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1997

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Recommended Citation

Hadi, Muhammad N. S; Morris, Carl E.; and Uly, Brian, Improving the seminar presentation system for final year thesis students, *Overview - University of Wollongong Teaching & Learning Journal*, 4(1), 1997, 47-53.

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Improving the seminar presentation system for final year thesis students

Abstract

A requirement for the Bachelor of Engineering degree in the department of Civil and Mining Engineering at the University of Wollongong is the successful completion of a 16 CP (credit Point) research subject. The assessment of this subject is based on a presentation and the production of two bound copies of the final thesis, which are worth 20% and 80% of the total mark, respectively. The presentation has historically been given in week three or four of the second semester. The presentations were given within the Department in the presence of the students' research adviser and another member of the academic staff, both of whom act as assessors of the presentation and thesis. The aim of this paper is to describe the impact of changes in the venue, timing, and organisation of the thesis presentation which was changed to be a conference type gathering held in week ten of the second semester in the presence of several academic staff, industry representatives, and other students. The conference was subdivided into a number of sessions according to the disciplines and topics. Two student surveys were conducted to gauge the students' responses before and after the change. These surveys indicated that the majority of students prefer the new form of presentation.

***Improving the
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**Muhammad
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A requirement for the Bachelor of Engineering degree in the department of Civil and Mining Engineering at the University of Wollongong is the successful completion of a 16 CP (credit Point) research subject. The assessment of this subject is based on a presentation and the production of two bound copies of the final thesis, which are worth 20% and 80% of the total mark, respectively. The presentation has historically been given in week three or four of the second semester. The presentations were given within the Department in the presence of the students' research adviser and another member of the academic staff, both of whom act as assessors of the presentation and thesis. The aim of this paper is to describe the impact of changes in the venue, timing, and organisation of the thesis presentation which was changed to be a conference type gathering held in week ten of the second semester in the presence of several academic staff, industry representatives, and other students. The conference was subdivided into a number of sessions according to the disciplines and topics. Two student surveys were conducted to gauge the students' responses before and after the change. These surveys indicated that the majority of students prefer the new form of presentation.

The Department of Civil and Mining Engineering, University of Wollongong offers degrees in three disciplines: Civil Engineering, Mining Engineering, and Environmental Engineering. One of the requirements for the Bachelor of Engineering degree in all three disciplines is the completion of a core 16 CP (Credit Point) research subject which is equivalent to four core subjects [1]. The thesis is a small research study with the aim to train students in conducting research. This includes a review of literature, followed by the actual work, and a final write-up in the form of a thesis. The thesis is formally presented in a hardcover binding and is usually in the range of 100 to 200 pages in length. The nature of the research study varies depending on the interest of the student and the academic adviser. It can include an experimental study or field work, solving problems using computer programs, developing software, or modelling problems. Some of the theses are conducted in collaboration with industry partners such as Wollongong City Council, Liverpool City Council, Shoalhaven City Council, Roads And Traffic Authority, State Rail Authority, Australian Steel Mills, BHP Flat Products and Bisalloy Steels. The thesis may result in a solution or lead to further investigation.

The thesis seminar was organised by the Department where each student made a 15 minute presentation followed by a 5 minute discussion period. The seminars have been held during the third or fourth week of the second semester in a normal size class room. The attendance at such seminars included the supervisor(s) of the work, and a member of the academic staff

who acted as an assessor (or examiner). In addition, any interested students and staff were welcome to attend the presentation. The presentation represented 20% of the final mark and marks were given by assessing the presentation of the seminar, contents of the study, how the student handled discussion, and the mannerisms of the student.

In order to improve the presentation capabilities of the students, the seminar component of this subject was modified. The modifications included holding the seminar in week ten of the second semester and asking each student to make a conference type presentation. The new seminar format was modelled on a professional conference and was divided into a number of sessions according to disciplines and topics. Representatives from industry were invited to attend and sponsor the conference. In order to evaluate the changes in the seminar format, two student surveys were conducted. The responses of students in both surveys indicated that the majority of the students supported the idea of organising a conference type presentation.

The New Organisation

The University of Wollongong is determined to upgrade and enhance the teaching and learning environment in the University in order to provide its students with better capabilities and to ensure graduating students of high standard as spelled out in the Towards 2000 report [2] of the University. Based on this report the Department of Civil and Mining Engineering undertook the task of reviewing and upgrading its courses and subjects leading to the change in the thesis presentation seminar. Two surveys were conducted to collect some feedback from the students who undertook the subject during 1995 and 1996.

Seminar Timing

The second semester in the academic year is composed of two terms. The first is composed of ten weeks and the second of four weeks. These are separated by a two week recess. Based on this organisation, it was decided to organise the seminars prior to the recess in week ten of the second semester.

In order to enable all the fourth year students to attend and participate in the seminars, it was decided

to initiate week ten of the session as a no teaching week for final year students. It is hoped that in the near future this organisation will extend to third year as well, thus giving them the chance to preview potential research topics for the following year.

Attendance

Letters of invitations were sent to representatives from industry, both in the Wollongong and Sydney area to promote interest in student education and research at the University. The industry representatives were also invited to sponsor prizes for outstanding student presentations in each of the conference sessions.

Venue

The venue was chosen to be the University Function Centre located in the Union Building. Overhead and slide projectors were provided as were whiteboards, a computer and video display unit, allowing the students the freedom to choose a delivery style which suited their topic and with which they felt comfortable. Tea and light lunches were provided to all conference participants to encourage attendance.

Conference Proceedings

Each student was asked to provide a one page abstract describing their research project by week seven of the second session. The abstracts from all students were compiled, bound and distributed to all conference attendants. Additional copies of the proceedings were sent out to industry representatives along with a schedule of presentations so they would have an overview and program of the topics to be presented.

The Surveys

Two surveys were conducted to gauge student response to the old and new seminar presentation formats. The first survey was of the students who finished their theses in 1995. It was taken just before their graduation ceremony in May 1996 by mailing out the questionnaires and collecting them at the ceremony. There were eighty students enrolled across the three disciplines: Civil, Mining, and Environmental, all of whom were polled. The second survey was conducted on the seventy students who undertook the thesis subject in the three disciplines during 1996. This survey was conducted after the seminars, between

weeks eleven and fourteen of the second semester. The questions in the two surveys were identical and were designed in collaboration with the staff of the Academic Development Services (ADS). Moreover, both surveys were conducted and analysed by the staff of the ADS. Thirty seven students replied to the first survey and twenty seven replied to the second. Following is the description of the surveys and the response of the students.

Timing of the Seminars

In order to make the decision about the timing of the seminar and whether week 3 or 4 of the second semester was an appropriate time, students were asked about the timing of the presentation. The reply was divided into five categories, 1 for students who think the timing of the seminars was very appropriate compared to the other extreme 5, very inappropriate. As shown in Figure 1, the majority of students thought the seminar timing was appropriate.

In the second survey, students were asked what they thought about the new timing of the seminars, i.e. week 10 of the second semester. As shown in Figure 1, the majority of students thought the new timing of week 10 was more appropriate.

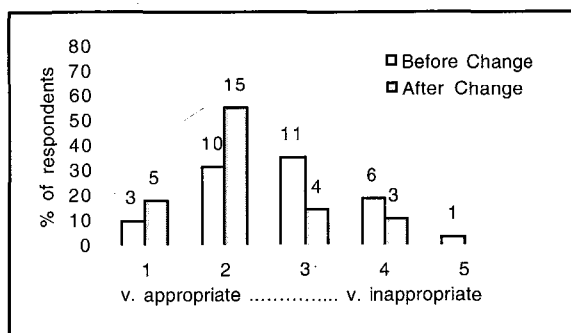


Figure 1. Current Seminar Timing

The students were then asked about their opinion on when the seminar was to be held. The replies of the students in the first survey, as shown in Figure 2, indicated that the majority of students preferred either week 3-5 or week 12-14 in the second semester. The second popular timing was week 9-11. In the second survey, more than half of the replying students thought that weeks 9-11 of the second semester were the most appropriate. It is evident that the majority of the students preferred the new timing of the seminars.

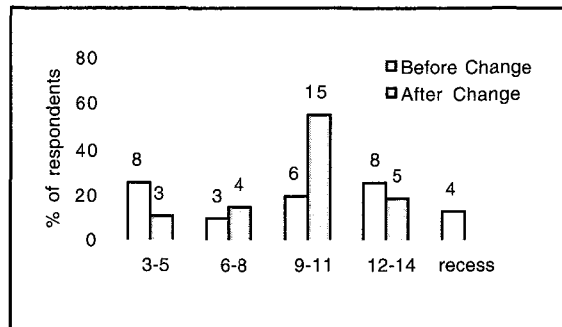


Figure 2. Students' Timing Preference in the Second Semester

Students were asked if there was any conflict in the seminar timing which prevented them from attending. As shown in Figure 3, in the first survey, the majority of the students highly agreed that there was a conflict. In the second survey, eight students thought that there was never a conflict and nine thought there was often a conflict. Four students thought that there may be some conflict and six students had an indifferent reply.

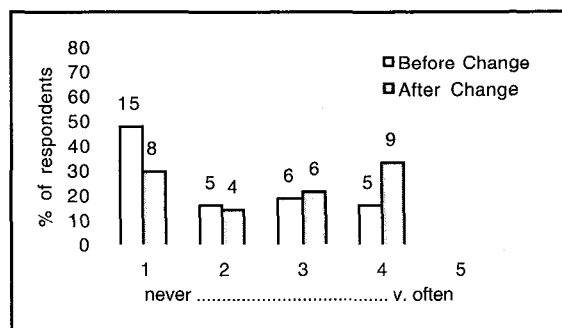


Figure 3. Timing of Seminars Conflicted with Other Classes

Another survey question asked students about their intention to attend seminars if there were no conflict with other teaching activities. Figure 4 illustrates students responses. In both the first and the second surveys, the majority of the students thought they would attend.

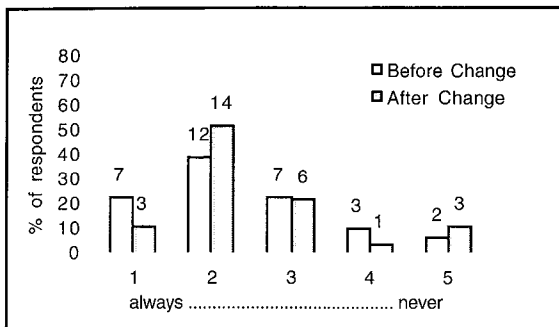


Figure 4. Students will Attend other Seminars if Timing Permitted

The students were asked if there was no conflict, would they attend seminars in other disciplines within the Department. As presented in Figure 5, both surveys revealed that the majority of students may attend such seminars.

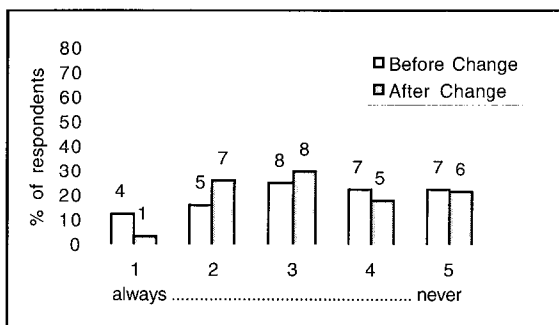


Figure 5. Students will Attend Seminars in other Disciplines if Timing Permitted

Venue and Audio-Visual

The seminars were traditionally held in a seminar room within the Department. The capacity of the room was thirty five people and was furnished with movable furniture providing more freedom in the seating arrangements. There were two white boards, a screen, an overhead projector, a slide projector, a television, and a video recorder. A computer with a Proxima (computer projector) was provided upon request from the students. Students were asked about the adequacy of the venue and the audio-visual equipment in two separate questions.

Figure 6 illustrates that the majority of students preferred the new venue. Likewise, Figure 7 shows the majority of students thought the new arrangement for audio-visual equipment was more appropriate.

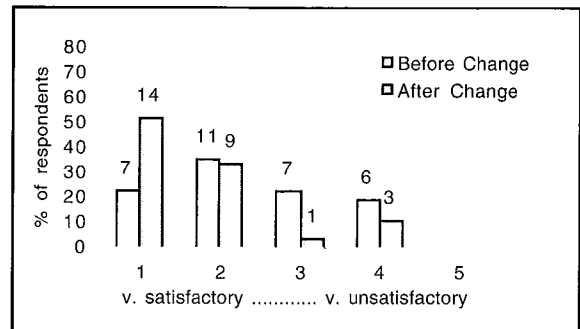


Figure 6. Students' Opinion About the Venue

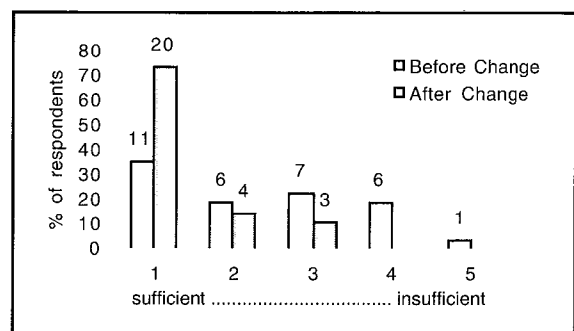


Figure 7. Students' Opinion about Audio-Visual Equipment

Audience

Students were surveyed about their opinion of the audience. Two questions were asked to gauge student preference of the audience, including staff and representatives from industry.

Figure 8 and Figure 9 show the preference of students about the audience. It is evident from these figures that the students were interested in the presence of more staff and industry representatives at their presentations.

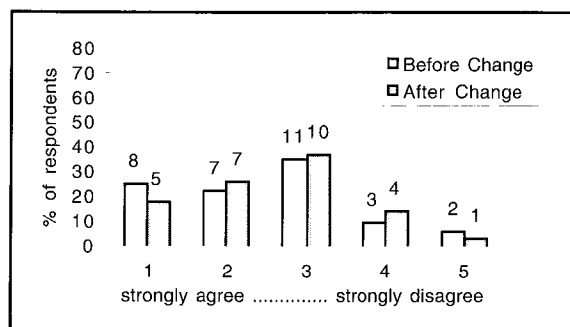


Figure 8. Students Preference for the Attendance of More Staff

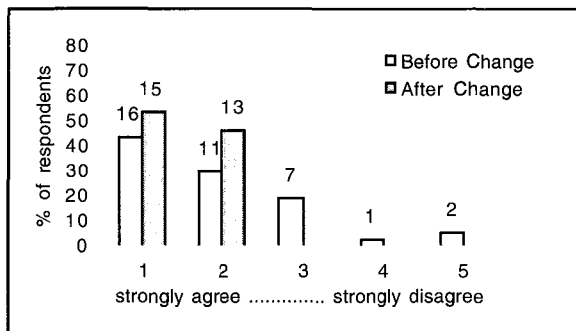


Figure 9. Students Preference for the Attendance of More Industry Representatives

Duration of Presentation

Seminar presentations were traditionally organised to last fifteen minutes, followed by a five minute discussion time. In the new arrangement the discussion time was kept to five minutes, but the presentation time was curtailed to ten minutes. This shorting of presentation time was done mainly for organisational purposes to keep the conference within the four day time span. Students were surveyed about their satisfaction about the old and the new presentation arrangement.

As shown in Figure 10 and Figure 11 most of the students were satisfied with the time allocated for the discussion. However, a fraction of the students did not like the current organisation of duration. According to this, it has been decided to change the presentation time back to 15 minutes.

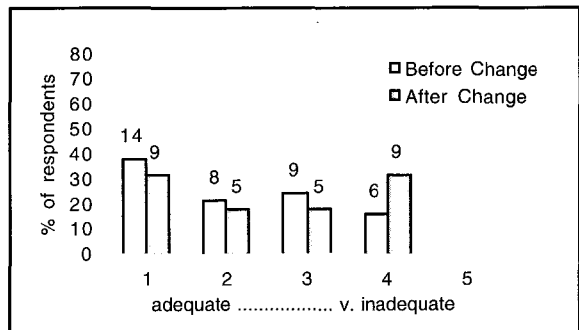


Figure 10. Presentation Duration

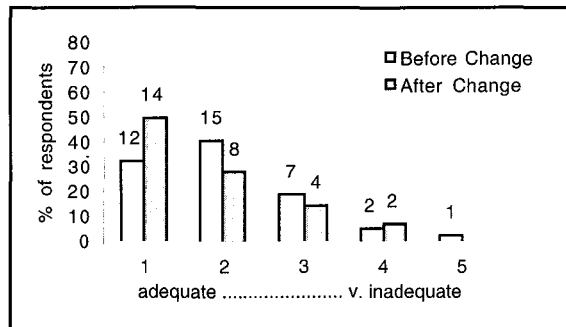


Figure 11. Discussion Duration

Chairing the Sessions and More Formal Sessions

In the current organisation of the seminars, the chair of the sessions was the academic adviser of the presenting student. One suggested idea was to organise the seminar in such a way that a student chairs each session. In order to explore this idea, a survey question was asked. The first survey revealed that four students highly agreed with the idea of a student chairing the sessions, three agreed, fourteen did not have any reservation, nine disagreed, and seven highly disagreed. In the second survey one student agreed that a student should chair the sessions, fifteen students thought that there was no difference, four students disagreed and eight strongly disagreed. Figure 12 shows students responses in both surveys. In the 1996 academic year and due to organisational difficulties, members of the academic staff chaired the sessions, however the seminars in 1997 will be chaired by the students and the role of the academic staff will be limited to monitoring the process and assessing the presenters.

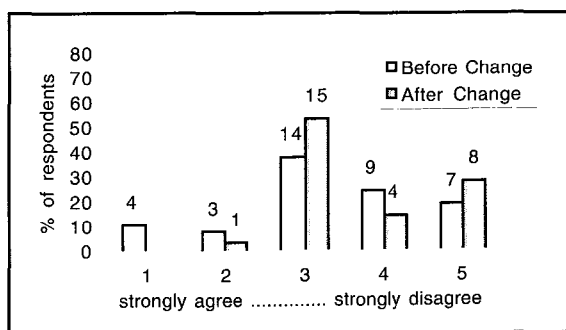


Figure 12. Student to Chair Sessions

The students were asked if they preferred more formal seminars. In the first survey, fourteen students replied indifferently, twelve preferred a more formal presentation of the seminars, whereas eleven did not

prefer a formal seminar. In the second survey, one student strongly agreed, none agreed, eleven did not bother, nine disagreed and seven strongly disagreed. Figure 13 presents the results of the two surveys.

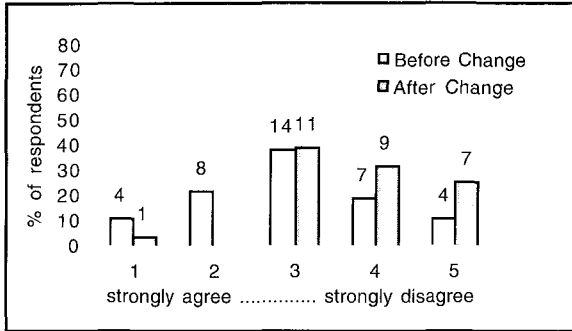


Figure 13. More Formal Seminars

Helpfulness and Feedback from Seminars

Two questions were asked regarding what students thought about the helpfulness of the seminars and if the seminars helped them in gaining some positive feedback. In the first survey question about the helpfulness of the seminar for their research, thirteen of the students surveyed highly agreed and eleven agreed. Nine of the students revealed that they thought that the seminar had no effect on their research. However, three of the students disagreed and one highly disagreed. In the second survey, eleven students thought that seminars were very helpful, another eleven thought the seminars were helpful, five thought they were indifferent, and one thought they were unhelpful. None of the students thought the seminars were very unhelpful. The results are illustrated in Figure 14.

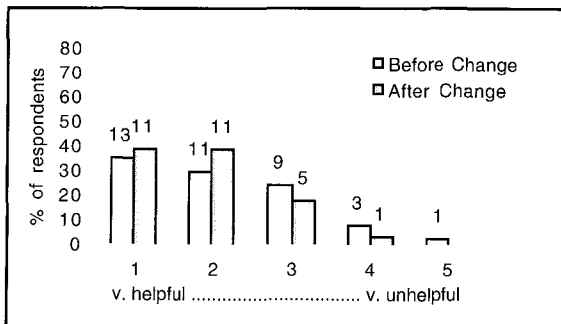


Figure 14. Seminar Helpfulness

When the students were asked about the feedback from the seminars, the majority of students in both

surveys thought the feedback was useful. This is shown in Figure 15.

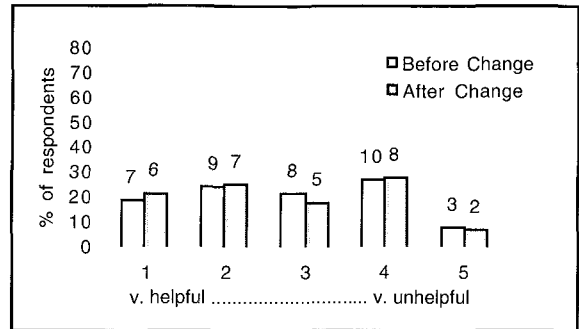


Figure 15. Usefulness of Feedback

Personal

Four survey questions were asked to measure the effect of the seminars on their motivation, self confidence, presentation skills, and the opportunities of future employment. Figure 16 presents the response of students. The majority of students in both surveys believed that the seminars helped increase their motivation.

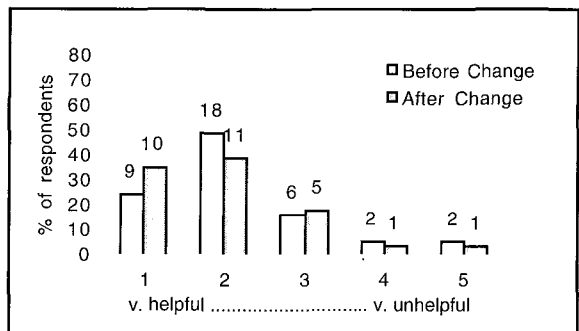


Figure 16. Motivation

On the response about whether the seminar helped to boost their self confidence, the majority of students agreed so. This is shown in Figure 17.

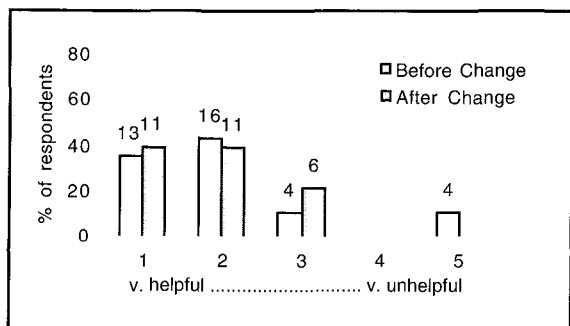


Figure 17. Self Confidence

Figure 18 shows that the majority of students thought that the seminars helped in improving their presentation skills.

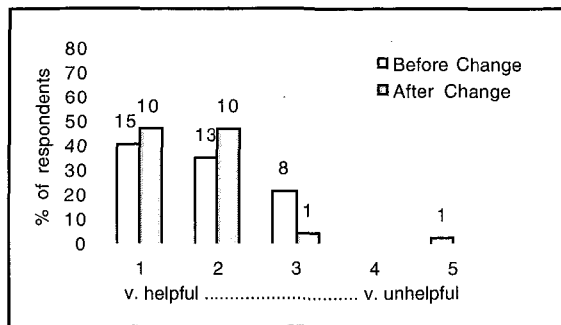


Figure 18. Improve Presentation Skills

When asked if they thought the seminars helped their prospects of future employment, sixteen students in the first survey thought that there was a positive effect and eight students thought there was a negative effect. On the other hand, eleven students thought there was no relation between the future employment and the seminars and two students did not reply. In the second survey, seven students thought that the seminars had no effect on their future employment, three students highly agreed and four agreed. On the other hand three students disagreed and four highly disagreed. This is shown in Figure 19.

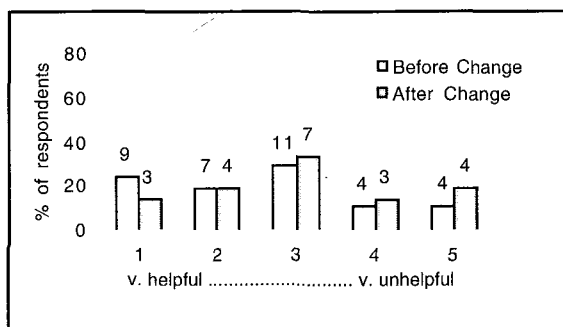


Figure 19. Future Employment

Conclusion

A study was undertaken to review the thesis subject in the Department of Civil and Mining Engineering. Thesis seminar presentations were modified to be more formal in a conference type gathering. Two surveys were conducted to gauge students responses

toward the previous and the new format. It can be concluded that:

- The majority of students preferred the new conference type presentation.
- Students gained good presentation skills which they believed would help in their future employment.
- Good contact with industry was established which proved to be beneficial both for the students and industry.
- The conference type seminars boosted the self confidence of students.
- Third year students gained excellent knowledge by previewing their peers performance.

Acknowledgments

The authors would like to thank the University of Wollongong for the Strategic Development Fund Grant which has funded the research in this paper. Furthermore, the authors would like to acknowledge the assistance of Associate Professor John Panter and Ms. Nina Southall from Academic Development Services and the Faculty of Education in preparing and collating the surveys conducted in this paper. Finally the authors appreciate the co-operation of all the undergraduate students and fellow staff members in the Department of Civil and Mining Engineering in conducting the research in this paper. Furthermore the authors would like to thank D.J Douglas & Partners and Bisalloy Steels for sponsoring the student Prizes given at the Conference.

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