

Global Influences on Modern Industry and Oral Presentation

Barriers of Engineering Students of Pakistan

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Abstract

Globalization has brought dramatic changes in engineering workplace and it demands new skills and knowledge of engineering graduates to be fit in this competitive work environment of organizations. The present study aims at investigating barriers that hinder effective oral presentation performance of engineering students of Pakistan for workplace environment. A survey questionnaire was distributed to final engineering students from three engineering universities of Pakistan. Out of a pool 287 engineering students completed this survey questionnaire. Purposive sampling method was employed for data collection purpose since respondents were drawn on specific criteria of only final year engineering students from specific engineering departments surveyed for this study. Data were analyzed using Statistical Package for Social Sciences (SPSS) to draw percentages for variables included in the questionnaire. The results of the study indicate that poor oral communication skill, low self confidence, stress and nervousness and low motivation hinder effective oral presentation performance of engineering students. However, the results of this study are consistent with other literature findings relating to barriers that hinder effective oral presentation performance of engineering students.

Keywords: Global influences, modern industry, oral presentation barriers, engineering students

1. Introduction

It is a fact that globalization has impacted on health of organizations. It is globalization that has allowed organizations to conduct business around the global. Thus, these global organizations demand effective oral presentation skills of engineering graduates to run business of organizations profitably. Additionally, employers continuously demand technical and non technical skills of engineering graduates to run business of organizations successfully and to increase workplace productivity of organizations. Unfortunately modern engineering graduates lack in skills required in modern industry. Thus, they demand from engineering universities to produce global engineers equipped with technical and non technical skills. The primary purpose of this research is to identify barriers that hinder effective oral presentation performance of engineering students. No doubt, oral presentation is an important aspect of workplace communication and engineers has to perform oral presentations at workplace on regular basis. This check is necessary in order to prepare engineering students of Pakistan better human capital for modern workplace environment that has become very competitive now days.

1. Literature Review

Globalization is a fact in this fast growing age of industrialization. Globalization has brought dramatic changes in the workplace and it demands from engineering graduates to acquire new skills and knowledge to perform workplace jobs effectively and efficiently. The authors of Engineer of 2020 illustrate that “as always, good engineering will require good communication” (National Academy of Engineering, 2004:55).

In a similar vein, The authors of Educating the Engineer 2020 state , “Engineering students prepared for 2020 and beyond must write and communicate well” (Committee on the Engineer of 2020, 2005: 166). These statements clearly indicate importance of technical and non technical skills for engineering graduates to perform workplace jobs effectively in this competitive work environment of organizations. No doubt, modern organizations involve multiple stakeholders therefore they demand effective communication, oral

communication and presentation skills of engineering graduates to run business of organizations productively. Moreover, employers also demand new engineers equipped with technical and non technical skills compared to past decade engineers who only rely on technical skills. Thus, employers focus non technical skills of engineering graduates such as oral presentation skills during job employment interviews to hire them for workplace jobs. In certain instances they demand from engineering graduates to perform 5 minute oral presentations.

The demand for effective oral presentation skills of engineering graduates have increased very rapidly since employers desire to upgrade business at global level. Thus, these latest developments in business arena demand effective oral presentation skills of engineering graduates to be successful in this competitive corporate environment of organizations. If we analyse the situation we find that various studies report that 75% of long term job success depends on soft skills such as communication, oral communication and presentation skills and only 25% on technical skills (Prabhakar, 2004) of engineering graduates. Oral presentation skill functions as an effective tool to assist engineering graduates to perform workplace jobs effectively and thereby excel in job promotion ladder too fast. Oral presentation skills have been recognized significant skills (Aly & Islam, 2005; Darling & Dannels, 2003) at workplace. Moreover, these skills have been considered as best career enhancers (Polack-Wahl, 2000) for graduates to advance in their professional pursuits. In this perspective, employers also emphasize oral presentation skills (Aly & Islam, 2005; Campbell et al., 2001) of engineering graduates.

Employers, administrators and academicians state that communication such as oral presentation skills are required skills for graduates (Pittenger et al., 2004). This is because these skills assist engineers to promote business of organizations successfully. Research reveals that faculty and administrators recognize communication such as oral presentation skills as important skills for graduate career success (Gray, 2010) in this emerging economy of organizations. While looking at global perspective this tends that engineering graduates lack in skills that are required in modern industry. Various survey reports indicate that graduates lack in skills that are required in modern industry. Thus, engineering universities should play role to overcome skill deficiency of engineering graduates to prepare them skilled workforce for modern industry.

Employer survey "How should Colleges prepare students to succeed in a global economy, 2006" revealed that 73% of employers suggested that universities should play role to develop effective communication skills of graduates. Additionally, employers emphasize communication skill trainings (Maes et al., 1997) for engineering graduates to be productive engineers for modern organizations. Truly speaking, poor presentation skills of engineering graduates affect their job performance at workplace. As a result, these barriers affect workplace productivity of organizations. Employers show concern that modern engineering graduates are not industry ready to be hired for workplace jobs. Thus, they urge from engineering universities to prepare graduates according to industry needs since there is link between communication skills and employee job performance (Maes, et al., 1997; Scudder & Guinan, 1989). There is an established idea in modern industry that engineering graduates equipped with effective oral presentation skills assist organizations to promote its business at global level. On the contrary, engineering graduates equipped with poor oral presentation skills damage interests of organizations and they tend to be burden on revenue of organizations.

Gustafson et al. (1993) surveyed employers, students and alumni to obtain information relating to importance of communication skills. Survey results indicated that effective communication skills are essential for graduates to obtain a job and thereby excel in job career. In another survey, Reinsch and Shelby (1997) surveyed 394 business students to know challenging task for them. The results of the survey indicated that 75% business students found oral communication as most challenging task for them. Anderson and Bolt (2008) illustrated that graduates lack in presentation skills entering the workplace.

Poor communication skills affect graduates job performance (Cangelosi & Petersen, 1998) at workplace and organizations value communication skills such as oral presentation skills of engineering graduates. Engineering graduates equipped with effective oral presentation skills develop image of organizations at national and international level. Thus, they bring various monetary benefits for organizations. Lack of communication skills serve to undermine whole profile of an engineer (Riemer Marc, 2002) and this skill deficiency leads towards unemployment of graduates (Zeigler, 2007) in any profession.

Katz (1993: 172) interviewed professionals from industry. They indicated that "their communication skills are not good; they're less than not good, they're really bad". This indicates poor communication skills of engineering graduates as a result; it will affect workplace productivity of engineering organizations. Thus, engineering universities of Pakistan should focus technical and non technical skills of engineering students in order to overcome increasing unemployment in engineering profession of Pakistan. No doubt, a well skilled engineering graduate obtain many job opportunities in multinational organizations at global level. Thus, the purpose of our engineering universities should be to prepare a well rounded engineer who can contribute

towards the well being of the economy of the country. In addition, accrediting bodies that monitor engineering programs in Pakistan such as Pakistan Engineering Council (PEC) should force engineering universities to prepare engineering students in technical and non technical skills such as oral communication and presentation skills according to the demand of global work environment.

According to Zeigler (2007) low self confidence and poor communication skills can hamper graduate placement at workplace. This is because public or private organizations value effective communication skills such as oral communication and presentation skills of engineering graduates. More specifically, private organizations value effective communication skills of engineering graduates because they involve multiple stakeholders and customer satisfaction is their major objective. Organizations require employees with self confidence (Dam and Volman, 2004) because confident employees communicate well and win many projects in favour of respective organizations. Oliver Rhonda et al. (2005) conducted a study on “communicative competence in oral language assessment”. The results of the study indicated that students found them to be situations where they lacked confidence. Thus, low confidence tends to be a potential barrier that can hamper graduates job performance at workplace.

In addition, stress and nervousness also affects oral presentation performance of engineering students. There will be no exaggeration to say that it is the most common barrier prevailing among engineering students. It is a fact that 75% of individuals experience anxiety during study at university (Margarita, 2008). Moreover, Lucas (2001) illustrated that students’ face nervousness during oral presentation. Poor presentation skills and speech anxiety are main factors that obstruct students for participating in oral presentations (King, 2002). Oral presentations lead to anxiety among university students (Vitasari et al., 2010) and due to this barrier they usually fail to perform effective oral presentations.

Motivation plays paramount role for engineering students to perform effective presentations. Unfortunately, many engineering students are not motivated to learn certain subjects and they have no idea why they need all this information (Riemer Marc, 2002). This is a fact engineering students did never like the subjects of communication, oral communication and oral presentation during study time. However, when they join workplace they know the importance of these subjects and skills that affect their job performance. Low motivation affects oral presentation performance of engineering students during study time and following graduation at workplace. As a result, it affects their job performance and it is never in the interest of engineering organizations as well as employees. This research is significant because it reveals information relating to barriers that hinder effective oral presentation performance of engineering students for workplace environment. The findings of this study would contribute towards existing body of barriers and it would guide engineering students to overcome these barriers before they join workplace.

3. Methodology

The research approach used for this study was based on questionnaire survey. Two hundred eighty seven (287) engineering students from 3 engineering universities of Pakistan participated in this study. Purposive sampling method was used for data collection since respondents were drawn on specific criteria of only final year engineering students. The rationale for selection of final year engineering students was based on the understanding that after six months these engineering students would join workplace thus, it was necessary to explore their barriers that hinder their effective oral presentation performance otherwise, same barriers would affect their job performance at workplace. Purposive sampling method was employed to draw participants for this study. Purposive sampling is a non probabilistic sampling method that is used for specific purpose (Singleton & Straits, 2005). A self administered questionnaire was used to collect data from respondents. This questionnaire contained 2 parts. First part was related with demographic information asking about gender, qualification, age, field of discipline and marks secured in the subject of English or communication skills.

Two hundred sixty nine (269) male engineering students and 18 female engineering students participated in this study. One hundred seventy two (172) engineering students were between the age of 19 to 22 years, eighty nine 22 to 24 years, and eight 25 to 30 years. Two hundred forty one (241) possessed the degree of intermediate, 9 Bachelor of Science (B.S), 13 bachelor of technology (B. Tech.) and 24 did not provide any information regarding their qualification in the questionnaire. Fifty two (52) respondents were from the discipline of civil engineering, 50 mechanical engineering, 55 electrical engineering, and 40 from computer systems engineering. In addition, twenty five engineering students secured marks between the range of (40-55), eighty three (56-70), one hundred thirty one (71 - 85), and twenty six (86 -100) respectively.

On the other hand, second part of the questionnaire contained statements relating to barriers for instance poor oral communication skill, low self confidence, stress and nervousness and low motivation that hindered

effective oral presentation performance of engineering students. A 5 point likert scale ranging from 'strongly disagree', 'disagree', 'neutral', 'agree' and 'strongly agree' was used to assess respondents' responses for the variables included in the questionnaire.

4. Data Analysis

Data were analysed using Statistical Package for Social Sciences (SPSS 15.0) to draw percentages for agreement and disagreement level of respondents for the items included in the questionnaire relating to barriers that hindered effective oral presentation performance of engineering students.

5. Findings

The findings of the study have been categorized into four headings for instance poor oral communication skill, low self confidence, stress and nervousness and low motivation that hindered effective oral presentation performance of engineering students.

5.1 Poor Oral Communication Skill

The results for poor oral communication skill indicated that 5 % engineering students strongly disagreed, 11 % disagreed, 13 % responded neutral, 40 % agreed and 31 % strongly agreed that poor oral communication is a barrier for them that hinder their effective oral presentation performance (Fig.1).

5.2 Low Self Confidence

The results for low self confidence indicated that 11% engineering students strongly disagreed, 18% disagreed, 18% responded neutral, 27 % agreed and 26 % strongly agreed that low self confidence is a barrier for them that hinder their effective oral presentation performance (Fig.2).

5.3 Stress and Nervousness

The results for stress and nervousness indicated that 5% responded strongly disagreed, 12% disagreed, 21% responded neutral, 32% agreed and 30 % strongly agreed that stress and nervousness is a barrier for them that hinder effective oral presentation performance of engineering students (Fig.3).

5.4 Low Motivation

The results for low motivation indicated that 11% respondents strongly disagreed, 18% disagreed, 18% responded neutral, 27 % agreed and 26% strongly agreed that low motivation is a barrier for them that hinder their effective oral presentation performance.

6. Discussion

The results reported that barriers such as poor oral communication skill, low self confidence, stress and nervousness and low motivation hinder effective oral presentation performance of engineering students. For poor oral communication skill 40% engineering students agreed and 31% strongly agreed that poor oral communication skill is a barrier for them that hinder their effective oral presentation performance. Engineering students identified that due to poor oral communication skill they cannot express ideas effectively during presentation. They further indicated that due to this skill deficiency they cannot achieve better grades, thus, they should be provided better oral presentation opportunities to overcome this barrier prior to join workplace. In addition, engineering students indicated that poor oral communication skill of engineering is due to poor oral presentation skill trainings provided to them during study time. Thus, poor oral communication skill affects oral presentation performance of engineering students. Riemer Marc (2002) noted that lack of communication skills serves to undermine the whole profile of an engineer, and graduates lack in presentation skills entering the workplace (Anderson & Bolt, 2008).

For low self confidence 27 % engineering students agreed, and 26 % strongly agreed that low self confidence is a barrier for them that hinder their effective oral presentation performance. Engineering students identified that they cannot communicate ideas properly due to low self confidence during oral presentation. They further indicated that due to low self confidence they usually avoid taking part in oral presentations. Moreover, engineering students agreed that due to low self confidence they avoid answering and they become confused when someone asks a question during presentation. Additionally, engineering students agreed that they do not interact with audience during presentation due to low self confidence. Oliver Rhonda et al. (2005) conducted a

study on “communicative competence in oral language assessment”. The results of the study indicated that students found them to be situations where they lacked confidence.

For stress and nervousness 32% engineering students agreed and 30 % strongly agreed that stress and nervousness is a barrier for them that hinder their effective oral presentation performance. Engineering students identified that they forget major ideas during presentation due to stress and nervousness. They further agreed that they become stressed and nervous when they appear before unfamiliar audience during presentation. Additionally, engineering students agreed that due to stress and nervousness they usually fail to present ideas effectively and due to nervousness their ideas disappear during presentation. Lucas (2001) noted that majority of students face nervousness for oral presentation. According to Vitasari et al., (2010) oral presentations lead to anxiety among many university students.

For low motivation 27 % engineering students agreed and 26% strongly agreed that low motivation is a barrier for them that hinder their effective oral presentation performance. Engineering students identified that if they present successful presentation their colleague do not appreciate them. They further identified that communication teachers do not promote oral presentation activities in the class. In addition, engineering students indicated that motivation plays an important role to present effective presentations but due to lack of motivation their friends do not take part in oral presentations. Unfortunately, many engineering students are not motivated (Riemer Marc, 2002) to take part in oral presentations.

7. Conclusion

This study investigated barriers that hindered effective oral presentation performance of engineering students of Pakistan in perspective of global influences on modern industry. The results of this study indicated that barriers such as poor oral communication skill, low self confidence, stress and nervousness and low motivation hindered effective oral presentation performance of engineering students. If is situation is analyzed that these barriers of engineering students are the result of poor oral presentation skill trainings provided to them during study time. Thus, it is suggested that engineering universities of Pakistan should focus oral presentation skills of engineering students to prepare them better engineers for modern industry since it requires effective oral presentation skills of engineering graduates to promote business of organizations at global level. Engineering graduates equipped with effective oral presentation skills promote business of organizations and engineering graduates equipped with poor oral presentation skills damage interests of organizations. Moreover, poor skilled engineering graduates increase unemployment in engineering profession of Pakistan. Thus, it is the responsibility of engineering universities to train better engineers for the workplace. It is envisaged that by developing effective oral presentation skills of engineering students they would be better able to join global organizations and would contribute towards economic growth of the country. Thus, realizing the global needs of modern industry engineering universities of Pakistan should play their role to train engineering students in the skills that modern industry needs. It is in the better interest of all three stakeholders such as industry, engineering students and engineering universities itself.

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Biographical Notes

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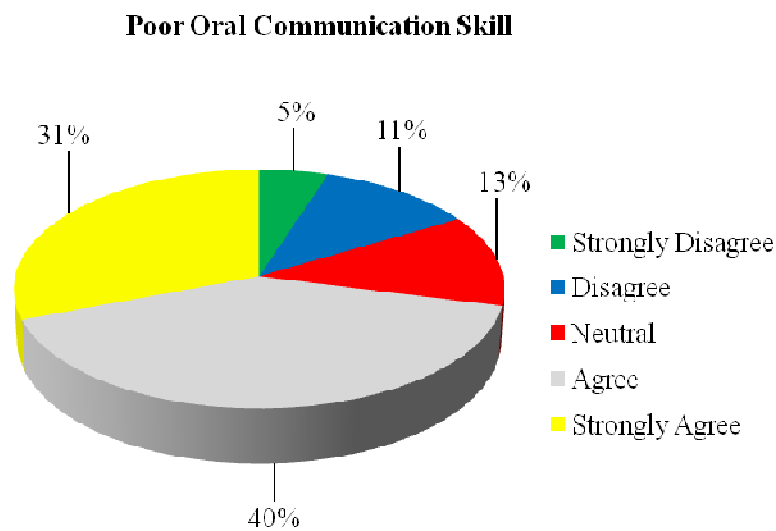


Figure 1: Poor oral communication skill as Barrier for Engineering Students

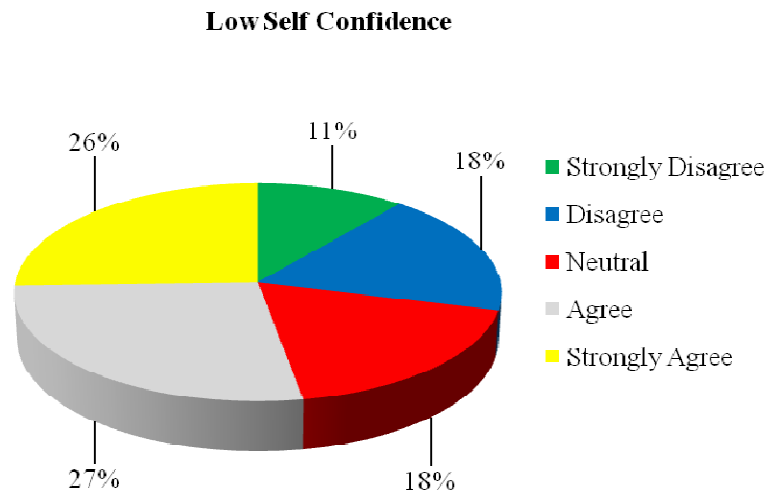


Figure 2: Low Self Confidence as Barrier for Engineering Students

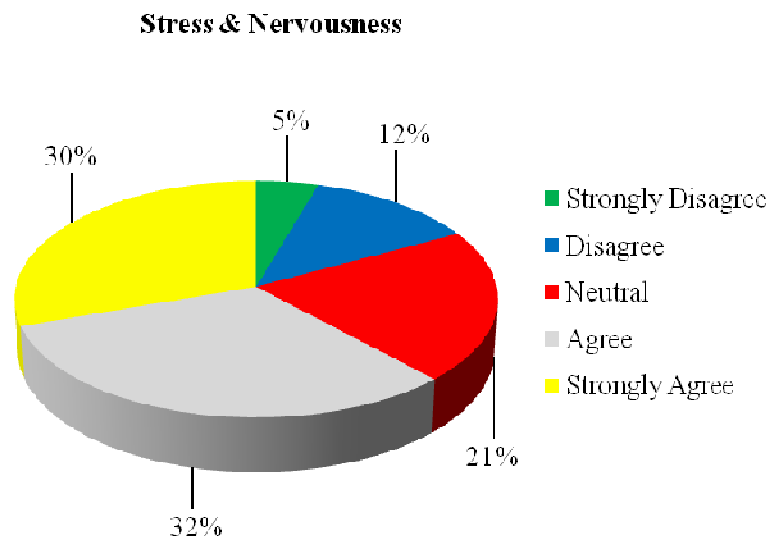


Figure 3: Stress and Nervousness as Barrier for Engineering Students

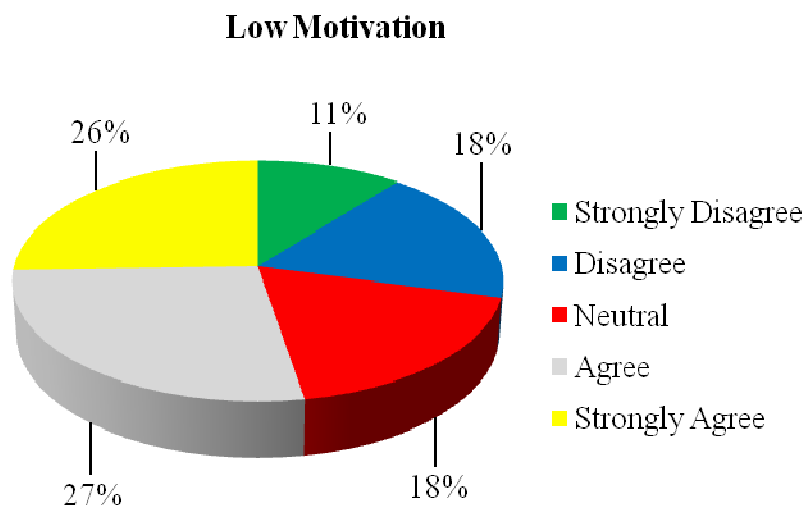


Figure 4: Low motivation as Barrier for engineering students

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