Engineering Undergraduates' Perspectives of Effective Platforms forPresentation in English

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Abstract - A good presentation skill has become a crucial ability for engineering undergraduates to master in order to perform well in academic domains as well as at work place. However, it has been noticed that engineering graduates lack in technical presentation skills especially in English due to which they are unable to find suitable jobs in the job market. Thus, this paper exploresthe perspectives of engineering undergraduates with regard to effective presentation skills that they prefer and find useful.This study investigated the perspectives of engineering undergraduates at a technical university in Malaysia. This paper presents the descriptive data that highlights the technology-based platform that engineering students preferred in conducting presentation. The paper also revealed the factors that were considered important for the engineering students in preparing effective slide presentation. A quantitative method was employed where a survey was conducted using a self-developed questionnaire using Google Form and distributed among the engineering students via WhatsApp. The data were collected and analyzed in relation to the research objectives by obtaining the percentage and tabulating according to the ranking identified.The results revealed that thepreferred technology-based platforms employed in presentation slide PowerPoint, Prezi and PowToon that have the useful characteristics for their perusals. The findings also highlighted the factors enhancing their understanding of the presentation slides such as the usage of pictures and animations by avoiding too wordy and information-cramped slides.The finding of this study can be utilized as recommendations to be included in the engineering curriculum to ensure that the engineering graduates become successfulprofessional presentersat the workplace.

Keywords: Presentation skills, engineering graduates, technology-based platforms, perspectives

I. INTRODUCTION

Presentation is a mode of communication that can be employed in various situations such as meetings, business deals and classroom assessments. The presentations can be conducted through various platforms such as using real items, pictures and multimedia. Effective presentation ability is one of the most sought-after workplace skills in today's job market[1]. In addition to being able to present well, the ability to present profoundly in English would be an extra milestone for everyone especially for those in the engineering field be it engineering students or the in-service engineers. Nowadays, employers are demanding graduates who have high scale presentation skillsespecially in English to tackle the global market.Future engineering graduates will be challenged with various problem-solving tasks at work place which will be very unnerving without proper communication and presentation skills[2].Therefore, careful preparation should be considered to conduct the effective presentations.

The ability to present well has become very important that the oral presentation skills are very much emphasized in the modern engineering education[3]. There are many elements and characteristic of good presentation that learners need to master in order to deliver an effective presentation in English. The presentation skills are so important that it is usually incorporated in the assessment as part of the course requirement to help students to nurture their skills better[4]. Some researchers even suggest peer assessment where students evaluate students should be encouraged so that they can obtain more feedbacks to improvise the presentation skills especially in oral presentation[5]. Motivating students to develop their presentation skills is vital and this can also be done by conducting various presentations frequently during lecture hours and prompting the students of the possibility of being evaluated at work place by their superiors[6]. Apparently, university students need to develop their

presentation skills and know the characteristics of making good performance such as using the persuasive element to enable the message being delivered to the listeners or audience sufficiently[7]. Highlighting the significance of demonstrating good presentation skills is also a good technique of motivating the engineering students to be interested in learning and presenting. One of the ways to enhance the presentation skills is by employing the technology to attract the audience [8].The fact that the current young generation is more technology savvy is undeniable. Thus, it would be a great idea to emphasize and incorporate the technology-based presentation methods to motivate the engineering studentsto enhance their presentation skills.

Presentation Platforms for Engineering students

Incorporating technology in teaching and learning is inevitable in today's day and age. The use of technology can also attract learners especially learning substantial subjects like engineering in English. Studies also proved that learning in a traditional way in second language can be boring and therefore, the use aids can be very useful for learning to take place more effectively[9-10]. Meanwhile, effective presentation must also have the related materials which can attract the audience and that help the presenters to achieve their goals [10]. Thus, effective presentation skills are very important for engineering graduates to excel in their fields. Engineering students need to learn to prepare good presentation materials to attract their target audience.Studies show that presentation skills can be improved by designing attractive supporting materials[11-12]. The engineering graduates may prepare presentation material with the help of technology such as PowerPoint and multimedia so as to make the presentation more attractive and engaging for the audience[13-14]. Improving the presentation skills with the use of technology-based materials would enhance the quality of their presentation. These skills would be useful for engineering students upon graduation to bring in business deals for their companies and help to flourish their companies.

There are several types of modern platforms that engineering students can opt to prepare their presentation materials which encompass the latest technology. The engineering students should be familiar with the technology-based platforms besides knowing the factors that can contribute towards performing the best presentation. Besides having the content knowledge, engineering students should also know the delivery techniques to promote and expand their company products. This is because some presentations are specially created to attract certain types of audience and purpose which can be utilized mainly, to support the information being delivered[15]. Thus, the use of suitable technology-based platforms with the right strategies, engineers can penetrate the global market. Since every field has its own marketing strategies and genre, it is also important to look into the matter from their point of view. Thus, this study explored the central factors of having a good presentation from the perspectives of the engineering students themselves using the technology-based platforms. The findings from this study is hoped to shed light on the preference of the university engineering students regarding the platforms used for making presentations and identify the characteristics of presentations that they perceive important so that the engineering education can be further refined and improvised more meaningfully.

Research purpose

The study was conducted to address two research objectives: (i) to investigate the presentation platforms preferred by the university engineering graduates and (ii) to explore their perceptions with regard to good presentation skills from their perspectives.

II. METHOD

Participants

The current study was conducted using a survey design using a self-developed questionnaire. The population of the study consisted of all students enrolled in different engineering courses at UTHM. However, 74 students were purposively selected to participate in the survey study who attended the presentation skills course. The questionnaire comprised items which was developed using Google Form and administered to the sample students to measure their attitudes towards presentation skills.Before, data collection, the instrument was piloted and also shown to experts for content validity. The questionnaire was distributed to the respondents via WhatsApp for data collection. The items were analyzed descriptively using SPSS version 25. Table 1 shows the sections involved in the questionnaire. The items in the questionnaire were divided into three sections: Section A (Demography); Section B (Most preferred presentation platform; Section C (Presentation selection factor).

III. FINDINGS AND DISCUSSION

Descriptive statistics were used for data analysis. The results of the study are shown in percentage and mean score.The results of the study are presented below for more elaboration of the perspectives of the students related to the presentation skills and its importance for engineering graduates.

Table 1: Respondents' Demography

This study involved 74 respondents from an engineering faculty at UTHM, Malaysia. A total of 45 (60.8%) of them were male respondents and the rest of the 29 (39.2%) were female respondents. The majority of the respondents (44 of them) involving 59.5% of the total respondents were from mechanical engineering faculty and the rest of them (n=30, 40.5%) were from the electrical engineering faculty. There were 4 groups of engineering students from year one (n=16, 21.6%), year two (n=44, 59.5%), year three (n=11, 14.9%) and final year (n=3, 4.0%) who participated in the survey.The respondents involved were aged below 20 years old (n=34, 46%), between21 – 24 years old (n=36, 48.6%) and above 25 years old (n=4, 5.4%). The majority of the respondents who participated in the study were the second-year students between the age group of 21 -24 years old. These engineering students were actively participating in the in-class presentation activities and trying hard to improve their presentation skills before embarking on the final year project. Very few final year students (4.0%) participated in the study. The details of the respondents' demographic are as per description in Table 1.

Table 1: Respondents' Demography

Category	Frequency (F)	Percentage (100%)
Gender		
Male	45	60.8
Female	29	39.2
Total	**74**	**100.0**
Year of Study		
First	16	21.6
Second	44	59.5
Third	11	14.9
Final	3	4.0
Total	**74**	**100.0**
Age		
Below 20 years	34	46.0
21 – 24 years	36	48.6
25 years and above	4	5.4
Total	**74**	**100.0**
Faculty		
Mechanical Engineering	44	59.5
Electrical Engineering	30	40.5
Total	**74**	**100.0**

Table 3 shows that in view of majority of the participants (n=51, 68.9%), PowerPoint was the firstchoice to make a good presentation. About 15 (20.2%) respondents chose Prezi as the second choice and 5 (6.8%) respondents chose PowToon as their third choice to conduct presentations. There were also very small number of respondents who chose Canva (n=2, 2.7%) and Bitetable (n=1, 1.4%). The findings showed that the presentation platform mostly preferred by the engineering undergraduates of UTHM were PowerPoint, followed by Prezi and others. It can be assumed that the engineering undergraduates were able to utilize the features in the PowerPoint to create the details in the presentation more precisely such as the various designs and animations. Furthermore, PowerPoint can be utilized even when the students are off-line. The data also highlighted that the platform selected were the ones that are readily available in the computers and laptop and also widely used in presentations nowadays.

Table 2: The preferred presentation platforms

Presentation Platform	Frequency	Percentage (%)
PowerPoint	51	68.9
Prezi	15	20.2
Powton	5	6.8
Canva	2	2.7
Bitetable	1	1.4
Others	0	0
Total	74	100

Based on Table 3, the data shows that the majority of the respondents (74 of them) tend to choose presentations which have slides that include pictures where 50 (67.5%) of them chose 'agree' and 21 (28.4%) of them chose 'strongly agree'. This finding is in line with the finding of study conducted by Kjeldsen (2015) which emphasized the importance of using pictures to help better understanding of the topics discussed. This is followed by respondents who seemed to favour presentations that should include animations where 40 (54.1%) 'agreed' and 16 (21.6%) of them chose 'strongly agreed'. This finding supports the findings of a study conducted by Parette et.al., (2011) that using animation in powerpoint has helped students with learning diabilities to learn better.This finding shows that majority of the respondents were attracted to having pictures and animations in the presentations.In addition, the results also revealed that the respondents moderately preferred the presentation slides to be colourful where only about half (52.7%) of the respondents 'agreed' and 'strongly agreed' to this item. Similarly, half the number of participants (37 of them) 'agreed' and 'strongly agreed' that the presenters should use various voice modulation to present better. This findingrevealed that the respondents have paid more attention to the usage of pictures and animation compared to other presentation factors.

Table 3 shows that most of the respondents provided less importance to the usage of high technology and having plenty of information in each slide in presentation. The data shows that 29 (39.2%) of the respondents disagreed and 25 (33.8%) of them strongly disagreed that high technology was important in presentation. Similarly, 15(22.2%) of the respondents 'disagreed' and 46(62.2%) of them 'strongly disagreed' that there should be plenty of information in the presentation slides. This shows that the respondents did not pay much attention to the type of latest technology used in the presentation. They would not mind if the presentation was done using simple method as long as the message got across. In fact, the amount of information in each slide did not seem to capture their interest as it can burden them in understanding the message the presenter tries to explain.

Table 3 also highlights that majority of the students are not in favour of having too many words in a slide and presenters reading from the slides. The findings revealed that 26(35.1%) of them 'agreed' that presenters should not have too many words and the same number of respondents also 'strongly agreed' with this idea. A study conducted by Misha, (2006)also supports the finding of this study that visual aids should have limited text and written appropriately. Meanwhile, the results from Table also show that 32(43.2%) 'agreed' and 33(44.6%) of them 'strongly agreed' that presenters should not read from the slides. These activities seemed to demotivate the audience from paying attention to the presenters and reduce the quality of the presentation materials itself. The finding of this study is also in line with the study conducted byEstrada et al.,(2005)where highlighting the key words and reading less from the slides were found to be useful in presentation.

Table 3: Factor Influencing the Selection of Website

No	Item	SD	D	A	SA
1	The presentation should be colourful.	6 (8.1%)	29 (39.2%)	37 (50.0%)	2 (2.7%)
2	The presenter should include plenty of information in each slide	46 (62.2%)	15 (22.2%)	12 (16.2%)	1 (1.4%)
3	The presentation should include animation.	8 (10.8%)	10 (13.5%)	40 (54.1%)	16 (21.6%)
4	The presentation slides should have pictures.	1 (1.4%)	2 (2.7%)	50 (67.5%)	21 (28.4%)
5	The presenter should use various voice modulation.	14 (18.9%)	23 (31.1%)	32 (43.2%)	5 (6.8%)
6	The presenter should not read from the slides.	2 (2.7%)	7 (9.5%)	32 (43.2%)	33 (44.6%)
7	The presentation slides should not have too many words.	5 (6.8%)	17 (23.0%)	26 (35.1%)	26 (35.1%)
8	The presenter should use the latest technology in presentation.	25 (33.8%)	29 (39.2%)	17 (23.0%)	3 (4.0%)

IV. CONCLUSION

In conclusion, most of the engineering students at UTHMpreferred to employ PowerPoint as the main platform in preparing their presentation materials, followed by Prezi and PowToon and others. Apart from that, it was also found that they understand the characteristics of good presentation skills which they perceive will useful in enhancing the credibility of the presentation slides in making audience comprehend the information displayed during the presentations. The engineering students seemed to prefer to have more pictures and animations in the presentations. Surprisingly, they did not seem to pay too much attention on the use of high technology in presentation as it might be time consuming in administrating the software and might not work during offline circumstances. They also prefer not to have presentation slides with too much of information that might cramp the screen and affect their attention. The students clearly opted for not having too many words on the slides and were against presenters who read directly from the slides. All these characteristics identified from the study could be used by the engineering students and also the engineering lecturers as well as in-service engineers to improvise their presentation skills in future.

All the factors highlighted in this study can be practised with effort for better presentation results.Lui *et al*., (2015)has revealed that the presentation skill could be improved by giving intensive field-basedtraining to the presenters before going for presentation. Thus, the engineering education may manage the presentation challenges better by looking into the factors highlighted in this study as the perspectivescame from the engineering students themselves. The results of this study may help the engineering faculty and course developers to include the presentation elements highlighted in the study to help engineering graduates improve their presentation skills in studies and before their interaction with customers at the workplace. However, this finding was revealed based on the perceptions of the undergraduates from the mechanical and engineering faculty from this particular university. The findings of this study may further be tested in others context to help improve the presentation skills and performance of engineering graduates working in different working conditions.

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