Are our students work-ready?: Graduate and employer feedback for comprehensive course review

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Abstract—Curtin University of Technology has embarked on an ambitious three year project (Curriculum 2010) to implement comprehensive course review for all its courses by 2010. A key factor in reviewing courses is extensive internal and external stakeholder feedback. Internal data sources are used to report enrolment trends, school leavers’ first preferences, retention and pass rates, as well as quantitative and qualitative feedback from current students. These data are usually readily accessible to universities. The task of gathering external stakeholder feedback is somewhat more challenging. This paper describes how the project is extending the University’s system of evaluation of teaching and learning by current students (eVALUate) to capture feedback from key external stakeholders such as graduates and employers. The paper includes consideration of topics such as creating and validating new instruments for online data gathering (what sorts of questions would we ask, and why?), devising ways to elicit feedback from elusive former students and their employers (can we use existing alumni and employer databases? should we offer incentives?), reporting results to course teams (what is the most effective way to report quantitative and qualitative responses, and what response rates are achievable?), and how we might use the feedback to improve courses (what is the quality of the data? And do they tally with current student feedback?). All of these matters are currently under consideration by the project team. This paper will reports progress so far, including sets of data, and the benefits and challenges of such a task.

Keywords—Work-related Graduate Attributes, external stakeholder feedback, instrument design.

I. INTRODUCTION

The evaluation of teaching is high stakes, often contested and controversial (Davies et al., 2007; McDonald & Mills, 2007), partly because there are multiple stakeholders in the evaluation of teaching and learning: students, academics, university administrators, employers, parents and the government (Knapper, 2001). Student evaluation systems have been employed in higher education systems worldwide since the 1950s and a plethora of literature has been written about these rating systems (Marsh & Roche, 1992; Sorensen & Reiner, 2003) and their effectiveness or otherwise. Curtin University of Technology has recently implemented a fully online system, eVALUate, which allows student evaluation of units and teachers. The results of unit surveys are reported collectively to give a sense of the students’ evaluation of a course (Curtin University of Technology, 2005) While this is extremely helpful in getting leading data on units, more and more—and particularly because of the Learning and Teaching Performance Fund, universities need to focus on the quality of courses rather than units. Recent research makes it very clear that in their qualitative comments on courses, students are likely to comment on and be influenced by other campus and support systems in their evaluation of courses (Scott, 2005). For this reason, course review data draw on several sources of national and university owned data such as course demand, student success rates, and Course Experience Questionnaire (CEQ) feedback. While CEQ feedback is, strictly speaking, conveying the graduates’ perspective, those
graduates are usually very new and have limited experience in fulltime work in a field related to their degree to give any indication of how well their degree prepared them for the workplace (indeed, they are not asked this question at all in the Australian Graduate Survey).

Curtin’s Curriculum 2010 project is a university-wide initiative to ensure all curricula are current, aligned and pedagogically sound by 2010 (Curtin University of Technology, 2007a). This means comprehensive course review of all majors and courses. The first phase of comprehensive course review is the compilation of a needs analysis document intended to answer two key questions: how might this course change and why? The needs analysis is a collection of data from a range of sources, and includes the results of two new surveys specifically aimed at asking graduates and their employers whether they believe their course assisted them to be work-ready. This paper reports on how these instruments (added to the suite of eVALUate online instruments) were designed, how they are implemented online, and how the results are reported. The paper includes an example of graduate and employer feedback on a large undergraduate degree.

II. INSTRUMENT DESIGN AND DELIVERY

The instruments for both graduates and employers are almost identical to allow clear comparison of results. Since they are designed for online use by external stakeholders, who have little reason for completing them (apart from altruism), the instruments must be brief and quick to complete. The demographic data are very brief: graduates are asked to report their gender, age group, year of graduation, and whether they now work in an area related to their degree. Employers, who have even less to gain from the survey, are asked to report only the number of graduates upon whom they base their responses to the remainder of the instrument.

Curtin has a set of graduate attributes which are the course learning outcomes for every course (Curtin University of Technology, 2007b), and the mapping of these into the curriculum is central to the comprehensive course review. More than this, the graduate attributes, which many universities have found difficult to embed and assess (Barrie, 2004), are really tested by stakeholders once students become graduates: do graduates themselves and their employers believe they have achieved the graduate attributes? Most universities’ lists of graduate attributes are clearly work-related, and are often described in Australia and abroad as employability skills (Precision Consultancy, 2007). For this reason, the items in the eVALUate graduate and eVALUate employer instruments are aligned very closely with Curtin’s graduate attributes, as shown in the table which follows: Respondents are invited to report their level of agreement with each of the 13 statements (Strongly agree, Agree, Disagree, Strongly disagree, Unable to judge) shown in the right hand column of table one.

<table>
<thead>
<tr>
<th>Curtin’s graduate attributes and a brief description of each. This information does not appear in the instrument</th>
<th>eVALUate graduate items This Curtin course prepared me to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Apply discipline knowledge, principles and concepts</td>
<td>1. Apply knowledge and skills in the workplace</td>
</tr>
<tr>
<td>Apply discipline knowledge, understand its theoretical underpinnings, and ways of thinking; Extend the boundaries of knowledge through research.</td>
<td>I have the relevant knowledge and skills to be effective in the workplace.</td>
</tr>
<tr>
<td>2. Think critically, creatively and reflectively</td>
<td>2. Think critically</td>
</tr>
<tr>
<td>Apply logical and rational processes to analyse the components of an issue; Think creatively to generate innovative solutions.</td>
<td>I can analyse issues</td>
</tr>
<tr>
<td>3. Solve problems</td>
<td></td>
</tr>
</tbody>
</table>

Table one. Alignment of graduate attributes with eVALUate items

| 3. Access, evaluate and synthesise information | Decide what information is needed and where it might be found using appropriate technologies; Make valid judgements and synthesise information from a range of sources. | 4. Find and evaluate information  
I can find and judge the value of new information |
|---|---|---|
| 4. Communicate effectively | Communicate in ways appropriate to the discipline, audience and purpose | 5. Communicate effectively in spoken English  
I can communicate effectively when I speak |
| | | 6. Communicate effectively in written English  
I can communicate effectively in writing |
| 5. Use technologies appropriately | Use appropriate technologies recognising their advantages and limitations. | 7. Use technology  
I have the technology skills to be effective in the workplace |
| 6. Utilise lifelong learning skills | Use a range of learning strategies; Take responsibility for one’s own learning and development; Sustain intellectual curiosity; know how to continue to learn as a graduate. | 8. Keep up-to-date with new developments  
I have the skills to keep learning |
| 7 International perspective | Think globally and consider issues from a variety of perspectives; Apply international standards and practices within a discipline or professional area. | 9. Have an international perspective  
I can consider how issues might impact on people in other parts of the world |
| 8. Cultural understanding | Respect individual human rights; Recognise the importance of cultural diversity particularly the perspective of indigenous Australians; Value diversity of language. | 10. Have an intercultural perspective  
I can consider how issues might impact on people from other cultures |
| 9. Apply professional skills | Work independently and in teams; Demonstrate leadership, professional behaviour and ethical practices | 11. Work independently  
I can work effectively on my own |
| | | 12. Work in teams  
I can work effectively with others |
| | | 13. Work ethically  
I know what is required to work ethically |
| | | 15. Overall, I am satisfied with my preparation as a result of this course  
I believe my course prepared me for employment. |

Respondents are also invited to provide free text responses to two questions: Graduates are asked ‘What were the best aspects of this course?’ and ‘How might this course be improved?’ Employers are asked ‘What were the best aspects of graduates of this course?’ and ‘How might graduates of this course be improved?’

The system works as follows: an administrator sets up a simple web survey which can be accessed by a web link. Respondents are emailed with a brief explanation and invited to click on the link and complete the survey. Graduates are contacted through a mass email using the alumni database; em-

ployer and industry contact email addresses are gathered from staff teaching the course. In addition to direct contact, employers are also contacted by snowballing—that is, graduates are invited to forward the invitation email to their employer who can click on a second link to complete the employer survey. It is important to note that, at this stage, the system is not authenticated—that is, anyone who receives the invitation email can complete the survey (several times if they wish) or pass it on to anyone else to complete.

III. CASE STUDY: DOES THIS SYSTEM WORK?

eVALUate graduate survey data were collected by web survey for a large undergraduate degree in July 2007. In all, 9526 graduates were contacted by email through the Curtin Alumni database, and 636 graduates responded. It is impossible to calculate a response rate to this survey because the number of “dead” email addresses in the database is unknown. The respondents reported the following characteristics shown in the table two: interestingly, almost a quarter of graduates reported that they were now employed in a field unrelated to their course.

<table>
<thead>
<tr>
<th>Table two. Graduate respondents</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>294</td>
<td>46.2</td>
</tr>
<tr>
<td>Female</td>
<td>342</td>
<td>53.8</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25 or younger</td>
<td>285</td>
<td>44.9</td>
</tr>
<tr>
<td>26-35</td>
<td>263</td>
<td>41.4</td>
</tr>
<tr>
<td>36-45</td>
<td>68</td>
<td>10.7</td>
</tr>
<tr>
<td>45 or older</td>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>Year of Graduation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>78</td>
<td>12.2</td>
</tr>
<tr>
<td>2003</td>
<td>95</td>
<td>15</td>
</tr>
<tr>
<td>2004</td>
<td>121</td>
<td>19.1</td>
</tr>
<tr>
<td>2005</td>
<td>160</td>
<td>25.1</td>
</tr>
<tr>
<td>2006</td>
<td>182</td>
<td>28.6</td>
</tr>
<tr>
<td>Employment area</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related to course</td>
<td>481</td>
<td>75.6</td>
</tr>
<tr>
<td>Not related to course</td>
<td>155</td>
<td>24.4</td>
</tr>
</tbody>
</table>

Respondents’ level of agreement with the quantitative items showed that respondents embraced the range of levels of agreement offered to them. There was roughly 90% agreement with most items and this is most encouraging. Most importantly the levels of Unable to judge were less than 3%. An exception to this was the level of Unable to judge for two items in particular which also registered higher levels of agreement: these were international perspective and intercultural understanding: roughly 25% of respondents disagreed or strongly disagreed that they had developed an international perspective or intercultural understandings as a result of this course (items 9 and 10) and up to 7.4% and 6% were Unable to judge those items respectively. This may indicate an issue with the curriculum, or it may simply be that respondents do not understand what is intended by these attributes, or both.

Analysis of qualitative data (696 comments in all) was undertaken using CEQuery and SPSS Text Analysis for Surveys—this method of analysis of eVALUate unit survey data has been reported elsewhere (Oliver, Tucker, & Pegden, 2006). The CEQuery analysis results showed that four subdomains appeared most frequently in the Needs improvement comments: application to work, the relevance and structure of the course and assessment standards. SPSS Text Analysis for Surveys was then used to interrogate all Bests aspects and Needs improvement sub-domains. The results are as follows: the visuali-
The summarization for the Best aspects comments showed a strong relationship between practical/prepares you for work/knowledge gained and specific units.

The visualisation for the Needs improvement comments (figure one) shows that graduates are suggesting that the course needs more practical and work experience, more “real life” examples and assignments, more technology skills and career guidance, and less group work.

These results were compared with similar analysis of eVALUate unit survey data from current students. There were great similarities. Graduates, like current students, report that while there are many aspects of the course which are very good, there are clear signals from them that the course needs updating, and needs to be made more practical with more work experience and real life examples, more up-to-date technology skills are needed, and in particular, that assessment practices need close attention.

The eVALUate employer survey data were collected by web survey at the same time. In all, 59 employers and industry contacts were contacted by email, and 33 responded (this is a response rate of 56%). Usually their judgements were based on one graduate, which is of limited use. As in the graduate feedback, there was roughly 90% agreement with most items and this was very encouraging. There were some interesting similarities: for example, roughly one third of respondents disagreed or strongly disagreed that graduates had an international perspective or intercultural understandings (items 9 and 10) while 12.1% and 6.5% (respectively) were Unable to judge. Again this indicates an area for further investigation. There were insufficient data for analysis of comments with the software tools, but comments also mentioned the need for more work-related experience.

IV. DISCUSSION: WHERE TO FROM HERE?

This paper reports the early findings for this system, and there are clearly some benefits and some unsolved issues. The eVALUate graduate and eVALUate employer survey systems work in that they elicit responses from intended respondents, they provide some useful data, and they indicate areas for further investigation. The systems, however, are understandable, but not yet mature and rely on goodwill and integrity of the email recipients. The ability to set up a quick web survey is a boon for Curtin’s
comprehensive course review, but survey distribution through the web, for all sorts of purposes, is increasing. The surveys compete for the attention of busy people. The lack of authentication in the system is an issue in that genuine respondents are not guaranteed, nor is there a way of offering incentives without gathering personal data (which removes anonymity of the response). So far the aim has been to pester the recipient as little as possible. The recipient is emailed twice: initially and then a brief reminder. This seems to have been acceptable in that very few if any annoyed recipients have asked not to be contacted in future. That over 600 responses were gained from sending a bulk email to over 9000 graduates is encouraging, but a more reliable source of graduate email addresses would probably improve on this.

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