Graduate Feedback on the Quality of their Course:
Translating the White Noise in the University

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Abstract:
Graduate feedback to university management and staff is indecipherable due to the inability to hear all graduates in their totality. The resultant cacophony comes from the array of comments regarding the higher education system, the teaching and learning processes and the level of support for and success in turning students into professionals ready for the world of work. Identifying salient themes in the vastness of graduate feedback across the university and through time is problematic. New developments in concept mapping and text mining software have made analysis of text data more robust in dealing with large amounts of text comments with minimal researcher intervention.

In this research, 11,680 graduates responded to two open-ended questions concerning the best aspects and suggested improvements to their course. Qualitative analysis and concept mapping of graduate feedback identified issues regarding graduates study experiences and their workplace transition. Leximancer software mapped the key concepts in the graduate comments, via a purely ethnomethodological approach. The aim of the qualitative analysis is to understand graduate feedback through:

- constructing an understanding of the social reality of university graduates using their own frame of reference,
- creating a conceptual map of the dimensions inherent in graduate feedback to universities,
- highlighting issues deemed important by graduates,
- investigating the relationship between different aspects of the graduate experience.

Introduction
In the past 20 years, accountability measures have meant the use of student and graduate evaluations and feedback on their course as an essential part of governance of Higher Education in many countries. The value of a qualitative analysis of feedback is to map the scope and strength of issues deemed important by students or graduates while quantitative approaches provide a focus on specific issues deemed important by university staff and higher education management. To date the focus of graduate evaluation of university study focuses on teaching and learning processes (Biggs, 1987a) with quantitative analysis dominating as a means of accessing aspects of student and graduate feedback.
Current student evaluation of study research concentrates on the use of feedback for evaluating teaching quality, especially with the aim of encouraging reflective practice among lecturers (Ramsden, 1992). Seeking student perceptions of their higher education experiences serves to identify many facets of the higher education process. Aspects such as the student/consumer levels of satisfaction and perception of quality as researched by Aldridge & Rowley, (1998), Rautopuro & Vaisanen, (2000) serve as performance indicators and best practice mechanisms. Marsh (1987), Ramsden (1991) and Murray (1997) research supported student evaluations as a valid and reliable measure of improvement in teaching and learning processes and quality. These research findings promoted the use of student evaluations of teaching and learning to the extent that it is currently the primary source of student feedback processes. Quantitative surveys of student perception on the quality of teaching and learning processes have an advantage of being specific to the teaching/learning processes and provide measures identifying statistical significance and longitudinal change.

Previously graduate feedback on their university experience replicated current students’ evaluations of teaching and learning processes. Qualitative research on either current student or graduate feedback is extremely limited. Johnson (1998, p.1) contribution to qualitative research of student feedback concluded that, “students are not achieving voice, entering into dialogue, being empowered, nor enabled to represent their own concerns and influence change.” In order to engage with the student voice some educators advocate remedies as closing the loop (Bateman & Roberts, 1995), feedback systems (King et al, 1999) and two way rapid feedback (Watson, 2003) to involve students in witnessing feedback related change processes. These measures aimed at responding to student feedback and address integrity issues challenged by student scepticism about the absence of effect from their participation in feedback processes.

Analysis of graduates’ comments by Kabanoff, Richardson and Brown (2003) suggested that there are powerful and recurring messages, which remain untapped in current evaluations of student or graduate experiences. Their research found that graduate comments identify domains; labelled as course, outcomes, coursework and teaching. These themes distinguished between concepts that graduates consider important, compared to students still at university, with the highlighting of a considerable proportion of graduate comments referring to the outcomes since completing their study and their perception of the relevance of their university study to workplace skill demands. Outcomes related comments attracted the largest number of graduate comments and “was critical in predicting course satisfaction” (Kabanoff, Richardson & Brown, 2003, p.8). Graduate comments on outcome to study reflect the success of their transition to the workplace with the development of practical skills, knowledge, experiences and work relevant outcomes achieved since completing study.

Graduate feedback via open ended text responses has been problematic to analyse due to the many individual graduate voices speaking on many unspecified topics, one graduates opinion is
unable to be compared to another’s and one graduate cannot be representative of all graduates and hence the myriad voices lack conventional validity. The qualitative analysis of graduates’ comments provided an opportunity to hear a multitude of graduates’ voices mentioning an array of issues.

Recent developments in data mining and concept mapping software provides a qualitative analysis method which allows for large quantities of opinion by myriad numbers of people to be plotted into thematic groupings and graphically represented in their relationship to other thematic groups or dimensions. The value of this form of qualitative analysis is the capacity to present an interpretation not already established. Successful interpretation contributes a new conceptualisation and understanding of reality in terms of concepts, characteristics and the context existing behind the phenomenon. An optimal weighted set of words found for each concept used to predict the concepts present in fragments of related text. Field trials have shown the system to offer very good performance (Smith, 2000). The software has the capacity to show the proximity of concepts and the strength of relationship between the concepts.

Method

Sample
Graduate comments collected from three consecutive years of the Graduate Destinations survey at an Australian university resulted in 11,680 graduate comments were available for analysis. The graduates were student from all faculties and programs at the university, including postgraduate courses. These comments are responses to two open-ended questions: “What were the best aspects of your course?” and “What aspects of your course are most in need of improvement?”

Analysis.
Leximancer software can map the proximity of dominant themes and the strength of relationship between themes. It uses a machine-learning algorithm technique with a Bayesian approach to prediction and automatically configures using a thesaurus network to classify and index the content of the graduate feedback. The result is an association of words that relate to and hence load into each concept within the concept map (Smith, 2000).

A Leximancer analysis of the graduate comments provides a map the proximity of dominant themes and the strength of relationship between themes. This analysis included combining of responses from both best aspects and needs improvement in one analysis and the capacity to tag the comments in relation to the polarities of best aspects and needs improvement. This clumping of themes relative to each other provides an overall view of the social reality of graduates when asked to consider the qualities of their course.

This method of analysis served to investigate:
• the degree of replication of the conceptual structure of domains within Leximancer,
• the proximal relationship between domains,
• themes left untapped by the data and the relative importance compared to tapped domains.

RESULTS
The responses to open ended questions reflect issues that graduates deem as significant and important. That is graduates will tend to comment on issues that they consider in hindsight as relevant and maybe prompted by the graduate survey questions. The repeated presence of thematic patterns occurring within the graduates’ comments reflects significant experiences for graduates. This thematic analysis shows the proximal relationship between themes for both groups of best aspects and needs improvement comments. Any singular versions of seedword were linked with the plural, so that significant seedwords as lecturer and lecturers, class and classes. Responses to the best aspects and needs improvement questions were tagged and represented at polar positions on the concept map. The Leximancer concept map outlined the weighting and relationship of the conceptual themes within the graduate comments as seen in table 1.
Fifty one percent of the graduate comments were capture in this totally software driven analysis. Table 1 plots 60 main themes identified after 1000 iterations and shows the concept in regard to both ‘best aspects’ or ‘needs improvement’. The conceptual themes appearing in the map appear as relevant groupings based on the similar aspects and the proximity of the concepts to each.

These conceptual clumps or domains share the following concept characteristics:

- Assessment – characterized by assignments, assessment, feedback, and difficult and is featured nearest to the ‘needs improvement’ pole.
- Course Design – characterized by units, year, courses, subjects, information, education, time (linked to attendance i.e. part time, full time etc.) and content.
• Staff – characterized by lecturers, teachers, tutors, quality, class, teaching, access and availability.
• Support relates to the level of resources, facilities and service provision that students perceive,
• Outcomes – characterized by knowledge, theory, skills, practice, practical, experience, work, relevant, real, management, field and research.

The strength of comments ‘hit’ in this concept mapping outlined in table 2.

Table 2: Number of Hits within Each Domain

<table>
<thead>
<tr>
<th>Domain</th>
<th>Number of ‘Hits’</th>
<th>Percent of the Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Support</td>
<td>2511</td>
<td>41%</td>
</tr>
<tr>
<td>Outcome</td>
<td>1123</td>
<td>19%</td>
</tr>
<tr>
<td>Assessment</td>
<td>986</td>
<td>16%</td>
</tr>
<tr>
<td>Staff</td>
<td>762</td>
<td>13%</td>
</tr>
<tr>
<td>Course</td>
<td>687</td>
<td>11%</td>
</tr>
<tr>
<td></td>
<td>6069</td>
<td>100%</td>
</tr>
</tbody>
</table>

Discussion
Without any human interpretation or precoding, the Leximancer software was able to identify salient features from the graduate comments. Forty percent of graduate comments mention issues related to services and infrastructure, specifically facilities, library, student administration, support services and academic help. These comments collected under the Support domain tend to refer to what needs to be improved. In contrast to this, the outcomes domain attracts comments identified as the best aspects of their course experience. Nearly one in five comments highlight the appreciation of the practical and work relevant nature of the course, the skills developed and experience gained.

The remaining three domains attracted a similar level of graduate comments. Assessment relates closely to needing improvement. Marking, the absence of feedback and assessment criteria were dominate themes for criticism and given that this is a graduate population, it is unlikely that the lack of ability or knowledge may account for their discontent.

Comments related to the quality of staff, their teaching methods, their skills and access stretched between being appreciated by graduates when the staff were understanding and helpful and tended to attract criticism regarding the quality of staff. The course design in mentioned in terms of flexibility, practical aspects and structure tended to be an area of concern for graduates.
Traditional graduate surveys have resembled student surveys in the focus on teaching and learning processes. This study supports research by Kabanoff, Richardson & Brown (2003) that graduates comment on other powerful themes related to outcomes and relevancy of their university study in the workplace. These themes are not currently identifiable within graduate surveys used within Australian or international universities. Issues related to staff/teaching, assessment and course design and structure have become the basis for current performance indicators and are the foundation to student and graduate evaluations of study. Support service provided by universities by the facilities, infrastructure and student services have gained a profile in gauging student satisfaction with services. The outcomes domain remains as an important and under utilised source of the relevance and value of academic study within the demands of the profession and the workplace. This domain area represents the fundamental difference between graduate perception and current student evaluation of their course experience. Graduate perception defines a focus on such outcomes as their development of social and professional networks, practical experience, course relevancy, opportunity to develop workplace knowledge and applying this knowledge into practice.

The domain structure suggests that graduates perceive their university experience as an open system. The five domains depicting the inputs of staff and support factors, interacting with the processes of course design and assessment as part of the teaching and learning processes and result in graduate realised outcomes. Table 3 below depicts the linearity of this open system.

Table 3. Open System and Domain Structure.

Graduate feedback to be representational of their university experience has the additional challenge of accessing the support and outcomes aspects. Higher education managers and academics have been deaf to the existence of this dimension in graduate feedback. The assumption that graduates are successful students and consumers of teaching and learning processes fails to acknowledge graduates are valuable in acknowledging the outcomes of higher education. Graduates experiences include realising the value of their higher education within the world of work and hence offer valuable insights into the outcomes from university study.

Conclusion
The implications from this research identifies that this analysis of the graduate feedback identifies the entire social reality of university study experience from a graduates’ viewpoint. The assumption of past graduate surveys in focusing on teaching and learning processes fails to utilise graduates’ perception of the outcomes to their study. This research provides university Policy and Planners with the basis to understand the perception of graduates as they reflect on their studies from the workplace. Dominate themes are identifiable in their rank within the graduates value system. The quality of university education programs to employers, the relevance of their course to the workplace and skill preparedness of graduates upon entering the workplace are all accessible within the graduates view of the outcomes to their study. In essence, graduates do see themselves as benefiting from higher education processes whereby inputs from the university, i.e. staff and resources provide the context for an engagement of students with their learning / assessment to provide the means to an end in being able access both professional employment with workplace relevant skills.
References


