Oral Presentation Preparation of Engineering Students of Pakistan for World of Work: Are they really Prepared?

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Abstract
Oral presentations have acquired significant position in the world of work. Industry demands engineering graduates equipped with technical and non technical skills to uplift business of organizations at international level. Seven final year engineering students from 2 engineering universities of Pakistan participated in this study. Purposive sampling method was used for data collection purpose. Semi structured interviews were conducted with engineering students to explore barriers that hindered their effective oral presentation performance. Data were analyzed qualitatively using the techniques of data reduction, data display, and conclusion drawing and verification as suggested by (Miles & Huberman, 1994). Open coding (Richards, 2005; Strauss and Corbin, 1998; Patton, 2002) and content analysis approach was used (Miles & Huberman, 1994). The results of the study revealed that poor oral communication skill, poor knowledge, low self confidence, stress and nervousness and low motivation were barriers that hindered effective oral presentation performance of engineering students. The findings of the study can be used as a guideline to prepare better engineers in terms of technical and non technical skills for modern industry.

Keywords: Industrial Environment, oral presentations, engineering students

1. Introduction

Engineers of 21st century need to possess both hard and soft skills to perform workplace jobs efficiently in this competitive business environment of organizations. Oral presentation has become an important aspect of modern workplace communication since engineers have to perform oral presentations at different forums on daily basis. Moreover, the culture of organizations has changed so fast that executives and employers need briefings or presentations on every organizational issue. Thus, it is necessary that modern engineers should possess effective oral presentation skills to be fit in this corporate culture of organizations. The main purpose of this study was to identify whether engineering students of Pakistan are well prepared to perform oral presentation tasks at workplace.

2. Literature Review

The primary purpose of engineering education needs to be to prepare engineering students according to the demand of modern industry in terms of technical and non technical skills such as communication, oral communication and oral presentation skills. Many reports indicate that engineering graduates possess poor communication skills (Downing, 2001; Fromm, 2003) thus; they cannot be hired for workplace jobs since modern industry needs a different type of engineer equipped with new skills and knowledge. The importance of oral presentation skills for engineering students and engineers has been well documented in communication literature. Unfortunately, many reports reveal that engineers may possess strong quantitative skills but they fall short in oral communication skills (Batley, 1998) such as oral presentation skills. The engineering universities of Pakistan mainly tend to focus technical skills of engineering students. As a result, engineering graduates of Pakistan perform poor oral presentations during job employment interviews and at workplace. Truly speaking, employers value communication
skills (Zedeck & Goldstein, 2000) of engineering graduates during job employment interviews and later at workplace. In certain situations it has been seen that employers demand from engineering graduates to perform 5 minute oral presentations during job interviews.

According to Fatimah et al. (2006) oral presentation plays paramount role in the job career of an engineer. The inability to communicate and low self confidence may hinder graduates to be hired for workplace jobs (Zeigler, 2006). Good communication skills are highly important in the job career of an engineer (Bates & Conner, 1994; Polack-Wahl, 2000) surprisingly modern engineering graduates fall short in this skill (Vest, D. Long et al., 1995). Employers usually complain that graduates enter the workplace without required skills that assist them to perform workplace jobs efficiently according to customer and employer satisfaction. It tends that there is skills gap between the acquired skills and the required skills at workplace. In this perspective, this gap raises a need for strong collaboration between industry and engineering universities of Pakistan to prepare better human capital in terms of technical and non technical skills such as oral presentation skills. Technical and non technical skills constitute professional competence of an individual (Kauffeld, Grote, & Frieling, 2003) that allows him to be valuable and productive for organizations. According to Cook (2011) oral presentation skills are becoming crucial in the workplace. This is because due to increasing business complexity employers are putting more focus on soft skills (Firth, 2011) of engineering graduates.

Crosling and Ward (2002: 53) surveyed graduates about their use of oral communication at workplace (importance and frequency). Survey results indicated that oral communication was “important and frequent”. These authors further concluded that “students require experience and instruction in a range of oral communication settings,” and argued that “undergraduate experience in formal presentation only is inadequate preparation for oral communication in the workplace” (Crosling & Ward, 2002:56; 41). Chen (2006) studied communication needs of Chinese technical personnel. The results of the study showed that speaking was considered the most difficult skill and it was the skill that technical personnel wanted to develop. Martin et al. (2005) applied qualitative interview analysis to explore the perception of recent engineering graduates of University of Cape Town. The results of the study revealed that non-technical skills such as communication and interpersonal skills cannot be taught in isolation from technical skills. Raymond et al. (1993) surveyed students and employers to gather information on the most important skills required for entry-level employees. The results of the survey showed that employers ranked oral communication skills on the top of the list followed by other skills. Surprisingly, students also gave value to oral communication skills followed by other skills.

A survey of businesses in Australia and New Zealand found that employers value good communication and people skills above academic qualifications and work experience (The Australian, 01 Nov 2006). Sageev and Romanowski (2001: 687) conducted a survey of 1500 engineers who graduated from the School of Engineering and Applied Sciences. These authors claimed that “technical ideas and results are not useful until and unless they are communicated and discussed”. Ford (2007) reported that in a survey of the graduate job market in the UK, published by the Association of Graduate Recruiters (AGR) found that 43% of employers were unable to fill job vacancies because students had failed to match academic achievement with soft skills such as communication, oral communication and oral presentation skills. The situation of Pakistan is not different in anyway. The engineering graduates of Pakistan lack in communication such as oral communication and oral presentation skills because they are not properly trained in these skills. In this perspective, the Accreditation Board such as Pakistan Engineering Council (PEC) should force engineering universities of Pakistan to focus non technical skills of engineering students in order to prepare them better engineers for global work environment of organizations. Moreover, it is highlighted that the education system of Pakistan needs to be market driven that tends to be lacking at present. The focus on producing market oriented engineering graduates’ would assist to overcome increasing unemployment in engineering profession of Pakistan.

3. The Study Approach

Qualitative methods in terms of semi structured interviews were used to explore barriers that obstruct effective oral presentation performance of engineering students. Qualitative methods involve a small number of respondents but produce detailed information (Patton, 2002). According to Marshall & Rossman, (2006: 102) in qualitative research, researcher seeks to “uncover and describe the participants’ perspectives on events”. This study sought to uncover...
perspectives on oral presentation preparation of engineering students and barriers that obstruct their oral presentation performance for real world of work.

3.1 Sample
Seven (7) engineering students from 2 engineering universities of Pakistan participated in semi structured interviews. Few interviews with a well selected sample can generate rich amount of data that usually large samples fail to produce (Glaser and Strauss, 1967). Purposive sampling method was used for data collection purpose because participants were chosen on specific criteria of only final year engineering students. Purposive sampling assists researchers to select suitable respondents for the study (Creswell et al., 2007).

3.2 Participant Characteristics
All participants were undergraduate final year engineering students. They were selected from the discipline of civil and electrical engineering respectively.

3.3 Instruments
Semi structured interviews were used for data collection purpose. Semi structured interviews tend to be flexible in nature and allow researchers to ask more questions from the feedback provided by respondents. All interviews were audio recorded to capture full verbal accounts of respondents in order to make data reliable. Moreover, audio recordings assisted to prepare transcriptions. Dornyei (2007) supports recording of interviews because during interview a researcher would never be able to capture detailed information of verbal accounts.

3.4 Data Analysis
Qualitative data analysis method of Miles and Huberman (1994) such as data reduction, data display, and conclusion drawing and verification was used for analyzing the data. Data reduction is the process of selecting; focusing, simplifying, abstracting, and transforming data that appears in researcher field notes. In data display researcher tries to organize and compress assembly of information that allows conclusion drawing. Concluding drawing and verification involves emerging and inducing of meanings from data and testing them for credibility, robustness, and validity. Data was coded and the steps involved developing the codes began with open coding (Richards, 2005; Strauss and Corbin, 1998; Patton, 2002). As open ended questions were similar for all respondents thus, answers were similar in many cases to make comparisons based on respondent responses. Content analysis approach was employed as suggested by (Miles and Huberman, 1994).

4. The Study Findings
Interview questions have been divided in to different topics such as poor oral communication skill, poor knowledge, low self confidence, stress and nervousness and low motivation. Some key findings of this interview are as under:

4.1 Poor Oral Communication Skill
The first question was related with poor oral communication skill that obstructs effective oral presentation performance of engineering students. They responded:
A comment by Aamir Ali:

“Ya that is the biggest problem I have that oral communication I mean we actually I am from lower middle class family from the government schools. We are not used to talk about the things and here...mean to present in English. We are not so good in English. Our English is not as good so that is the problem. Whenever you speak in English you think if I make a mistake what would other people...think that is the problem”.

This respondent agreed that poor oral communication skill is a barrier for him that obstructs his effective oral
presentation performance. Additionally, he gave reasons for his poor oral communication skill and stated that he comes from lower middle class family therefore; he got education from government schools. It is highlighted here that the standard of education in government schools of Pakistan is not better compared to private schools. Private schools follow English medium curriculum with standard size of students in the class. Thus, the children of rich families seek education from these schools. Truly speaking, students who seek education from private schools tend to be well equipped with effective communication skills. Thus, this respondent indicated that he is not used to talk in English and English language is a barrier for him. Moreover, this engineering student showed apprehension that due to poor English language he is reluctant to take part in classroom oral presentations.


“Yes, ...actually it is the main reason for us”.

All these engineering students agreed that poor oral communication skill is a barrier for them that obstruct their effective oral presentation performance.

4.2 Poor Knowledge

The second question was related with poor knowledge that obstructs effective oral presentation performance of engineering students. They responded:

A comment by Ahmed Ali:

“Of course...poor knowledge is affecting. We should have knowledge about the topic ...so knowledge is necessary”.

This respondent agreed that poor knowledge is a barrier for him that obstructs his effective oral presentation performance.

A comment by Bilal Zaib:

“If we have no knowledge how we can explain something ...we have poor knowledge we cannot express our ideas about the presentation”.

This respondent agreed that he faces poor knowledge and due to poor knowledge he cannot communicate his ideas effectively during presentation.

In addition, Aamir Ali and Irfan Ali agreed that poor knowledge is a barrier for them that obstruct their effective oral presentation performance. On the other hand, Muzaffer Ali and Kamran Ali did not provide any clear answer for this question.

4.3 Low Self Confidence

The third question was related with low self confidence that obstructs effective oral presentation performance of engineering students. They responded:

A comment by Irfan Ali:

“Yes...face lack of confidence. The reason behind this is that the environment which has been given to us from the starting. We do not get such environment to give presentations, we have no background...how can we achieve that task right now in few days”.

This respondent agreed that he faces low self confidence for his presentation. He complained that he faces low self confidence due to poor environment that has been provided him during four year engineering degree program. This finding is very interesting because this respondent indicated that he has never got better oral presentation opportunities that assist him to overcome his low self confidence. This clearly indicates that language or communication teachers do not provide ample opportunities of oral presentations to engineering students in the class.

A comment by Zafer Ali:
“I feel low self confidence because I feel that audience has more knowledge than me”.
This respondent agreed that he faces low self confidence for his presentation. He further showed apprehension that he considers that his audience is more knowledgeable than him.

A comment by Bilal Zaib:
“Low self confidence is also due to little bit knowledge... I totally face is a lack of English knowledge, lack of English skills... I can totally say that thing”.
This respondent agreed that he faces low self confidence for his presentation. He further indicated that he faces low self confidence mainly due to lack of knowledge and lack of communication skills.

A comment by Muzaffer Ali:
“...yes, I feel less confidence because I have always a fear that I will forget my speech, I will forget my major topics or the words that support my major topics of presentation that I can forget that is fear and therefore I can lose my confidence I...fear that someone may ask any question I cannot answer it also looses my self confidence and other also words or English or sentence that I cannot convey that in a good manner I will also lose my self confidence”.
This engineering student agreed that he faces low self confidence during his presentation. Moreover, he showed many apprehensions for instance fear and audience anxiety that obstruct his effective oral presentation performance.

A comment by Kamran Ali:
“I do not feel any low self confidence...I don’t have any barrier for me”.
This engineering student indicated that he does not face low self confidence for his presentation. However, this question was not asked from Aamir Ali.

4.4 Stress and Nervousness
The fourth question was related with stress and nervousness that obstructs effective oral presentation performance of engineering students. They responded:
A comment by Aamir Ali:
“Ya...truly speaking I am still feeling stress and nervousness here right now before you. As I already said due to lack of confidence we are not used to mean never have given some good presentations we are not motivated like that we have not proper guidance... from the teachers’ side nor from parents’ side so that is problem and we are trying to overcome these problems as I said it is ok ...”
This engineering student agreed that he faces stress and nervousness for his presentation. He further indicated that he is not habitual for taking part in oral presentations. This is very interesting finding although oral presentation is important aspect of modern workplace but it is missing from engineering universities of Pakistan. Additionally, this respondent complained that language or communication teachers do not properly guide and train them in the skills required in modern industry.
A comment by Irfan Ali:
“Yes...I face nervous the reason is on our environment. If you are not giving such atmosphere we do not give presentations in our daily environment and as the time comes it is very hard for us to achieve the task”.
This respondent agreed that he faces stress and nervousness for his presentation. He complained that this is mainly due to poor environment. This means that ample opportunities of oral presentations are not provided to engineering students during graduation time. Moreover, this respondent showed disappointment that when he is near to graduation and going to join workplace it is difficult for him to overcome this barrier.
A comment by Ahmed Ali:
“...I don’t know why I feel stress. I think my mind is dual here ...I am thinking something else when I speak ...and feel that this is coming every time I feel the tension however it is not the it depends upon God but this is main cause of the stress you know”.

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This respondent agreed that he faces stress and nervousness for his presentation.

A comment by Zafer Ali:

“No I… feel stress and nervousness”.

This engineering student stated that he does not face stress and nervousness for his presentation.

A comment by Bilal Zaib:

“Up to certain limit not…in all presentations. If people are new... if some persons are new which are talking the questions then we are totally some little bit nervous and confuse on that”.

This respondent conditionally agreed that he faces stress and nervousness in case of unfamiliar audience and they ask question during presentation.

A comment by Muzaffer Ali:

“Yes I feel stress and nervousness. Basically the main reason behind stress and nervousness is when we come on the dice or stage to convey or present our presentation. When we look or see viewers or listeners the main stress comes at this point because we fear either my presentation will be good or either I cannot convey it in a good or either I will forget my presentation sentences or not either I make mistake these points make me nervous”.

This respondent agreed that he faces stress and nervousness for his presentation. Moreover, he showed various apprehensions that lead him towards stress and nervousness.

A comment by Kamran Ali:

“…when I don’t have knowledge then he feels stress”.

This engineering student conditionally agreed that in case of unfamiliar topic then he faces stress and nervousness.

4.5 Low Motivation

The fifth question was related with low motivation of engineering students that obstructs their effective oral presentation performance. They responded:

A comment by Irfan Ali:

“…the reason for low motivation is that nobody here is to support us. If our seniors or teachers ... will support us we will present ourselves in the best way... body supports us nobody here to help us for communication that is the reason we cannot present it in the best way”.

This respondent clearly indicated that low motivation is a barrier for him that obstructs his effective oral presentation performance. Moreover, this respondent complained that neither his seniors nor teachers support him for oral presentations. This finding is a very interesting finding that language or communication teachers do not promote classroom oral presentation activities.

A comment by Ahmed Ali:

“We have no such environment...they should provide us such as environment so that we can motivate ourselves. They should motivate us how to give interview how to speak upon such as big huge crowd...so it is very difficult for us for the motivation”.

This respondent complained that his institution does not provide motivating environment in terms of oral presentation activities. Additionally, he demanded that language or communication teachers should guide them how to appear for job interviews how to perform effective oral presentations in presence of large audience.

A comment by Muzaffer Ali:

“Really...it is the big reason ... we cannot present our presentations in good way. Without motivation we do not practice...if someone motivates to do this work then we will do and we will try to do it in a better way. If someone not motivating us then how I will present...”
This engineering student agreed that low motivation obstructs his effective oral presentation performance. He further opined that if language or communication teachers motivate them to perform better presentations. This is a very interesting finding that language or communication teachers tend to fail to motivate engineering students to take part in classroom oral presentations.

A comment by Kamran Ali:

“...I don’t have any low motivation”.

This respondent responded that he does not face any low motivation. Conversely, Zafer Ali and Bilal Zaib agreed that they face low motivation. On the other front, Aamir Ali did not provide any clear answer of this question.

5. Discussion of Findings

The results for oral presentation preparation of engineering students of Pakistan for real world of work indicated that engineering students of Pakistan are not properly trained in oral presentations to perform workplace jobs efficiently in this competitive work environment of organizations. Qualitative results revealed that poor oral communication skill, poor knowledge, low self confidence, stress and nervousness and low motivation obstruct effective oral presentation performance of engineering students. Engineering student indicated that they are not habitual for taking part in oral presentations. Engineering students indicated that they often do not perform oral presentations. This is a very interesting finding despite oral presentation is important aspect of modern workplace but it is missing from engineering universities of Pakistan. On the other front, engineering students complained that language or communication teachers do not properly guide and train them in the skills that are required in modern industry. Moreover, engineering students complained that they poor environment for oral presentations thus they possess poor oral presentation skill. This clearly indicates that language or communication teachers do not provide ample opportunities of oral presentations to engineering students. A respondent during interview indicated that he has lot of things to say but he cannot explain due to barriers. It is quite surprising that a final year engineering student who is ready to join workplace faces so many barriers that he cannot explain simple things that he wants to say. In the perspective, it can be concluded that the barriers engineering student face today shall affect their job performance at workplace. Resultantly, it will affect workplace productivity of organizations. Literature review also indicates that engineers face communication barriers giving presentations in seminars, conferences and the workplace (Kedrowicz, 2006) and poor communication skills such as oral presentations “only serves to undermine the whole profile and image of the professional engineer” (Reimer, 2002, p. 35). Summing up the discussion it is concluded that engineering students of Pakistan need effective oral presentation skills to perform workplace jobs effectively in this competitive corporate environment of engineering organizations.

6. Conclusion

The results of the study indicated that engineering students of Pakistan are not well prepared in oral presentations for world of work. It is envisaged that oral presentation barriers of engineering students are not redressed at university level resultantly, same barriers will affect their job performance at workplace and it will a loss for engineering organizations in this competitive business environment of organizations. In view of this, it is suggested that all stakeholders related with engineering students should take quick and collective efforts to assist engineering students to overcome barriers before they join workplace. Moreover, it is suggested that engineering universities of Pakistan should introduce a subject of communication skills that should be taught to engineering students in the final term of their engineering degree program. Thus, this subject will considerably assist engineering students to overcome barriers that obstruct their effective oral presentation performance.

References


Biographical Notes

Inayatullah Kakepoto earned his Master of Arts (English Literature) from Shah Abdul Latif University Khairpur (Sind) Pakistan. His teaching experience is spread more than over a decade as Lecturer at Cadet College Petaro (Pakistan Navy) and as Assistant Professor Quaid-e-Awam University of Engineering Science and Technology Nawabshah (Sind) Pakistan. Currently he is a doctoral student at Universiti Teknologi Malaysia. His research interests include workplace communication, soft skills, business communication and engineering education.

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