender and academic standing. A purposive sample of 170 students with disabilities from three public universities located in the north, south, and middle regions of Jordan participated in the study. Descriptive statistics including means and standard deviations were utilized to report students' level of computer self-efficacy. Overall, students had a moderate level of computer self-efficacy. In other words, university students have an acceptable confidence levels in their abilities to use various aspects of the computer technology, which enables them to proceed and succeed in the world of work.

Although the overall value of computer self-efficacy was moderate, several items received high levels of self-efficacy, meaning high confidence in their ability to handle the computer program. For example, students have the ability to use various computer programs and software computer related to aspects of storing and running the software correctly; understanding software terms; and understanding the software guide. Similarly, university students with disabilities have high levels of computer self-efficacy with regard to computer operations. For example, students have the ability to trouble shooting computer problems, analyzing numeric data, writing an essay; entering and saving data, calling up and copying files, deleting files, printing files, and working on the network. These results are consistent with the views of previous research in that self-efficacy plays a key role in individual motivation to use and engage in any task associated with the use

of computer technology (Bandura, 1986; Bandura, Adams, & Beyer, 1977; Linnenbrink & Pintrich, 2002; Zhang & Espinoza, 1998).

On the other hand, students perceived to have moderate level of computer self-efficacy related to understanding the functions and terms of a computer hardware including the keyboard, monitor, disk drives, and processing unit, and in writing a simple program to a computer. Kinzie, Delcourt, & Powers (1994) argued that an individual needed a somewhat high level of self-efficacy in order to successfully use technology. In this case, university students under study needed more training on various aspects of the computer hardware to elevate their efficacy levels.

Another strand of results indicated that levels of computer self-efficacy were not a function of gender or academic rank. It is justified that no gender differences existed because males and females have an equal opportunity to education throughout all stages of life. The results also indicated that computer confidence is the same across all years in the university starting from the first and until the last year. This may be due to the fact that students bring with them many experiences from previous stages of education. However, it appears that computer skills of these students were not developed over time.

Based on the above discussion, a number of practical and theoretical recommendations are provided for the foiled of study. From the practical standpoint, university administrators should pay more attention to students with disabilities by establishing a university-based center that handle all issues of concern related to computer technology. For example, some students may not be able to use the computer keyboard properly because of a physical handicap, which requires designing a replacement to the keyboard represented in the voice technology. Moreover, faculty members teaching courses via the computer technology should enhance the confidence of students with disabilities to use computer technology. For example, faculties may model proper behaviors and provide feedback to their students accordingly. From the theoretical standpoint, more similar research studies should be conducted with all university students with disabilities in Jordan. Future research should address the issue of progressive computer skills of students across university years through qualitative research design. Another area of research may touch base on the obstacles that face students when dealing with the computer technology depending on their type of disability.

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Assessing the Level of Employability Skills Required for Graduates of Career and Technical Education Institutions in Jordan: An Educator Perspective

Mohammad Alawneh, Rateb Ashour
Yarmouk University, Jordan

Abstract

The primary purpose of this study was to investigate educators' perceptions of employability skills required for graduates of career and technical education institutions in Jordan. A valid and reliable researchers' designed survey was used to collect data from 106 educators about the following employability skills that are needed for future university graduates: fundamental skills, personal-management skills, and teamwork skills. Descriptive statistics including means, standard deviations, and inferential testing were used to answer the research questions of this study. Results indicated that educators under study perceived graduates to possess moderate levels of personal management, team-work skills, and fundamental skills, respectively. Differences in perceptions based on demographics of respondents were not detected. The study concluded with a discussion and recommendations for the field of study.

Keywords: Employability Skills, Career and Technical Education, Workforce Development, and Jordan.

Introduction and Theoretical Framework

The fluctuations in the labor markets due to globalization, technological revolutions, economic restructuring, and changed workplace practices have forced employers to seek employees with different levels of technical, non-technical, and higher level of skills for more flexibility and adaptability. There are indications that organizations are ill-equipped with the right workers who possess the right skills to compete in an ever-changing work

environment (Arthur, 2006). Nowadays, organizations are collaborating with higher education institutions to minimize the gap between what is taught and what is needed by the labor market to supply a wealth of graduates with certain skills to sustain a cutting-edge competitive advantage (ASTD, 2006). Employers are no longer seeking workers with only academic skills but are looking for employability skills or generic attributes that educational institutions should provide to meet the needs of the workplace (Hager & Holland, 2007; Paulson, 2001; Taylor, 2005). In that respect, Ivey (2002) indicated that the danger for the present and the future is not a lack of jobs but a lack of up-to-date skills.

Previous research indicated that the future workforce should be equipped with basic employability skills including interpersonal skills, teamwork skills, communication skills, problem-solving skills, and conflict resolution skills (Carnevale, Gainer, & Metzger, 1990; Gray & Herr, 1998). Paulson (2001) indicated that employers seek employees with the right attitudes toward work and the ability to communicate. Based on a study by Parry (1998), employers perceived that the most important skills employees should possess are time management, listening, and problem-solving skills. Furthermore, Jackling and Sullivan (2007) reported that the most important employability skills required by employers are effective listening, oral communication, questioning technique, resolving financial problems, logical thinking, written communication, presentation skills, quantitative skills, time-management, and awareness of social ethical problems, respectively. Students and graduates lacking these skills will not be able to compete and effectively participate in the labor market. Therefore, according to Paulson (2001), investigating employability skills that can be provided by postsecondary education to prepare graduates to successfully enter today's performance-driven labor markets should be one of the highest priorities of career and technical education and postsecondary educational policy makers.

In Jordan, like other countries, the educational system in career and technical education (CTE) is in charge of preparing the workforce for the labor market. However, due to its economic status, Jordan's labor market cannot absorb all of their graduates, which has led CTE planners to observe the labor market needs in neighboring and international countries, and to prepare the national workforce according to their demands. Therefore, Jordan's workforce should be equipped with international-based employability skills in order to compete with other manpower competitors from other countries. In that perspective and according to European Training Foundation (ETF), the Jordanian economy must improve its competitiveness in order to be able to maintain its market share at both national and international levels.

Statement of Problem

The educational system has the responsibility to supply competent graduates with the right mixture of hard and soft skills to meet the needs of the labor markets. However, previous research indicated that there is little or no cooperation between educational institutions and labor market organizations with respect to that matter (Al-Sageer, 2005;

Zabalawi et al., 2006). To the researchers' best knowledge, studies addressing the level of employability skills of prospective graduates required by labor market organizations in Jordan are lacking. Therefore the primary purpose of this study is to determine the level of employability skills of prospective graduates soon to enter the labor market.

Research Objective

The following objectives were formulated to accomplish the purpose of the study:

1. To determine the perceptions of educators in post-secondary education in Jordan toward the level of graduates' employability skills that is needed in the labor market?
2. To determine if differences exist in the perceptions of educators regarding the level of employability skills based on the demographic of academic rank.

Significance of the Study

This study is important because it addresses one of the most important issues of the 21st century. The results of this research may benefit stakeholders from the education and labor market environments. Administrators, curriculum developers, and planners may be able to shed light on the quality of their curricula and apprenticeship and co-op programs that are offered by their institutions as it is related to the needs of business and industry. Also, it is assumed that this study will play a part in improving cooperation between education and work in terms of integrating employability skills in the CTE curriculum that might lead to enhancements of graduates' competencies and success in any future work.

Methodology

Population and Sample

The target population for this study was defined as all educators in one career and technical education institution located in the northern part of Jordan, which provides training and continuous education opportunities in different Applied, Human, Natural Sciences fields to students, employees and those who contribute to the developing the workforce and the country's economy. The total population of the study which was equal to 170 educators was used also as the sample of the study. Of those, 106 participants responded with a response rate of 62%. With regard to the academic rank, there were 44 coaches, 26 instructors, 18 academic members, and 18 faculty members.

Instrumentation

The survey instrument used for this study was developed by the researchers based on a review of previous projects (e.g., SCANS, Employability Skills 2000+, the Conference

Board of Canada) and previous research conducted on employability skills (e.g., Berkitt, 1996; Parry, 1998; Pool & Swell, 2007). A pool of items was generated by the researchers and submitted to eight Jordanian subject matter experts (SMEs) and educators to determine its suitability and applicability to Jordan's labor market. Based on that, a survey with 30 items was developed and divided into three dimensions including fundamental skills (5 items), personal-management skills (19 items), and teamwork skills (6 items). Responses to the survey items was based on a five-point Likert scale range from 1 (strongly disagree) to 5 (strongly agree). A pilot testing of the instrument indicated that it is a reliable measure of employability skills as indicated by its overall reliability coefficient of 0.94.

Data Collection and Analyses

Researchers distributed the instruments to participants selected for the study by hand, explaining the nature of the study and insuring confidentiality and anonymity issues. After collecting the surveys, the data were stored and analyzed using SPSS statistical program. Descriptive statistics including means and standard deviations were used to answer the first research objective. The second objective was analyzed utilizing one-way analysis of variance (ANOVA).

Results

Findings Associated with the First Research Objective

The study research objective was about determining the perceptions of educators' of career and technical education toward the level of employability skills of graduates soon to enter the labor market in Jordan. Descriptive statistics including means and standard deviations were used to answer the research objective. The finding showed that the overall level of employability skills needed for graduates as perceived by CTE educators are quite moderate ($M = 3.43$, $SD = 0.66$). Table (1) presents the means and standard deviations of the respondents' perspectives on graduates' employability skills represented by 30 items categorized under three-domain. The mean for all domains was above 3.43 indicating that educators perceived graduates' as moderate on their ability at performing the employability skills. Regarding the means and standard deviations of the three-domain of the employability skills, personal management skills (19-item) was slightly higher than all other means ($M = 3.36$), followed by teamwork skills ($M = 3.35$) and the lowest was the fundamental skills ($M = 3.29$).

Table (1): Descriptive Statistics for the Three Domains of Employability Skills

Employability Skills	N	Mean	SD
Fundamental skills	106	3.29	0.75
Personal Management skills	106	3.36	0.75

Employability Skills	N	Mean	SD
Teamwork skills	106	3.35	0.79
Total	106	3.43	0.66

Findings Associated with the Second Research Objective

The second research objective was about determining if differences exist in the perceptions of educators toward the level of employability skills based on the demographic of academic rank. One-way analysis of variance was used to answer this objective. As shown in table 2, there were no significant differences between the four levels of academic rank on each domain and on the overall score of the employability skills scale.

Table (2): Differences between the Four Levels of Academic Rank on Each Domain of the Employability Skills Scale

Sum of Squares			<i>df</i>	<i>F</i>	<i>p</i>
Fundamental skills	Between Groups	1.232	3	.73	.53
		57.170	102		
	Within Groups	58.402	105		
	Total				
Personal Management skills	Between Groups	1.337	3	.78	.51
		58.233	102		
	Within Groups	59.570	105		
	Total				
Teamwork skills	Between Groups	1.932	3	1.03	.38
		63.384	102		
	Within Groups	65.317	105		
	Total				
Overall	Between Groups	1.159	3	.81	.49
		48.600	102		
	Within Groups	49.759	105		
	Total				

Discussion

The primary purpose of this study was to determine the level of employability skills of graduates of career and technical education (CTE) institutions in Jordan based on the perceptions of educators. Overall, educators consider that CTE graduates possess moderate employability skills that are in need for the workplace. Despite of the slightly difference between the mean scores of the three domains, the personal management skills

which include 19 employability skills perceived as the highest, while the fundamental skills that comprise of 5 employability skills perceived as the lowest. In other words, graduates moderately possess personal management skills like work ethics, honesty and integrity, identify problem, resolve conflicts, maintain self-control, self-esteem, display positive attitudes toward work, demonstrated punctuality at work, practice time management, show accountability, ability to work under pressure, adjust to workplace changes, commitment to life-long learning, ability to balancing work and personal life, conscious of occupation and personal safety at workplace, work independently, set an action plan, and learn from others' mistakes.

While the lowest score was on fundamental skills that combined listening skills, verbal communication skills, understanding information presented in a variety of forms (graphs, charts, diagrams, etc.), use different computer applications such as spreadsheets, entering data, formulas, copying and scanning, etc., and demonstrate computer skills for simple tasks such as word processing, formatting, inserting graphic into document. Teamwork skills were not highly different from the other two domains, that is, the educators believe that the graduates of CTE possess those skills such as understanding business's language, understanding role of conflict in group, demonstrated appropriate skills in interacting with the group, and contribute to team sharing information and knowledge. Unlike Parry (1998) study which indicated that employers struggle to find workers with employability skills such as time management, listening and problem solving, the results of this study suggest that graduates of CTE possess employability skills in three domains in Jordan. The finding is consistent with The Pedagogy for Employability Group (2004) which provided a list of research carried out over the last 25 years of generic skills expected in graduates by employers such as creativity, flexibility, works independently, teamwork, ability to manage other, ability to work under pressure, effective oral communication, time management and ability to use new technology. Results also showed that differences in perceptions do not exist between educators based on their perceptions. This can be justified by the fact that all educators have equal status regardless of their academic rank.

Recommendations and implications

Due to the lack of literature on employability skills and the lack of studies on individuals' perceptions of these skills in Jordan, this study's results add up to the trends and the literature of employability skills' field. Attention should be given to employability skills by educators and educational institutions. In the current extremely-competitive local and global labor market, graduates need to market themselves to be employable, which will not happen without equipping them with generic and technical skills needed in the workplace.

To ensure the success of the CTE system, benefits to the labor market, and to ensure that graduates can compete with other competitors nationally and internationally, the following recommendations need to be taken into consideration:

1. Embedding skills in the programs' design as an integrated part or as via stand-alone courses.
2. Making sure that formative evaluations of students who will graduate include developing a set of skills that have been taught in the school.
3. Employability skills should not be developed in isolation from the workplace; therefore, the gap between the two settings should be filled by providing real-work experience for students during their study period through internships and apprenticeships.
4. A file of achievements (portfolio) should be completed by each student upon graduation that includes a rubric of employability skills. This file should be given a high level of attention from both educators and employers as they evaluate those students.
5. Even though this study examined perceptions of educators in CTE institutions, it would be worthwhile to examine students' perceptions of their employability skills as well.
6. Future research should be aware of two issues: first, this study examined specific domains of employability skills—fundamental, personal management, and teamwork skills. Obviously, the 30 items on employability skills included in this study are not all of the employability skills needed in the labor market. Second, employability skills are not static—the level of these skills could vary from location to location and the type of skills will change over time. Future research should include additional employability skills in order to be up-to-date with new trends on individuals' and labor market needs.

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The Effect of Teaching using *Strike and Posner Model* on Correcting Faulty Religious Concepts held by Students of Al-Hussein Bin Talal University (AHU), Ma'an, Jordan.

Omar Salem Al-Khatib
AHU, Ma'an, Jordan

Abstract

This study aimed at investigating the impact of using *Strike and Posner Model* in teaching on changing the Faulty Religious Concepts held by the students of Al-Hussein Bin Talal University (AHU) in Ma'an, Jordan. The study sample consisted of eighty (80) students equally divided into two groups, experimental and control. The students of the experimental group studied the following religious concepts using Strike and Posner Model: Accusing with atheism, doctrinal fanaticism, partisans fanaticism, tribal fanaticism, cheating, extremism, negligence, and violence. The control group studied the same concepts using the traditional way. After using (ANCOVA) to analyze the two groups' achievements, the results showed differences of statistical significance between the two groups' achievements in favor of the experimental group. The study recommended the necessity of training the teachers of Islamic Education to use Strike and Posner Model in teaching. It also recommended developing the curricula so that they harmonize with Strike and Posner Model. Moreover, the study recommended conducting more researches and studies dealing with other topics related to Islamic Education.

Introduction

The issue of faulty concepts that are held by students receives much attention from those specialized in the educational \ learning process. This is evident by the big number of researches and studies published in this regard and tackled a lot of aspects related to this issue, such as researches that define these concepts adopted by students and teachers and the ways of identifying them (Russell & Watt, 1990; Osborne et al., 1990; Trowbridge, 1988; Fraij, 1988), and researches attempting to shed light on theoretical and philosophical background that lurk behind the different terminologies used by the

educators for this type of concepts (Anderson & Smith, 1986; Blosser, 1987), and those that investigate how to make change in the concepts held by students (Osborne et al., 1990; Hewson & Hewson, 1983; Strike and Posner, 1982).

Educators' interest in the faulty concepts stems from the fact that those concepts are very well established in the students minds, which makes it difficult for teachers to change or replace them (Berkhimer et al., 1990; Blosser, 1987). The reason for such well establishment is attributed to many factors, some of which are related to the nature of these faulty concepts themselves, such as Procedural Concepts that result from actual practicing and continuous usage until they become automatic and unconsciously used. These concepts may not be completely wrong. They may be valid for dealing with some life situations; such validity encourages trusting and adopting them. Other procedures are related to the way people deal with thoughts that do not harmonize with their concepts. People usually accept ideas that support their viewpoints easily and without examining them. Whereas they deeply scrutinize those ideas that do not support their viewpoints to prove that such ideas are wrong. People justify the discrepancy between their ideas and a situation by saying that this situation is anomaly and cannot be taken as criteria. Others try to add other factors that originally do not exist to a situation in order to use them in explaining such situation instead of just forgetting about it (Hashweh, 1986).

Educators focus on the necessity of giving attention to Faulty Concepts held by students before starting the teaching process, because these concepts affect the way the students grasp other concepts and they also affect their response to subjects they study at school (Eaton et al., 1983). Hence, the teacher has to start by discovering the faulty concepts adopted by students, and then shake their confidence in those concepts by proving that such concepts are unable to solve some related problems. This must take place before introducing the new concept gradually, and making it clear by linking it to the students' concept network, then making it look reasonable for them and finally prove that the new concept can solve the inconsistencies of the previous concept and others (Hewson, 1981).

Faulty religious concepts are considered the ones that negatively affect the way students understand concepts and make them acquire negative attitudes, so teachers must take these concepts into consideration and rectify them, as they play big role in developing students thought and organizing their feelings according to Islamic Religion.

The adoption of faulty religious concepts by students can be referred to many reasons, some of which are:

1. The students being unaware that Quranic texts are either original or countermanded, and that the context may have two or more semantic significances, and so it preponderates to one over the other (Al-Maidani, 1980).
2. Many students think that the Holy Quran has only synonym meanings, and they are unaware of the partial interpretations and the whole meaning (Al-Maidani, 1980).
3. The students failing to understand (Hadith) –Traditions -in light of their reasons, ambiguities, and intentions. Sunna tackles a lot of simultaneous problems and it has specificity and details that the Holy Quran doesn't have. Hence, it's necessary to

differentiate between (Hadiths) that come for specific occasions and those which are general .It's also necessary to make distinction between permanent and temporary; partial and wholly, as each one has its own interpretation and rule .One example on this effect is the Prophet's (Hadith) that states: “A woman is not allowed to travel unless she has a Mahram” (this hadith has been agreed on).

The reason for this prohibition stemmed from the fact that it was extremely dangerous for a woman to travel alone when people used to travel on camels, mules, or donkeys .Nowadays, things have changed and traveling is made by modern means of transport such as airplanes that carry hundreds of passengers, therefor, there is nothing to fear if a woman travelled alone and there is no legal restriction against her, moreover, there's no violation made against this Hadith (Al-Qardhawi, 2000).

4. The students failing to differentiate between the variable intention and the constant objective that are established by Hadith .Students focus totally on the immediate intentions of Hadith as if they were the ultimate goal .But, if we study Sunna deeply we find that the point is the constant objective, as means may change from one age to another .Thus, if a Hadith states something meant for clarifying an immediate situation, for example :the Hadith that states: “Horses have bounty goes along with them till Doomsday” has to apply to any means that stands for horses or even excels them in a big deal (Al-Qardhawi 2000) .
5. Students being uncertain of the significances of the Hadith expressions whereas expressions' significances change according to place and time (Al-Qardhawi 2000) .
6. The presence of obstacles that prevent one from believing, such as fanaticism, obstinacy, and pride .Such obstacles hinder proper understanding of concepts as well as true belief (Al-Omari, 1999).
7. Interaction Emotional Religiousness (reaction religiousness), which is manifested by a person who spent his life away from religion, then due to being subjected to a certain situation that made his life change totally from one extreme to the opposite, he adopts religion only in appearance .This type of person is characterized by strong feelings and extra enthusiasm in a way that drives him away from reasonable legitimate limits, acting as if the rituals themselves are the ultimate objective .That's why we find such rituals are deprived from their spiritual value. Moreover, fanaticism does not end with personal behaviors of a fanatic; it extends its effects to the community .Thus, we find a fanatic person forces other people to act like him and he may assault them if they don't (www.ebnmasr.net/forum).

A lot of educators advocated for the necessity of paying attention to faulty concepts held by students so as to change it and make student follow the concepts accepted by scholars (Fisher & Lipson, 1988) .This requires teachers, especially those teaching Islamic Education, to develop thought of students by encouraging them to solve problems, build up constructive criticism, make presuppositions, and pass judgment. This can be achieved through the following :

First: Avoiding spoon-feeding as a way of teaching and persuading. Spoon feeding by educators is the reason for poor faith of all Islamic nations and its rigid way makes people inactive (Ghanem, 2004).

Second: Employing methodology and knowledge resources so that students gain scientific knowledge skills of teaching methods, understanding,formulating questions, organizing, and interpreting; and employing mental information such as classification, categorization, analysis, comparison, experimenting, meditation, criticism, knowing cues of time and place factors, solving problems and designing alternatives .Since developing scientific thought of all types is the key to scientific dealing with the life at present and in the future (Ghanem, 2004).

One of the teaching models suggested for making conceptual change in students is the Strike and Posner Model (Posner et al., 1982; Strike & Posner, 1985), which is based on resembling the conceptual change process with the process of shifting from a specific intellectual framework to another .It's also resembles the conceptual change with the two processes of Assimilation and Conformity of Piaget, where he considers Assimilation a type of integrating the new concept with the old ones of the learner and linking it up with them; while conformity refers to amending the concepts of the learner so as to conform to the new ones in such a way that we reach new conceptual structures based on old ones (Wittrock, 1985). Strike and Posner used assimilation to refer to learning types that do not need big conceptual change because learner can use his current concepts to deal with the new idea, while conformity refers to learning types that need big conceptual change because learner's current concepts don't help him to deal successfully with the new phenomena (Strike & Posner, 1985) .Strike and Posner specify the characters of the conceptual structure that specifies the two processes of assimilation and conformity as follows:

1. The existence of Problems and Contradictions: any idea fails to explain some of the contradictions it faces is a basic factor for seeking an alternative one.
2. Similarities and Metaphors: lead to forming new ideas and help understanding them.
3. Models and Images: explanatory examples; intellectual experiments; and imagined and fabricated objects affect individual's sense of what is reasonable .
4. Previous Experience :concepts that contradict with the previous individual's experience is not easy to be accepted .
5. Knowledge Obligations, which include:
 - a. Explanatory Models; they refer to what is considered successful explanation in a certain field.
 - b. General Ideas on Knowledge Characteristics :they refer to successful knowledge criteria such as beauty and economy.
6. Beliefs and Metaphysical Concepts, which include:
 - a. Beliefs and metaphysical concepts about science such as regularity, assimilation, and non-randomness.
 - b. Metaphysical concepts of science such as believing that space and time are absolute.
7. Other Knowledge, which includes:
 - a. Knowledge in other topics.

- b. Competitive Concepts :i.e .the selected concepts to be more valid than the competitive one (Alwahr, 1992; Strike & Posner, 1985) .

Strikes and Posner Model is based on the following steps for executing the strategic teaching process which aims to change the concepts of students :

1. Detecting the faulty concepts held by students .
2. Students' participation in observing daily phenomena and problems in concern and handling them .
3. Shaking the students' confidence in the current concepts they have by encouraging them to monitor the conflicting events that their own concepts cannot solve .Thus, showing them that their current concepts are unable to solve a lot of puzzles and enigmas related to this concept .This can be achieved by asking the students difficult questions that never occurred to their mind .
4. Conducting discussions and debates among students so they can discover that there are other ways of thinking than the ones they use .
5. Introducing the new concept gradually through :
 - a. Building a conceptual network in which we can place the new concept, with the help of using metaphor and assimilation.
 - b. Linking this conceptual network with the world through assimilation model.
6. Convincing the student with the reasonability of the new concept .This can be achieved:
 - a. When the individual finds that the new concept agrees with his metaphysical beliefs.
 - b. When he finds that the new concept agrees with theories or other knowledge in which he is interested.
 - c. When he finds that the new concept agrees with his previous knowledge.
 - d. When the new concept conforms with the individual's awareness of the world and his awareness of what this e
 - e. When the individual finds out that the new concept can solve the problems that concern him.
 - f. When he finds that the new concept is similar to another concept which is familiar to him.
7. Application and Integration :this includes adding every concept to a set of different duties because students can't understand these concept unless they use the new concept successfully in a group of daily situations and other scientific contexts in a way that the new concept leads to fruitful research programs, that is, to have the ability to expand and open new fields for inquiry .This happens not only when new concept solves the conflicts of the previous concept, but it also leads to new discoveries (Strike & Posner, 1985); (Hewson, 1981); (Anderson, 1987).

Strike and Posner Model is considered one of the teaching models which depend on Structural School in teaching .Such models adopt several theories, namely, Bruner theory that focuses on organizing the study material; Gagne theory that adopts the idea of

previous learning and its effect on the post learning; and Ausubel's Meaningful Learning theory in which he integrated Gagne and Bruner's theories and focused on organizing the study material as well as the previous learning, so he divided learning into receptive learning and explorative learning, where the meaningful learning takes place if the teaching material is linked to the learners' previous experiences, and this can be achieved by giving a chance to the learner to find real links between new concepts and those previously formed in his cognitive structure (Dawood & Majeed, 1991). That way, the learner forms the knowledge structures actively which help him perceive the world around him so as to make new experiences meaningful and significant (McCormick & Pressely, 1997). Thus, the learner continuously seeks to organize what he learned by using different mental operations such as understanding, explanation, analysis, and deduction, so as to make suitable decisions and achieve learning goals (Toaq & others, 2001; Pressely & Woloshyn, 1995).

Strike and Posner Model is considered one of the most important models in the learning process. It acquires students the way to process information; and how to think independently. This Model is based on a group of assumptions, on the top of which are:

1. Teaching is done by linking new information with previous knowledge. Information is stored in memory as cognitive structures called plans; a plan is what the learner knows about a subject. The learner uses such knowledge to form hypothesis or predictions related to the text and its purposes then such hypothesis and predictions become the purpose of learning.
2. Learning is a way of organizing knowledge. Organizing means arranging thoughts and information in such a distinctive way.
3. Learning is a sort of acquiring experience from Cognitive and Para-cognitive structures, that is, learning will be strategic when learners are aware of the skills and strategies they use in learning and they control their attempts to use them (Al-Shaikh, 1989).
4. Knowledge develops as a result of moving from one intellectual framework to another.
5. The process of conceptual change is based on changing the concepts already held by the students through the process of learning, as new ideas are not only added to old ones, but they interact with and change them, and both of them may change together (Perez & Alis, 1985; Strike & Posner, 1985).
6. The teaching process that takes into consideration the students' previous concepts leads to a better possession of the scientific concepts and omitting the faulty ones (Hewson & Hewson, 1983).
7. Discussions and considering others' viewpoints in the process of learning lead to changes in the students' viewpoints (Driver, Guensene, and Tiberghien, 1989).
8. Students understand well only what they invent, comprehend, or discover by themselves (Woolfolk, 1997).
9. Learning is an active process. Students build new thoughts during learning and develop their conceptual base. Thus, concepts meaning is self-built by the learner. This means that knowledge is well-established within the learner's mind due to interaction between his senses and the external environment, and as a

result, the individual re-organizes his knowledge which he learns in such a way that suits his developmental preparation which enables him to progress in acquiring knowledge, mastering its operations, and lessening the gap between the advanced level of knowledge and its basic levels (Good & Brophy, 2004).

The need for using Strike & Posner's Model in teaching religious concepts is increasing because it contains highly abstract doctrinal concepts, and learning such concepts requires long periods of time in which the learner moves gradually with the concept required from ambiguity up to clarity until the concept becomes completely clear . Moreover, these concepts have to be simplified when taught to students through putting them in the context of a story related to the students' life or, introducing these concepts accompanied by a set of related or unrelated examples which clarifies their purposes .In addition, religious concepts include concepts that may be classified horizontally or vertically, and each of these concepts includes a number of characteristics which distinguishes it from other concepts .Hence, when the learner wants to learn the concept and grasp it, he looks at the characteristics of the concept .The more these characteristics are varied and numerous, the more learning the concept becomes easy .This is because when the characteristics of the concept are varied and numerous, the chance for the learner to find and grasp one of them increases accordingly .

A concept is formed as a result of the existence of a type of connection between the characteristics that form this concept .And, the information the learner receives must become concepts that he holds, and must be linked with tangible reality or, with what indicates tangible reality or perceived in mind .This correlation or what's called conceptual rules has its effect in learning and acquiring the concept easily .Therefore, the more these rules are simple the easier learning the concept can be, and vice versa (Al-Aqtash, 1996).

Accordingly, due to the importance of these religious concepts in life of the students : improving their status quo and forming their beliefs; and due to the necessity to prepare teachers of Islamic Education and train them to extract the Islamic concepts, analyze them, benefit from them during teaching process, and use modern models in teaching these concepts which is stressed by several studies of this type (Shteweh, 1999; Al-Omari, 1990; Al-Khawaldeh, 2003), the need emerges for using Strike and Posner's Model in teaching to help the teacher to play his role as a facilitator and guide and helps the learner /student to learn in a way that suits his abilities and skills, therefore this study has come to measure the effect of Strike and Posner's Model in changing the faulty religious concepts of the students of AHU.

The Problem of the Study

The researcher has noticed while teaching Islamic Education subjects at AHU for about ten years, that there are problems facing the process of learning religious concepts. These problems are:

- The low level of acquiring the social coexistence skills such as tolerance and non-extremism by the students.
- Students acquiring a lot of faulty religious concepts .
- The effect of faulty religious concepts on the students' behaviors and attitudes.
- Sticking with the faulty religious concepts due to intellectual, doctrinal, and tribal fanaticism .
- The existence of a gap between what the students learn and the effect of what they learn on their life and on rectifying their behavior accordingly .This may be due to acquiring faulty concepts that lead in turn to a negative behavior .
- Adopting the method of lecturing in learning by the students and avoiding the methods that lead to thinking .

Based on this, the study problem has been limited to the following question: "What is the effect of teaching by using Strike and Posner' Model on changing the faulty religious concepts of the students of AHU in Jordan?"

The Study Hypothesis

Based on the study question the study hypothesis has been formulated as follows :There are no differences with statistical significance at the level of ($\alpha = 0.05$) in changing the faulty religious concepts of the students at Al- Hussein Bin Talal University in Jordan attributed to the way of teaching (Strike & Posner Model, the ordinary way).

The Study Significance

The study's significance lies in the following :

1. It's based on developing thinking and mental abilities, as developing scientific thinking in different ways is the key factor for dealing scientifically with life at present and in the future.
2. It is based on employing methodology and knowledge resources so as to make students acquire scientific knowledge skills of teaching methods, understanding, making questions, organizing, interpreting; and employing mental information such as classification, categorization, analysis, comparison, experimenting, meditation, criticism, knowing cues of time and place factors, solving problems and designing alternatives.
3. The study agrees with educational attention in the field of teaching Islamic Education which calls for the necessity of using new teaching ways for studying the modern challenges and getting along with what is positive.
4. It responds to the recommendations set by the Arab Education Organization (1990) that called for the necessity of creating scientific and correct awareness through paying attention to the religious concepts and the way of introducing them; and applying modern approaches when teaching them.

5. It may help in developing the design of the university study curricula by directing curricula design to develop and adapt the study material to be in the form of conceptual design .

Procedurals Definitions

- *Strike & Posner Model* is the group of procedures used in changing the following faulty religious concept: Accusing with atheism, doctrinal fanaticism, partisans fanaticism, tribal fanaticism, cheating, over estimation, under estimation, violence, and extremism (adopted by the experiment group of AHU .These procedures are represented in the participation of the students in seven stages of learning, namely :
 1. Detecting the faulty concepts held by students .
 2. Students' participation in observing daily phenomena and problems in concern and handling them .
 3. Shaking the students' confidence in the current concepts they have by encouraging them to monitor the conflicting events that their own concepts cannot solve .Thus, showing them that their current concepts are unable to solve a lot of puzzles and enigmas related to this concept .This can be achieved by asking the students difficult questions that never occurred to their mind .
 4. Conducting discussions and debates among students so they can discover that there are other ways of thinking than the ones they use .
 5. Introducing the new concept gradually through :
 - a. Building a conceptual network in which we can place the new concept, with the help of using metaphor and assimilation.
 - b. Linking this conceptual network with the world through assimilation models.
 6. Convincing the student with the reasonability of the new concept .This can be achieved:
 - a. When the individual finds that the new concept agrees with his metaphysical beliefs.
 - b. When he finds that the new concept agrees with theories or other knowledge in which he is interested.
 - c. When he finds that the new concept agrees with his previous knowledge.
 - d. When the new concept conforms with the individual's awareness of the world and his awareness of what this e
 - e. When the individual finds out that the new concept can solve the problems that concern him.
 - f. When he finds that the new concept is similar to another concept which is familiar to him.
 7. Application and Integration :this includes adding every concept to a set of different duties because students can't understand these concept unless they use the new concept successfully in a group of daily situations and other scientific contexts in a way that the new concept leads to fruitful research programs, that is, to have the ability to expand and open new fields for inquiry .This happens not only when new

concept solves the conflicts of the previous concept, but it also leads to new discoveries (Strike & Posner, 1985); (Hewson, 1981); (Anderson, 1987) .

- ***The Traditional Way:*** is the group of procedures by which the control group learn the following faulty religious concepts :(Accusing with atheism, doctrinal fanaticism, partisans fanaticism, tribal fanaticism, cheating, over estimation, under estimation, violence, and extremism) with the help of the teacher of Islamic Culture and his direct guidance using the traditional way in managing the class.
- ***The Faulty Religious Concepts :***The faulty religious concepts can be defined as a set of concepts or information, practices, and belief represented by the following : (Accusing with atheism, doctrinal fanaticism, partisans fanaticism, tribal fanaticism, cheating, over estimation, under estimation, violence, and extremism) which the students of AHU have studied in the first semester of the academic year 2008- 2009.
- ***Al-Hussein Bin Talal University students :***a group of full-time students at the Faculty of Educational Sciences who studied the Islamic Culture course during the first semester 2008/2009.

The Study Limitations:

This study has been carried out and executed under the following limitations :

- **This study was limited only to the following concepts :**(Accusing with atheism, doctrinal fanaticism, partisans' fanaticism, tribal fanaticism, cheating, over estimation, under estimation, violence, and extremism) taught at AHU in the first semester 2008/2009.
- **This study was also limited to a sample of AHU first-year students** at the Faculty of Educational Sciences who studied the Islamic Culture course during the first semester 2008/2009.
- **The results of this study are partially limited by :**
 - The characteristics of the measuring tools used and its ability to identify the variation among students in changing the faulty religious concepts.
 - The teacher's capability in applying the study by using Strike and Posner Model.

Literature Review

In the light of reviewing the previous literatures related to this study, the researcher examined a set of studies that investigated the effect of using the conceptual change models .The researchers who conducted these studies have pointed out the significance of these models and their effectiveness in changing the faulty concepts .Most of these studies were in the field of science .Hence, the researcher didn't come across any study using Strike & Posner Model for changing the faulty religious concepts of the Islamic Education course .Nevertheless, these previous studies were used to build this study's

tools and they were also used for discussing the study results and making comparisons between the previous studies and this one. The previous studies that were examined are:

- Al-Khatib (2005) conducted a study titled “The Effect of the Structural Learning Model in the Islamic Culture course on the students’ achievement and making an integrated conceptual structure and trends by the students of AHU .The sample of study was 120 students of AHU divided into two groups: experiment group and control group .The sample was selected in an intentional manner .The results revealed the presence of differences of statistical significance in the achievements of the students who studied the Islamic Culture concepts using Structural Learning Model compared to the achievements of students who studied the Islamic Culture concepts using the traditional way .These differences were in favor of the experiment group .The results also showed differences of statistical significance in the conceptual structure of the students who studied the concepts of Islamic Culture using the Structural Learning Model compared to the conceptual structure of students who studied the concepts of Islamic Culture using the traditional way in favor of the experiment group.
- The study by Al-Shamalti (2004) titled “The Effect of Teaching Using Learning Course and Conceptual Maps Model on Acquiring Upper Primary Stage Students the Juristic Concepts” .The study sample consisted of 455 students selected randomly from 18sections .These sections were divided equally between the two genders .The sample was selected randomly from 8th, 9th, and 10th grades .It was randomly divided into two groups :the experiment group that was taught by using the Learning Course and Conceptual Maps Model and the control group which was taught using the traditional way. The results showed differences of statistical significance in the achievement of students in the three classes attributed to the way of teaching in favor of experiment group.
- Al -Zu’bi & Obeidat (2003) conducted a study to show the effect of using the principles of the Structural Theory by teachers of science while teaching scientific concepts, on students’ achievement in those concepts and on forming integrated conceptual structure by them .The study sample consisted of 420 students from 7th grade in 6 schools covering 12 sections. 6 sections were designated as experiment group and the other 6 sections as control group .The study showed differences of statistical significance between the average marks of the experiment group and those of the control group in the achievement test, in favor of the experiment group taught by using the principles of Structural Theory .The study also showed differences of statistical significance between the averages of experiment group marks and those of the control group in the conceptual structure test in favor of the experiment group learned by using the principles of Structural Theory.
- Al-Ayasrah (1992) conducted a study to investigate the effect of using the Conceptual Change Strategies on acquiring the students in the 1st secondary class the perfect understanding of the Force Concept .The study sample involved (60) students . (32) students in the experimental group who were taught using the Conceptual Change

Strategies and (28) students in the control group taught by the Traditional Way .The results showed that there was a number of faulty concepts related to Force, and that there was a decrease in the level of these faulty concepts with statistical significance among the experimental group students compared to that of control group students.

- Al-Wahar (1992) conducted a study to investigate the effectiveness of one of the Conceptual Change Strategies in changing the faulty concepts among the students in the 8th grade related to the chemical compounds .The study sample consisted of (303) male and female students covering (8) sections in (4) schools, two sections for each school . One section was experimental while the other was control .The results showed differences of statistical significance between the marks average of the experiment group and that of the control group in the following aspects :the ability to give correct scientific explanation for the answers; using the scientific concepts perfectly; and the solidarity of the conceptual structure in favor of the experiment group which was taught using the conceptual change strategy .The result also showed an excellence of statistical significance by the conceptual change strategy in formulating positive attitudes towards the teaching material in favor of the experimental group.

Through reviewing the previous studies that tackled the effect of using the Structural Learning Models of on teaching we may come out with the following notes:

- Most studies came in the field of general sciences and its sub-fields (Biology, physics, and chemistry), while the studies of religious and others materials were rare .The researcher found two studies :the first was by Al-Shamlati (2004) about the effect of teaching using the Learning Course and Conceptual Maps Model on acquiring students in the upper-basic stage the juristic concepts .The second was by Al-Khatib (2005) investigating the effect of teaching using one of the Structural Learning Models on acquiring the students of AHU in Jordan the concepts of Islamic Culture course and formulating an integrated conceptual structure for this course.
- All studies that investigated the effect of using the Structural Learning Models in teaching proved the excellence of the Structural Trend in teaching over the Traditional way in the following aspects:
 - The capability to increase the students' achievements in concepts already studied.
 - Forming an integrated conceptual structure of the concepts already studied.

This study came to contribute in verifying the results of teaching using Strike and Posner Model in changing the faulty religious concepts of AHU students.

Approach and Procedures

Study sample

The study sample involved 80 first year students studying the Islamic Culture in AHU, their ages range between 18 to 19 years .The sample was selected in an intentional manner to suit the researcher in respect of access and availability .The sample was divided equally into two groups, experimental and control.

Study tool

Test of the following faulty religious concept: Accusing with atheism; doctrinal fanaticism; partisans fanaticism; tribal fanaticism; cheating; over estimation; under estimation; violence; and extremism, has been used .The test was prepared according to the following steps:

- A set of initial open-end question was prepared on the faulty religious concepts expected to be held by the students .These questions were applied to four students sections at AHU in the academic year 2008 /2009, and the most important conceptual errors committed by the students were collected .Then, a group of the students were interviewed and the same questions were posed to them directly so as to collect the biggest number of faulty religious concepts .The researcher found out that a high percentage of the students have faulty religious concepts represented by Accusing with atheism; doctrinal fanaticism; partisans fanaticism; tribal fanaticism; cheating; over estimation; under estimation; violence; and extremism .
- The Test was prepared initially of 21 situations each of which consists of a phenomenon or an event such as the explosions in the Int'l Trade Center, Riyadh, and Amman; and the use of licit and illicit expressions for Accusing with atheism by religious persons against the slightest violations .These situations were followed by 4 answers from which the student has to choose the correct one.
- The test was referred to 9 arbiters holding doctoral degree in Curricula and Teaching Methods to judge its appropriateness to detect the faulty concepts held by the students among those targeted by the study .The arbiters commented on the test and it was amended accordingly
- The test was administered to 40 students of the study population at the 1st semester in the academic year 2009/2009 .Its constancy was calculated by way of internal consistency using Cronbach formula and its value was (0.81).

Test Constancy

The test was administered to a sample of 40 students from the study population other than those of the present study .The results were analyzed and kept .Then, 3 weeks later, the test was re-administered to the same sample .And, for the purpose of measuring the test constancy, the constancy coefficient for the test items was calculated according to Pearson coefficient between the students' marks at the first time and those at the second

time. The value was (0.83) which indicates that the test has an appropriate constancy. The test consisted of 25 situations (Appendix 1).

Educational Material

There were two types of educational materials:

1. Educational material designated for Strike and Posner Model.
2. Educational material designated for the traditional way of learning.

First: the first educational material was prepared according to the following steps:

- a. The concepts targeted by the study were analyzed and divided into sub-concepts each of which has a certain idea.
- b. General and specific objectives were derived from these concepts and focused on enabling the students to possess higher mental skills such as analysis, classification, structuring, and ability to form conceptual plan for the concept.
- c. A number of the examples illustrating the concepts were chosen and divided into relevant and irrelevant examples.
- d. Certain lectures were allocated for each concept. The total number of the lectures was 22.
- e. Eight booklets for the lessons on the targeted concepts were prepared according to Strike and Posner Model. These booklets covered all the basic and secondary concepts being studied. They also covered the educational aims formulated in a behavioral form. Strike and Posner Model may be summarized in the following figure:
- f. The booklets were submitted to nine arbiters holding doctoral degree in Curricula and Teaching Methods who have publications on the Structural Model in teaching to give their opinion about the extent to which these booklets represent Strike & Posner Model. The arbiters gave a few remarks and booklets were amended accordingly

Second: the teaching material for the ordinary way of learning was prepared based on the following steps:

- a. The targeted concepts, namely: Accusing with atheism; doctrinal fanaticism; partisans fanaticism; tribal fanaticism; cheating; over estimation; under estimation; violence; and extremism, were analyzed.

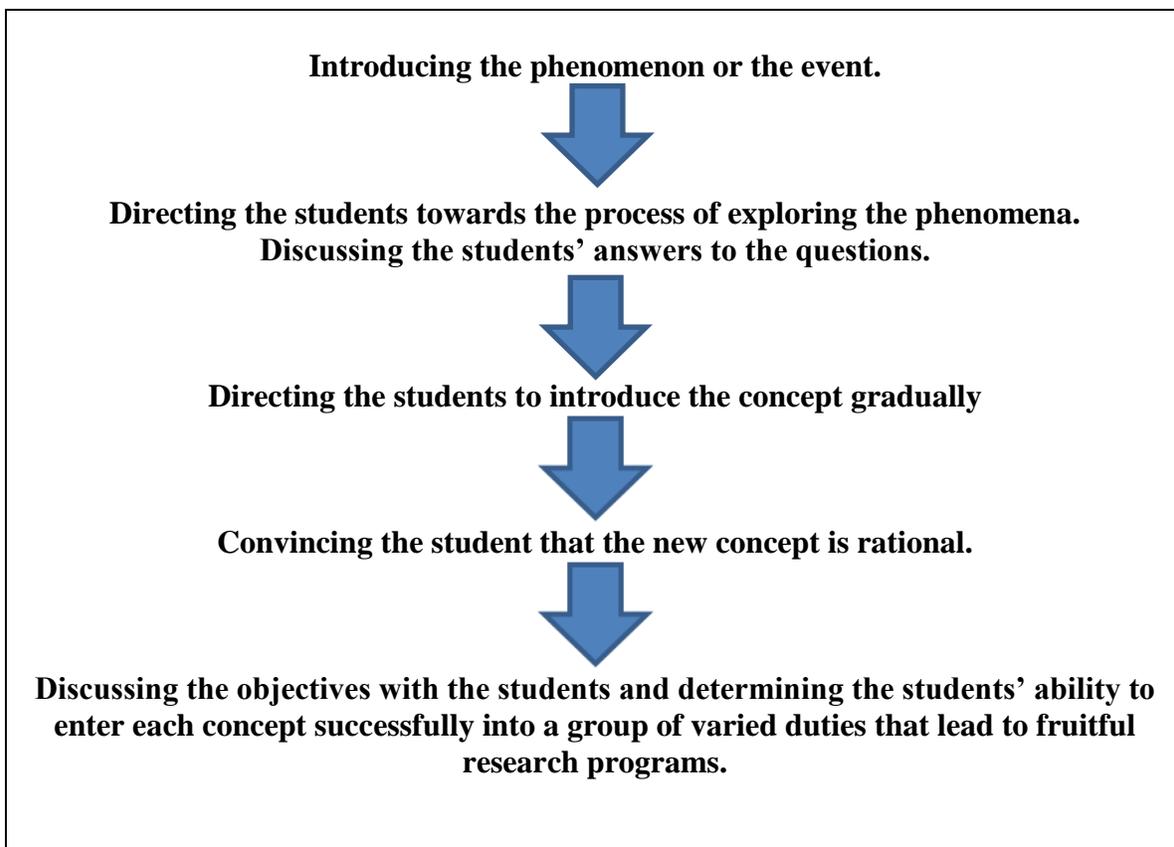


Figure 1 Lessons Preparation Booklets in Accordance with Strike and Posner Model.

- b. General and specific objectives were derived from these concepts focusing on clarifying and explaining the concept.
- c. Certain lectures were allocated for each concept. The total number of the lectures was 22.
- d. Booklets were prepared according to the traditional way of learning (lecturing method). These booklets covered all basic and secondary concepts. They also covered the educational objectives formulated in a behavioral form.

Study Design

This study is semi-experimental, with intentionally-selected sample. It is based on investigating the effect of Strike and Posner Model on changing the faulty religious concepts held by students. The independent variable has two levels:

1. Strike & Posner Model.
2. The Traditional Way of Learning.

The group taught using Strike and Posner Model was considered as the experimental group while the group taught using the Traditional Way was considered the control group.

The dependent variable is: the effect of the teaching method on changing the faulty religious concepts held by the students.

Study design can be expressed as follows:

G1	O1	X	O1
G2	O1		O1
	Pre-teaching test		post-teaching test

Given that:

G1: the experimental group.

G2: the control group.

O1: faulty religious concepts changing test.

Statistical Processing

To identify the effect of using Strike and Posner Model and the Traditional Way for Teaching, the researcher conducted a pre-test, that is, the faulty religious concepts changing test. The same test was introduced after finishing the teaching process, then the averages and the standard deviations for the experimental and control groups marks were calculated. Moreover, to determine the equivalence of the two groups, the students' averages in both variables for each group were calculated. Then the ANCOVA tool was used to compare between the post-averages after deducting the effect of the pre-test.

Results and Discussions

The study aimed at investigating the effect of Strike and Posner Model on changing the faulty religious concepts held by students compared to the Traditional Way of Teaching.

After applying the study procedures, the following results have been reached:

- Results related to the Zero Hypothesis: this hypothesis stipulates that there are no differences with statistical significance at the level of ($\alpha = 0.05$) in changing the faulty religious concepts of the students at AHU attributed to the way of teaching (Strike & Posner Model \ the Traditional way).

To test this Zero Hypothesis, the averages and standard deviations of the two groups' students' marks were calculated.

Table 1 shows the descriptive data related to the two groups targeted by the study.

Table 1 Averages and Standard Deviations for the students' marks in the two groups in the pre and post-tests

Group	Experimental				Control			
	Pre-test		Post-test		Pre-test		Post-test	
Activity indicator	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation	Average	Standard deviation
	7.825	1.79583	20.2	2.50333	7.5	1.5359	13.5	2.0381

Its' noted from Table 1 that the marks average for the two groups increased in general in the post-test. But, the increment in the marks average of the experimental group was higher than that of the control group. Accordingly, the marks average in the post-test for the experimental group was (20.2) marks and the Standard deviation was (1.79583), while the marks average in the post-test for the control group was (13.5) and the standard deviation was (2.0381).

To determine whether there were differences of statistical significance between using Strike and Posner Model and using the Traditional Way in changing the faulty religious concepts, ANCOVA tool was used to test the first Zero Hypothesis related to using Strike and Posner Model for changing the faulty religious concepts. Table 2 shows the summary of ANCOVA analysis for the performance of the study sample in the faulty religious concepts test.

Table 2
ANCOVA Results for the Performance of the Two Groups in the Faulty Religious Concepts Test

Tests of Between-Subjects Effects

Dependent Variable: post

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	920.044 ^a	2	460.022	92.206	.000
Intercept	1320.230	1	1320.230	264.626	.000
pre	22.244	1	22.244	4.459	.038
Groups	916.958	1	916.958	183.794	.000
Error	384.156	77	4.989		
Total	24018.000	80			
Corrected Total	1304.200	79			

a. R Squared = .705 (Adjusted R Squared = .698)

It's noted from Table 2 that there is a statistical significance ($\alpha = 0.05$) for the value of statistical (F) that is equal to (4.495) related to the effect of using Strike and Posner Model on the variation of the study sample marks in the faulty religious concepts test, which can be attributed to:

1. The (Interaction) characteristic used in Strike and Posner Model which is based on the participation of the experiment group students in several stages of learning, such as identifying the alternative concepts, observing daily phenomena and problems, shaking the students confidence in the faulty concepts, and presenting the new concept gradually; all this has contributed in consolidating the concept that experiment group students have reached. It also helped the students in their achievements which is indicated by their rapid progress in learning, remembering the concept details longer, and their ability to apply knowledge properly; in contrast with the Traditional Way of Learning that depends mainly on the teacher.
2. The fact that Strike and Posner Model focuses on the necessity that learners should be aware of the skills and strategies they learn through the process of learning and the necessity of controlling their attempts to use these skills and strategies. Such focusing made the experimental group's learning a strategic and organized one.
3. That Strike and Posner Model is based on the necessity of introducing the concept in the form of a problem and a situation. This made the experimental group students more sensitive to the problems they encounter, more concerned in solving them, and it also made them suggest new ideas and solutions which led them to get high marks.
4. The fact that Strike and Posner Model introduces the teaching content in a way that suits the logical arrangement of the content, which is based on introducing the concept gradually starting with the easy then the difficult. This fact made it easy for the experimental group students to learn the religious concepts and made them achieve better.

The results of this study agree with the results of the following studies: Al-khatib (2005), Al-shamalti (2004), Al-Zu'bi and Obeidat (2003), Al-Ayasrah (1992), and Al-Wahar (1992).

Recommendations

Based on the study results, the following recommendations may be suggested:

1. Conducting pre-service and in-service training courses for teachers of religious materials on nontraditional teaching models, specifically those that adopt the Structural Theory in teaching.
2. Teachers of religious materials should focus on helping the students develop their ability to grasp concepts through effective planning and implementation of learning \ teaching situations within the Structural Theory in teaching.
3. Urging those in charge of preparing and developing religious curricula to introduce teaching models that are based on the Structural Theory in teaching, to encourage students to practice activities and interact with each other, and make curricula include problems and activities that help the students enhance their

ability to think and solve problems in a proper and scientific way that suit their development stages.

4. Conducting more studies and researches that focuses on using Strike and Posner Model in teaching so that they take up more dimensions other than those covered by this study.
5. Conducting similar researches that cover other courses of Islamic Education to measure the achievements in these materials.

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Appendix (1)

Samples of the Questions in the Study Tool

Q1. A professor was giving a lecture on 'Dealing with Others', and what are the consequences of causing problems with others. At the end of the lecture, there was a discussion in which a student objected to some of the issues that the professor mentioned because the student has problems in with others.

In your opinion, what is the position that must be made by the professor?

- a. Accepts the objection and tries to convince the student that he should know the view of religion regarding hurting others.
- b. Refuses to discuss this issue with the student.
- c. Punishes the students and tells him to leave the lecture.
- d. I can't give my opinion regarding this matter.

Q2. The writer Jonesbak tells in his story set in the year 660 AD, that the hero of the story, "Ralph", was able to save a Swiss young lady whose house was nearly buried by snow, by sending an atomic radiation from New York to Switzerland.

What is your position on this belief, as alleged by the writer?

- a. This event is just a fantasy that may come true someday.
- b. This event is just a fantasy that will never come true.
- c. I wonder why such event is given attention while it is not realistic.
- d. I support the opinion of the writer because I admire his writings

Q3. Some religious persons accuse others of atheism just for wearing trousers or long cloaks.

What do you think of that?

- a. I agree to this, because my teacher does the same.
- b. I agree to this, because many people do the same.
- c. I agree to this, because it satisfies my desire.
- d. I don't agree to this because ruling on the apparent is not permissible in Islam.

Q4. While you were walking in the street, you saw a young man hits another young man because he smokes, a group of people were watching the situation without interference.

What's your opinion about the situation?

- a. The smoking young man deserves beating.

- b. The young man who hit the other deserves punishment because he does not have the right to punish others for any reason.
- c. This young man does not have the right to beat the other young man for any reason.
- d. I have nothing to do with it.

Q5. Suppose that you live with your two brothers in the house, and because you are too busy, you are absent from home a lot, and while you were listening to news on TV, you heard that one of your brothers was deceived and carried out a suicide mission and lost his life because of it.

What is your position on that?

- a. I blame myself because I failed to follow up my brother.
- b. I consider what has occurred the Act of God.
- c. I feel satisfied because my brother did what his leader asked him to do.
- d. I blame myself and I explain to people what awful thing my brother has done.

Q6. You are watching TV with some friends. One of them was cursing every western person he sees on TV and accuses them of atheism.

What is your position on that?

- a. I apple-polish my friend so as not to make him angry.
- b. I approve what he is doing.
- c. I consider his viewpoint and I try to persuade him that what he is doing is wrong.
- d. I make my friend sense that I'm not concerned.

Appendix (2)

A Sample of Teaching Plan as per Strike and Posner Model

Subject : Extremism and Accusation of Atheism.

First : The Objectives.

1. Knowing the meaning of Accusation of Atheism.
2. Knowing the meaning of Extremism.
3. Knowing the causes of Accusation of Atheism.
4. Knowing the causes of Extremism.
5. Knowing the Islam rule in terrifying others.
6. Knowing the humanity of Prophet Mohammad.
7. Identifying the following Islamic rules:
 - a. The rule of the Muslim killing himself.
 - b. The rule of the Muslim killing others.
 - c. The rule of being fanatic to your own thoughts.
 - d. The rule of forcing people to follow a certain religion or doctrine.
 - e. The rule of accusing others of atheism just for apparent deeds.
8. Knowing the status of humanity in the Islamic Religion.
9. Knowing the mischievousness of Terrorism and Extremism.
10. Knowing that tolerance and abiding by what is right does not mean a defeat.

Second: The Problem \ the Phenomenon

The phenomenon of Terrorism and Extremism.

Third : Introducing the Problem \ Phenomenon through:

- a. Presenting a collection of slides.
- b. Brainstorming sessions.

Presenting the first slide :

On September 11, 2001, the world woke up on a catastrophe exemplified by a group of terrorists hijacking a number of airplanes full of unarmed civilians : children, women and elderly people .The airplanes were heading for the USA . The hijackers directed those planes to crash into the World Trade Center in New York killing all people who were on board as well as destroying the WTC and killing all people inside and in the neighboring streets .The terrorists' aim was to fight the USA in the name of religion as they said in their statement.

The following questions were posed:

Q :Is the destruction of others' properties is the way to resolve differences between people?

Q :Does the difference in religion allow an individual to sabotage or destruct the property of others?

Q :Have the interests of the USA been destroyed by these explosions?

Q :Does Islam permits a Muslim to kill himself?

Q :Were the hijacked airplanes armed fighters heading to bombard Muslim countries?

Q :What is the guilt of the passengers and the people who were inside the WTC?

Q :After ten years of the bombing, what have the terrorists achieved by this destructive act?

Presenting the second slide:

After the martyrdom of Hamza (may Allah be pleased with him) the Prophet (peace be upon him) said: *"I will mangle seventy of them"*. Then, Allah Almighty said: *"And if you punish, then punish with the like of that with which you were afflicted."*

Q : What is the significance of this holy 'Verse'?

Q: What Islamic Rules that can be inferred from the text?

Q: What are the principles represented by this holy 'Verse'?

Presenting the third slide:

Allah Almighty said: *"Say (unto them, O Muhammad): I exhort you unto one thing only: that ye awake, for Allah's sake, by twos and singly, and then reflect ..."*

Q: What is the significance of this holy Verse?

Q: What Islamic rules that can be inferred from this holy Verse?

Presenting the fourth slide:

Allah Almighty said: *"Revile not those unto whom they pray beside Allah lest they wrongfully revile Allah through ignorance."*

Allah Almighty said: *"There is no compulsion in religion ..."*

Q: What principles that are perpetuated by these holy Verses?

Fourth: Interaction Procedure

- A collection of slides are presented.
- Brainstorming sessions.
- Discussing similar situations through the newspapers, the magazines, or the internet.

Fifth: Dividing the students into workgroups following the U shape, and assigning a leader and a deputy for each workgroup.

Sixth: Presenting and discussing the solutions reached by the workgroups.

- Religion does not approve terrorism and terrifying others.
- Religion does not allow thought or view fanaticism.
- Freedom of belief is one of the principles the Religion is based on.
- Accusing others with atheism contradicts with the Prophet's humanity.

- Differences in belief may be attributed to the lack of thorough understanding of the texts in relation to their occasions and their ambiguities.
- Religion is not mere worships. Religion is guidance and advice.
- Advice is the path leading to good in all cases.
- Terrorism destroys Muslims interests.
- Reasoning and persuading are much better ways for spreading Islam virtues than killing and destruction.
- Life in religion of Allah is respected regardless of its faith.
- Giving the power to accuse others with atheism opens the door to religious, social, and mental chaos.
- Terrorism is the unlawful infringement of life.
- Terrorism is exceeding the limits of reason, religion, and morality.
- Not arguing people kindly leads to tendencies to gain revenge and sabotage.
- Intolerance and fanaticism abolish the work of mind.

Transformational Leadership of Superiors and Creativity Level among Faculty Members in Jordanian Universities

Abdelghafour A.S. Alzawahreh
Hashemite University, Jordan

Abstract

This study investigated the transformational leadership behavior of superiors (department chairs, vice deans, and deans) in one public higher education institution in Jordan and the level of faculty members' creativity. It also examined the relationship between transformational leadership behavior of superiors and the level of creativity of faculty members. A random sample of 200 faculty members was employed in the study. The results of the study indicated a moderate transformational leadership behavior among superiors and moderate level of creativity among faculty members. The study also revealed a very strong and positive correlation between transformational leadership and creativity, indicating that the higher the transformational leadership behavior of superiors the higher the creativity level of faculty members. The implications of the findings and possible directions for future research were discussed.

Keywords: Transformational leadership, Creativity, higher education Institution, Jordan.

Introduction and Theoretical Framework

There is a general agreement among researchers and practitioners that creativity is critical for organizations' ability to gain competitive advantage and to remain successful in a turbulent and ever-changing work environment (Boekarts et al., 2000). Creativity is valued by organizations because it maximizes human potential and impacts employee job performance (Gilson, 2008). Creativity is defined as the generation of new and useful ideas concerning products, services, processes, and procedures in organizations (Britannic Encyclopedia, 2003).

The importance of creativity to the entire human society and to each individual has encouraged organizations to try to preserve and promote the most important feature of human mind represented by its creativity (Gardner, 1991). Based on that, an increasing interest in understanding the key factors that promote employee creativity in organizations has emerged (Oldham & Cummings, 1996; Scott & Bruce, 1994; Zhou, 1998). Researchers believe that employee creativity will prosper when transformational

leadership is practiced by superiors in organizations (Jaussi & Dionne, 2003; Scott & Bruce, 1994; Shin & Zhou, 2003). Transformational leadership is concerned with the process of how certain leaders are able to inspire followers to accomplish more than what is usually expected of them; empower employees to transcend their own self-interests for the good of the organization; and create an atmosphere where followers are compelled to be more productive (Bass, 1995; Dubrin, 2001; Northouse, 2004).

Transformational leaders are able to influence followers' creativity by encouraging them to think critically by seeking new approaches to solving problems and recognizing and appreciating the different needs of each follower to maximize their potential (Bass & Avolio, 1994; Avolio, 1999; Bono & Judge, 2003; Walumbwa & Lawler, 2003). Bass (1998) described transformational leadership as having four main components: idealized influence (leaders serve as role models); inspirational motivation (leaders can inspire followers to work as a team to meet the goals of the organization and provide meaning and challenge to employees' work); intellectual stimulation (leaders stimulate followers to be creative, innovative, and to challenge their own values as well as those of the leader and the organization to break away from old ways of thinking); and individualized influence (leaders provide supportive working environment and attention is given to each employee's needs).

Transformational leaders can set the expectation for creativity and serve as creative role models for their followers; enhance followers' ability to develop new ideas; show empathy and support for followers, which may lead to higher creativity (Bass & Avolio, 1990; Shin & Zhou, 2003). Therefore, transformational leaders are speculated to enhance and is positively related to followers' creativity (Shin & Zhou, 2003).

Several studies, particularly in a foreign context have been discussed the relationship between transformational leadership and creativity and innovation. Some of the studies were focused on the determinants of creativity at the individual level, such as attitudes (Basadur et al., 2000), personality (Feist, 1999), problem solving (Scott & Bruce, 1994), and the like. A number of present researches have confirmed a positive relationship between transformational leadership and creativity (Sosik et al., 1998, 1999; Jung, 2000-2001; Kahai et al., 2003; Jung et al., 2003; Politis, 2004; Chen et al., 2007; Gumusluoglu & Ilsev, 2009; Gong et al., 2009).

Statement of the Problem

Creativity has been the focus of ongoing research for decades due to its importance in impacting employee performance and organizational survival. Despite the widespread acknowledgment of the importance and value of creativity, there has been limited number of studies aimed at understanding of how transformational leadership is related to individual employees' creativity (Zhou & Oldham, 2001). To be more specific and to the researcher best knowledge, no research studies in Jordan addressed the relationship between transformational leadership and creativity. Therefore, the primary purpose of this study was to determine the relationship between transformational leadership behavior

of superiors (department chairs, vice deans, and deans) in one public higher education institution in Jordan and the level of creativity of faculty members.

Research Objectives

To accomplish the primary purpose of this study, the following research objectives were formulated:

1. To determine the transformational leadership behavior of superiors (department chairs, vice deans, and deans) in one public higher education institution in Jordan and the level of faculty members' creativity.
2. To determine the relationship between transformational leadership behavior of superiors (department chairs, vice deans, and deans) and their faculty members level of creativity.

Methodology

Population and Sample

The target population for this study was all faculty members employed by a public higher education institution located in the middle part of Jordan with a total number of (500) according to the institution records. A random sample of (200) faculty members was used in the study. The sample distribution was 139 (69.5%) males and 61 (30.5%) females. There were 76 (38%) assistant professors, 85 associate professors (42.5%), and 39 professors (19.5%). Of the sample, 37 (18.5%) had less than 5 years of experience, 117 (58.5%) had experience between 5-15 years, and 46 (23%) had more than 15 years of experience.

Instrumentation

A three-part instrument was used to collect data in this study. The first part included the Transformational Leadership Scale (TLS) designed by Bass & Avolio (1990) to measure individual perceptions of the transformational leadership behavior of superiors. The Transformational Leadership Scale is comprised of four components represented by 12 items as follow: idealized influence (3 items), inspirational motivation (3 items), intellectual stimulation (3 items), and individualized consideration (3 items). These 12 items are rated on a five-point Likert type-scale ranged as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The overall alpha reliability for the scale ranged from 0.81 to 0.94 (Bass, 1985, 1998; Avolio et al., 1999; Bono & Judge, 2003). The second part contained the creativity scale which was developed by the researcher after extensive review of the literature and included 8 items to measure creativity on a five-point scale ranging from 1, "not at all typical of me" to "very typical of me,". Sample items are "I come with new ideas to improve the research productivity of faculty members in my university"; "I develop projects aimed at improving the performance of my department"; and "I come up with creative solutions to problems

faced by my university". The third part of the instrument included a section on demographics of respondents. The TLS was translated from Arabic to English by three proficient scholars who are fluent in both languages. A pilot study of 30 faculty members responded to both instruments and alpha coefficients for the TLS ranged from 0.85 to 0.91. The alpha coefficient for the creativity scale was 0.93. These figures indicate that both instruments are suitable to measure constructs under study.

Data Collection

Data were collected during the first semester of the academic years of 2009/2010. The researcher met with faculty members under study and explained to them the nature and purpose of the study. The researcher assured participants complete secrecy, confidentiality, and voluntary nature of the study. The instruments took approximately 20 minutes to complete. Data were collected from participants within one-month time frame. Finally, the data collected from all participants were coded, entered to the SPSS spreadsheets, and analyzed using software package SPSS version 13.

Results

The results of the study are presented by objective.

Results Pertain to Objective One

The first research objective was to determine the transformational leadership behavior of superiors (department chairs, vice deans, and deans) in one public higher education institution in Jordan and the level of faculty members' creativity. This objective was answered with descriptive statistics including means and standard deviations. As shown in Table 1, the mean value for the transformational leadership total score was 3.38 (SD = 0.75). Four categories comprised the scales that measured transformational leadership. The mean value for idealized influence was 3.35 (SD = 0.88); the mean value for inspirational motivation was 3.48 (SD = 0.86); the mean value for intellectual stimulation was 3.45 (SD = 0.88); and the mean value for individualized consideration was 3.25 (SD = 0.88). These results indicate a moderate transformational leadership behavior among superiors (department chairs, vice deans, and deans). Further, the mean value of creativity of faculty members was 3.31 (SD = 0.77) indicating a moderate level of creativity among faculty members.

Table 1 Means and Standard Deviations of the Four Dimensions of Transformational Leadership and Creativity

Dimension	Means	Standard Deviations
Transformational Leadership Total Score	3.38	0.75
Idealized Influence	3.35	0.88
Inspirational Motivation	3.48	0.86
Intellectual Stimulation	3.45	0.88
Individualized Consideration	3.25	0.88
Creativity Total Score	3.31	0.77

Results Pertain to Objective Two

The second research objective was to determine the relationship between transformational leadership behavior of superiors (department chairs, vice deans, and deans) and their faculty members' level of creativity. This objective was accomplished using the Pearson Product Moment correlation coefficient (r). The interpretation of the correlation coefficients was based on the following set of descriptors: 0.70 or higher--very strong relationship; 0.50 to 0.69--substantial relationship; 0.30 to 0.49--moderate relationship; 0.10 to 0.29--low relationship; and 0.09 or lower--negligible relationship (Davis, 1971). As indicated in Table 2, the results of the correlation analyses between the total transformational leadership score and total creativity score ($r = 0.75$, $p = 0.000$) was statistically significant. Using Davis' descriptors (1971), this correlation would be classified as very strong and positive relationship, indicating that the higher the transformational leadership behavior of superiors (department chairs, vice deans, and deans) the higher the creativity level of faculty members. When the categories of transformational leadership were correlated with creativity, the category which was most highly related was individualized consideration ($r = 0.71$, $p = 0.000$), followed by intellectual stimulation ($r = 0.68$, $p = 0.000$), inspirational motivation ($r = 0.61$, $p = 0.000$), and idealized influence ($r = 0.57$, $p = 0.000$). All of these correlations were statistically significant. According to Davis (1971), these correlations would be classified as substantial positive relationships.

Table 2 Pearson Correlation Analysis between Transformational Leadership Behavior and Creativity

		Creativity Total Score
Transformational Leadership Total Score	Pearson Correlation	(0.75**)
	Sig. Level	(0.000)
Idealized Influence	Pearson Correlation	(0.57**)
	Sig. Level	(0.000)
Inspirational Motivation	Pearson Correlation	(0.61**)
	Sig. Level	(0.000)
Intellectual Stimulation	Pearson Correlation	(0.68**)
	Sig. Level	(0.000)
Individualized Consideration	Pearson Correlation	(0.71**)
	Sig. Level	(0.000)

Note. ** Correlation is significant at the 0.01 level (2-tailed)

Discussion

The current study was motivated by two goals. First, to determine the transformational leadership behavior of superiors (department chairs, vice deans and deans) in one public higher education institution in Jordan and the level of faculty members' creativity. A second goal is to empirically test the relationship between transformational leadership behavior of superiors (department chairs, vice deans and deans) and their faculty

members' level of creativity. This study is the first, in Jordan if not in Arab World to investigate the impact of transformational leadership on creativity in one of the public higher education institutions.

Several studies have examined the relationship between transformational leadership and organizational innovation. The majority of the past empirical literature exhibit associations between transformational leadership and creativity. For instance, Sosik et al., (1998) claimed that transformational leaders encourage creative ideas that promote innovation within the organizations. A study by Jung et al., (2003) revealed positive and significant relationship between transformational leadership and firm's innovation. Gumusluouglu and Ilsev (2009) also found transformational leadership to positively and significantly affect organization's tendency to innovate.

At the individual level, transformational leadership positively correlated to followers' creativity. Transformational leadership behaviors are thought to affect employees by motivating them (Shamir et al., 1993). Very few findings of previous studies were inconsistent and future research in real world is needed in this matter. For instance, Jaussi and Dionne (2003) found that transformational leadership had no effect on individual creativity. The results of this research indicates a moderate transformational leadership behavior among superiors (department chairs, vice deans, and deans). Further, the mean value of creativity of faculty members indicated a moderate level of creativity among faculty members. This research also found a positive correlation between transformational leadership and followers' individual creativity. The results of the current study are consistent with those of Shin & Zhou (2003), and Gong et al., (2009). Further, Jung (2006) found transformational leadership promoting innovative abilities of the employees.

As mentioned earlier, the results demonstrate positive relationships between transformational leadership and creativity. This means that the facets of transformational leadership, that is, idealized influence, inspirational motivation, intellectual stimulation and individualized consideration affect the creativity level of faculty members. In short, the findings of the present study indicate that transformational leader play an important role in enhancing creativity of individuals.

Limitations and Future Research

The Sample of the study has limited this research. Generalization of the findings to other higher education institutions in Jordan and Arab World might be limited since the data were collected from one specific public higher education institution.

Obviously, the interaction of leadership styles and followers' creativity requires further studying. Moreover, further investigation of the higher education institutions environment is necessary. Finally, further empirical studies must be replicated using, for instance, larger samples, different factors, and different contexts. If such replications are successful, the benefits of transformational leadership would be extended.

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