

Can we improve participation in university course surveys using mobile tools? A practical experiment

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Abstract

Student course surveys provide an important feedback mechanism for universities. However the quality of this feedback depends largely on the level of participation. New technologies have enabled course surveys to evolve from written paper-based tools to web-based and mobile channels, but using these channels does not necessarily lead to better response rates. This paper discusses the results of a survey designed and administered at Massey University, New Zealand, to gain insights into students' attitudes towards course surveys and factors that might impact on their participation. The survey also explored the potential interest in mobile channels for providing course feedback. The responses to this survey informed a pilot study that tested a mobile course survey tool. The results of our experiment suggest that, whilst a mobile channel may lead to improved participation, more significant results would depend on its integration into a broader set of strategies and tools for student engagement.

Keywords

Mobile application, course evaluation survey, student feedback, HTML5.

INTRODUCTION – UNIVERSITY COURSE EVALUATION SURVEYS

Universities around the world are constantly looking at different ways to increase the response rates of their Course Evaluation Surveys (CES). In an age of ever increasing costs to students, and fierce competition between institutions, feedback from students is of growing importance to the university sector, helping to identify both existing strengths and areas for improvement. In this paper we explore student attitudes towards course surveys at our own university, investigating motivation, communication channels and other issues that might affect participation. We also describe the results of an experiment designed to address issues around using mobile channels for course surveys. Our findings suggest that while mobile channels might be usefully employed to enhance participation, they are likely to be more effective as part of a broader strategy to motivate students to engage with the university's feedback mechanisms.

Background and motivation

Hearing the student voice is a critical element for any higher education institution's understanding of how students engage in learning, and what their view is of teaching quality. This understanding forms an important component of our overall quality assurance of teaching and learning. Many student surveys have been designed over the last two decades to obtain this important student-based information about their interface with the learning process.

One of the earliest systematic approaches adopted throughout Australasia was the Course Experience Survey (CEQ) that was designed to seek student's views of the quality of teaching across several dimensions, namely; good teaching, clear goals, workload assessment independence and generic skills (Wilson, Lizzio and Ramsden 1997). Massey University participated in the CEQ for the first time in 1998 with the CEQ being appended to the annual Graduate Destination Survey (GDS) that was administered six months after graduation.

Subsequently, the National Survey of Student Engagement (NSSE) in the USA and its derivative, the Australasian Survey of Student Engagement (AUSSE), were both designed to measure the "extent to which students engage in the range of educational activities that research has shown will lead to high quality learning" across six engagement dimensions and a series of outcome measures (Coates 2005.)

More recently, the University Experience Survey (UES) has been adopted in Australia as a means of combining aspects of both the CEQ and the AUSSE into one instrument administered annually to all enrolled first and third year students (Radloff, Coates, Taylor, James & Krause, 2012.) Massey University has adopted its own version of the UES that is applicable to our context (country and student demographic.)

Whilst all these institutional surveys have been developed and refined, further surveys have been conducted to evaluate individual course content and teaching quality from the students' perspective. The development of the current online course evaluation process at Massey University began in 2004 with a review of our previous hard copy in-class course evaluation process by a Teaching Quality Evaluation Working Party. There was a great deal of criticism of the instrument we were using at the time, and the Academic Board of the day resolved to introduce a new standardised online summative course evaluation process along with a separate flexible online teaching evaluation instrument that could be used either summatively or formatively. The new instrument underwent testing and piloting over several years but it was not until 2010 that it was fully implemented.

At the time that we made this change, no commercial solutions were available, so the decision was made to build our own in-house application that was modelled on a system in use at Curtin University called *eVALUate* (Oliver, Tucker, Gupta and Yeo 2008). We call our fully integrated online evaluation instrument the Massey Online Survey Tool (MOST.) There were many good reasons why we migrated the administration from a hard copy in-class system to an online application, including; simpler administration, not using in-class time for evaluations, reductions in cost, improved administration of coding, reductions in transcription, better distribution to absentee internal students, enhanced reporting, less susceptibility to teacher influence, and better distribution overall to our distance students.

Notwithstanding the good reasons for migrating to online evaluations, concerns have emerged regarding the potential for bias because of lower response rates observed in online evaluations. Response rates at Massey University have hovered at approximately 30% for the three full years of online evaluations. These are similar to response rates reported elsewhere. Nulty (2008) reported response rates of 33% for online versus 56% for hard copy across several reports. Bennett and De Bellis (2009) reported reductions in response rates as well as similar issues to those we have experienced when migrating from hardcopy to online surveys.

There have been a small number of reports where very high response rates have been achieved using online evaluations. Bennett and Nair (2010) described the effectiveness of a comprehensive communication strategy and dramatic improvements in response rate in one case study. A similar project was attempted at Massey University but we were unable to replicate the same improvements, though it should be noted that our student cohort was from a different field of study than those in the original project. Knight, Naidu, and Kinash (2012) describe the use of compulsory online evaluations with a punitive action for those who did not participate. Not surprisingly, this resulted in dramatic improvements. Dommeyer, Baum, Hanna and Chapman (2004) reported response rates of 86% using a grade incentive. However neither of these two options have been felt suitable for adoption at Massey University.

The university has, however, developed a number of different administrative tools and activities to assist the promotion of MOST, e.g. Twitter, Facebook, TV screens located on campus, a hard copy book mark, a video by the Vice-Chancellor, a link on the Learning Management System for students to view the invitation to participate, and hard copy posters, all trialled in 2014. Staff contact is done via a dedicated MOST internal distribution list and a report showing daily activity during the administration phase is available for staff to view. Unfortunately there is little evidence to suggest that any of these initiatives has had a significant impact on student participation, though the staff distribution list has proven to be an effective way of reminding staff to initiate the evaluations.

A number of theories exist to explain the motivation for participating, or not, in surveys. These are mostly social exchange theories developed prior to the advancements in technology seen today (Dillman 2014.) The question is posed by Dillman as to whether these types of theory still apply in today's asynchronous, rapid-fire, technologically driven world. Given that many social interactions are now immediate, rapid and often online, it is possible that the reasons for participation (or not) in activities like surveys are being exposed to quite different criteria than we may traditionally have considered.

The focus of this project: Will mobile solutions help?

The focus of this project relates to just one of the many aspects described by Dillman (2014) that need to be considered for successful survey outcomes, i.e. the idea of making the survey, in this case a course evaluation, more accessible by providing access through a mobile channel, as opposed to the usual URL link to a survey. Theoretically, mobile access provides an asynchronous, accessible and modern way to link to evaluation but; will this by itself enhance participation in the activity?

So far there have been few publications describing the effectiveness of using mobile technology specifically for survey administration purposes. Guidry (2012) showed that only 4.2% of the respondents to the 2011 National Survey of Student Engagement Survey (NSSE) in the USA used a mobile device to respond when provided with that option. Millar and Dillman (2012) were unable to demonstrate a significant uptake in respondents using mobile devices. Miroso (2013) reported the ineffectiveness of providing QR codes for accessing surveys. Despite these discouraging results, it is nevertheless the case that mobile channels for course surveys may be useful as just one of a set of multiple platforms that may be used for responses (Pope 2010), without sacrificing data quality (Mavletova 2013.) The type of mobile channel may also be important. None of the previously cited publications report the use of mobile apps specifically for course evaluations in a tertiary setting. One other aspect that may be relevant is whether simply increasing the number of technology options for students to access course surveys, within which multiple mobile channels could be utilised, might increase overall participation. For example Anderson, Brown and Spaeth (2006) noted that 34% of students who did not participate in one survey reported issues related to technology. It is possible that providing a range of alternative mobile channels for students to participate in surveys might help to mitigate these issues.

MEASURING FACTORS IN COURSE SURVEY PARTICIPATION

To try to gain some insights into current students' participation in online course surveys, and to explore some options for the future, a survey was conducted to better understand students' attitudes towards the current CES, and also to explore the potential demand for different mobile channel options for course surveys. This survey was distributed through Qualtrics software, licensed to the university.

The survey was publicised to two summer school classes in the 2013-14 semester, with a total of 116 enrolments. From these courses, we had 40 responses (34%), though not all respondents answered all the survey questions. It should be noted that, due to some questions being dependent on previous answers, even those who fully completed the survey would not have responded to every question. Most of the students were not new to Massey (30 out of 34 respondents who answered this question stated that they were not first year students) so we might reasonably have expected many of them to have had previous experience of the MOST survey system.

The survey consisted of 27 questions, which were mostly either multiple choice or Likert scale questions. Some of the multiple choice questions allowed multiple answers. In addition there were two 'ordering' questions, where respondents were asked to put items in order of preference or importance. The first part of the survey was designed to find out how students had engaged with course surveys in the past; if they had or had not participated, and their reasons for their choices. The second part of the survey was designed to find out how students engaged with the channels through which the surveys were currently publicised; email, web sites and promotions. The final part of the survey attempted to find out whether a mobile delivery channel for course surveys might be viewed favourably, and what form such a channel might take.

In the following section we report on the results of those questions that revealed useful information for our study.

Previous engagement in course surveys

The survey began by exploring students' previous engagement in providing course feedback. When asked 'Do you feel as if it is your place to have a say about your courses' almost all of the respondents (30 out of 33) said that they did, yet in answer to the question 'How many of last semester's MOST survey evaluations did you respond to?' almost half had not responded to any surveys. This may be because some of them had not been in courses where surveys had been administered, but the results also indicated other factors. In the following free text question, which was targeted specifically at these students, asking them why they had not responded, several noted that they had not been enrolled in the previous semester, but most of the remainder identified timing issues, such as 'survey was same time with the final examination,' or simple lack of interest, for example 'I forget about the notification then I cannot be bothered.' Less than half of the respondents stated that they felt obliged to participate in surveys. Although the respondents indicated that getting feedback was important in their willingness to participate in course surveys, less than half had looked at any of the feedback received from the surveys to which they had responded. On a more positive note, those students who had responded to a survey in the previous semester were asked why they had done so. The number of responses was small, but several of them expressed positive opinions regarding the value of such surveys, including 'because I wanted my opinions to be heard', and 'I think it can make a difference.'

Participation factors

A number of factors may influence participation. As well as feelings about their value, as described above, these also include efforts to publicise course surveys. The university has used a number of channels in attempting to make students aware of surveys. Of these, the most visible was promotion through Stream, the university’s (Moodle-based) Learning Management System. Other channels seem to have had limited impact (Figure 1.) About half our respondents also reported that lecturing staff had directly encouraged them to respond to surveys.

#	Answer	Response	%
1	Facebook promotions	5	24%
2	Twitter promotions	3	14%
3	Campus TV screen promotions	3	14%
4	Vice-Chancellor video promotion	6	29%
5	Bookmark promotion	0	0%
6	Stream promotion	18	86%

Figure 1: Responses to the question ‘Have you noticed any of these course evaluation promotions? (Select all that apply)’

It was also clear from the survey that Stream sites were being checked regularly by the vast majority of respondents, further indicating the importance of Stream as a communication channel for student feedback (Figure 2.)

#	Answer	Response	%
1	Never	0	0%
2	Less than Once a Month	0	0%
3	Once a Month	0	0%
4	2-3 Times a Month	1	5%
5	Once a Week	0	0%
6	2-3 Times a Week	8	40%
7	Daily	11	55%
	Total	20	100%

Figure 2: Responses to the question ‘How often do you look at your Stream sites?’

As well as the LMS, emails are used as one of the main communication channels for publicising course surveys. We wanted to know whether students were likely to actually read emails sent from the university to inform them about these surveys. The responses indicated that nearly all the students regularly checked the email address they gave the university when they enrolled. There was much less use of the email addresses that were supplied to them through the university Intranet. However the course surveys are publicised through the email addresses provided by the students, so use of this channel did not appear to be one of the problems of reaching out to students.

Despite the somewhat lukewarm responses to the course surveys, there was little appetite, among those who responded, for a return to the compulsory in-class survey model that had been in use prior to current on-line opt-in system (Figure 3). This suggests that any change to the course survey system would need to be forward looking and involve new initiatives rather than returning to the past.

#	Answer	Response	%
1	Prefer an opt-in online survey	11	55%
2	Prefer a compulsory in-class survey	4	20%
3	No preference	5	25%
	Total	20	100%

Figure 3: Responses to the question ‘Do you have a preference for either an opt-in online survey (like the current MOST surveys) or a compulsory in-class survey?’

We asked the respondents to put in order of importance the types of questions that are asked by default through the course survey system (though it should be noted that there are many additional options that can be included.) These question types related to; course content or structure, teaching, satisfaction, feedback, workload, assessment and learning environment. Of these, a large majority of respondents rated questions about course content or structure as their first choice and the questions about teaching as their second choice. This response may at least help us to encourage future responses by emphasising the opportunity to comment on these two features.

Mobile options for survey access

Part of the survey was designed to see what interest there might be in a mobile option for responding to course surveys. Access to a suitable device did not seem to be a barrier, since 18 out of 20 respondents said they used a smartphone and/or wireless touchscreen device. No specific device type appeared to be significantly more popular than any other, and the general responses indicated that any mobile solution should target any browser or device rather than a specific platform (Figure 4.) There was also clearly a willingness to install mobile apps onto these devices; two thirds of the respondents reported that they had installed at least ten such apps.

#	Answer	Response	%
1	Work on any browser / any device	14	78%
2	Work on an iPod/iPhone/iPad	7	39%
3	Work on an Android device	7	39%
4	Work on Windows mobile device	5	28%
5	Work on Blackberry	0	0%
6	Other feature or issue (please specify)	1	6%

Figure 4: Responses to the question ‘What type(s) of device do you think a mobile Massey course survey app would need to work on for you to download and use it?’

Students were asked what features they would like to see in a mobile application providing services relevant to their university lives. We saw the possible provision of an app with multiple features as a potential incentive to download an application that would also support a course survey tool. There was, however, limited enthusiasm for a course survey feature as part of such an app. We asked the students which features they would be most interested in, and also which features they would be least interested in. The suggested options were Campus maps, Timetables, Grades, Surveys, Events information, Library, and other suggestions that the students might make. The results indicated that the most favoured features were timetables and grades, while the least favoured features were campus maps and surveys. There were two suggestions for other features, ‘info about my papers;’ and ‘key semester dates / exam timetable.’ It should be mentioned that the university already has a mobile app that students can install on their devices, but it has limited functionality. It contains campus maps (the least favoured feature in our survey), some basic contact details, and a rather convoluted timetable download system that requires logging into the standard web site version. Since this system would benefit from additional features, we were interested to see if a survey tool might be welcomed as one of these additions, but this was not seen as a priority by our respondents. The responses to a more specific question about the value of being able to download a dedicated mobile app averaged close to the ‘undecided’ mark.

Despite the lack of enthusiasm for mobile survey apps and features when compared to other features that were perceived as more useful, around half the students surveyed did suggest they would participate more if the current

surveys were presented in more mobile friendly web pages. When asked if receiving a notification through a mobile app that a course survey was open for responses would make them more inclined to participate than an email invitation, responses were evenly distributed between 'Yes', 'No' and 'Maybe.'

Summary analysis of the survey results

The results of the survey were in some senses mildly encouraging, but also somewhat disappointing. It was encouraging to see that the learning management system and email communications were likely to reach the vast majority of students, though whether they actually responded to those channels was less certain. Some students certainly recognised the positive value of course surveys, and there was clearly a preference for on-line surveys over the old manual in-class version. Responses to the possibility of a mobile survey were somewhat disappointing, particularly when compared to the potential popularity of other mobile services. On the other hand there was some interest in a mobile version of the web based survey, and it was clear that any mobile survey should be designed to work across different mobile operating systems and browsers.

DEVELOPING A MOBILE SURVEY TOOL - MOBIMOST

As a result of the survey, we decided that there was potentially enough interest from the students to make it worth developing a mobile browser-based survey option, but that it would need to be a low cost pilot, given the limited level of enthusiasm. This tool was called MobiMOST, and was intended to provide the same default set of survey questions as the web-based MOST tool, but through a mobile interface. Given the lack of interest in a dedicated mobile app, and also the range of mobile devices used by students, we decided we would develop a mobile survey tool that was based on HTML5, to make it accessible on any modern mobile browser. However, as explained later, the use of a multi-channel development tool enabled us to also deploy this browser-based survey as an Android app with minimal additional effort. We chose the Android option of app deployment as it was the easiest and cheapest option to integrate into the pilot study.

Developing MobiMOST

To develop the MobiMOST application efficiently and quickly, we looked at a number of rapid application development tools that make it quick and easy to develop HTML5 applications. After evaluating several such tools, we decided to use Appery, described on the Appery.io web site as a 'cloud-based HTML5, jQuery Mobile & Hybrid Mobile App Builder.' The Appery application also offers the ability to deploy HTML5 applications to iOS, Android, or Windows Phone platforms without any additional coding. Appery was chosen predominantly due to the ease and speed in which a mobile web application can be created, at relatively low cost, but its ability to convert HTML5 apps into native code without additional effort contributed to the decision. Figure 5 shows some examples from the interface of the HTML5 app developed for mobile clients.

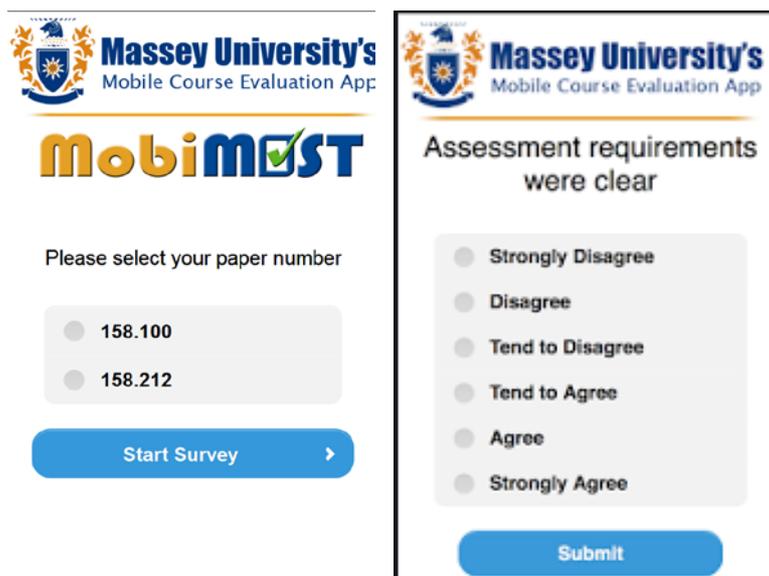


Figure 5: Examples from the MobiMOST survey system interface

Appery enabled us to create the user interface to a mobile course survey using HTML5. However we still had to connect that user interface to a system that would manage the resulting survey data. This system would need to be robust and secure. Ideally, we would have linked the mobile client directly to the existing survey system, but this

is a proprietary system with limited API access. Therefore we decided that as the survey backend we should again use Qualtrics, since this was already licenced, offered enterprise level security and performance, and supported web service APIs for external connections. We used this API to connect to a set of Qualtrics polls, which is a much simpler system than a full Qualtrics survey but was sufficient for the simple multiple choice questions that we needed to ask to match the current MOST system.

System architecture

Figure 6 shows the architecture that we used to create the mobile survey solution. The HTML5 app was deployed onto a virtual server hosted by the university with a public URL, from where it could be downloaded to mobile devices either directly using the URL, or by scanning a QR code, or by downloading it to an Android device from the Google Play store. At the end of the survey, the mobile client uploaded its data through a web service to a set of polls (one per question) hosted on the Qualtrics server, where the data was securely stored and could be analysed.

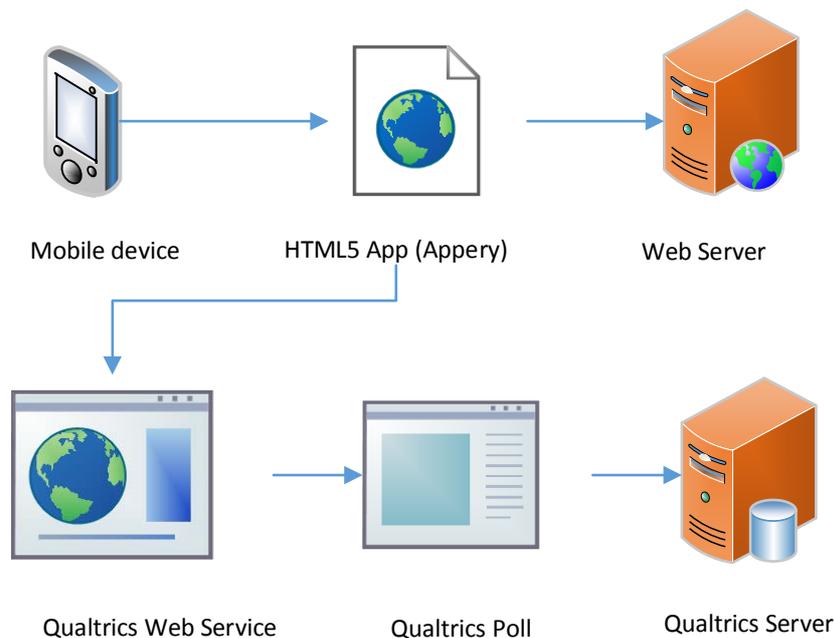


Figure 6: Architecture of the MobiMOST survey system

Testing MobiMOST

In order to provide a fair comparison of MobiMOST and the usual web-based MOST tool, the students in the two summer school classes previously identified were invited to participate in the end of course survey using either the web-based system or the mobile system. We were careful not to publicise the mobile survey system any more than the web-based system but to try to give the students an equal awareness of both options. However, the invitations could not be sent out in exactly the same way. The web-based system automatically emails the students on two occasions, inviting them to participate in the survey. To invite the same set of students to, as an alternative, use the mobile channel, we sent two news items through the learning management system, at a similar time to the web based survey. These news items are automatically emailed to students using the same addresses that are used by the MOST system. The news item contained a web link for the survey, a QR code to the same link, and also a link to the Android app on the Play Store. We made the mobile survey available for the same length of time as the web-based survey.

Results

The MobiMOST version of the course survey had 16 respondents, but only 12 of these filled in the complete survey. Despite this quite small number, the results turned out to be nonetheless interesting. Since not all papers are surveyed every year, and limited offerings run in summer school, we do not have an extensive set of data to use as a comparison. However, the data we have available is shown in Table 1. For paper 158.100, we have the results of a previous summer school survey from 2011, along with the 2014 summer school surveys using both the web-based version of MOST and the mobile version, MobiMOST. It should be noted that the summer school surveys take place at the end of the semester, so that a 2014 survey relates to the 2013-14 summer school semester in a New Zealand university calendar. In addition, the table includes the most recent web-based survey for paper 158.100, from semester 1 2014 (June 2014). For 158.212 we have no earlier surveys (this is a recent

addition to summer school) so we can only compare the web based and mobile surveys for this offering. It is notable that the use of the mobile survey tool seems to have roughly doubled the participation rate, though overall this is still relatively low. The comparison with the most recent survey, where no mobile option was available, is perhaps the most striking. The rate of web survey responses appears to be remarkably consistent at around 16%, suggesting that the mobile survey did indeed directly increase participation rates. Although we have no historical (or subsequent) data for 158.212, the response rates suggest that the mobile survey tool may have again roughly doubled the response rate.

One characteristic of this data to note is that the average response rate for our on line surveys is only around half the figure cited earlier for MOST across the whole university. One reason for this may be that previous analysis of MOST results suggests that participation rates increase as students reach higher levels of study, whereas our cohort were studying 100 and 200 level papers. However there are almost certainly other factors at play that we have not yet been able to identify.

Included in the mobile survey results are the users of both the mobile web HTML5 version and the Android app. The number of installs on Android devices, as measured by the Android Developer Console, was only 4, so as our original survey suggested, use of a mobile web app was considerably more popular than using a downloaded device specific app, though had we also deployed the app to iTunes and the Microsoft store this may have changed the results somewhat.

Table 1. Course Survey Response rates

Paper	Enrolments	Responses	% Rate
158.100 (2011 – web survey)	34	5	15%
158.100 (2014 – web survey)	59	10	17%
158.100 (2014 S1* – web survey)	117	19	16%
158.100 (2014 – mobile survey)	59	8	14%
158.212 (2014 – web survey)	52	8	15%
158.212 (2014 – mobile survey)	52	8	15%

* This is the semester 1 offering as opposed to summer school

CONCLUSION

The results of our study suggest that mobile channels may have a valuable role to play in increasing response rates to course surveys, but on their own they do not provide the dramatic improvements in engagement that the university would like to see. Although we saw a doubling of responses in our study, this still only brought the total response rate up to around 30%. Thus, if used, they would have to be seen as one of a number of initiatives that might, together, see more significant improvements in response rates. Other components of such a strategy might include specific contributions by staff, reported elsewhere, to encourage their students to participate (Nulty 2008; Bennett and Nair 2010; Knight, Naidu and Kinash 2012.) Our survey suggested that only half the students recalled being directly encouraged to participate in surveys by their lecturers and as Dillman (2014) describes, developing trust and personal benefit are both key components of a successful survey experience. Our results also suggested that design features such as timing, nature and frequency of reminders might also have an impact, likewise the timing of the survey itself, giving students more time to do the survey after their exams were completed. Further suggestions addressed elsewhere but not yet considered by the university include various types of incentive.

Looking specifically at the options for a mobile survey channel, it was clear both from our original survey and from the results of our mobile poll that the most popular mobile channel for responding to surveys was through a dedicated mobile web interface (such as the one we built using HTML5), rather than through a mobile app. However if the existing university mobile app, deployable on both Android and iOS devices, could be developed to provide more of the features highlighted as useful by the students, the addition of a survey option might increase participation, not least because its inclusion could allow the use of notifications of survey availability directly to the device.

REFERENCES

- Anderson, J., Brown, G., and Spaeth, S. 2006. Online Student Evaluations and Response Rates Reconsidered. *Innovate* (2:6).
- Bennett, L., and Nair, C.S. 2010. "A recipe for effective participation rates for web-based surveys," *Assessment and Evaluation in Higher Education*, (35:4), pp 357-365.
- Bennett, T. and De Bellis, D. 2009. "The Move to a System of Flexible Delivery Mode (Online versus Paper) Unit of Study Student Evaluations at Flinders University," *Journal of Institutional Research*, (15:1) pp 41-53.
- Coates, H. 2005. The Value of Student Engagement for Higher Education Quality Assurance, *Quality in Higher Education*, (11:1) pp 25-36.
- Dillman, D., Smyth, J., and Christian, L. 2014. *Internet, Phone, Mail and Mixed-Mode Surveys: the Tailored Design Method*. Hoboken, NJ: John Wiley.
- Dommeyer, C.J., Baum, P., Hanna, R., and Chapman, K. 2004. "Gathering faculty teaching evaluations by in-class and online surveys: their effects on response rates and evaluations," *Assessment and Evaluation in Higher Education*, (29:5) pp 611-623.
- Guidry, K. 2012. "Response Quality and demographic characteristics of respondents using mobile device on a web-based survey". In Proc. *Annual meeting of the American Association of Public Opinion Research*, Orlando, FL.
- Knight, D., Naidu, V., and Kinash, S. 2012. "Achieving high student evaluation of teaching response rates through a culture of academic collaboration." In Proc. *Australian Higher Education Forum*. 8 – 10 October, CQU, Rockhampton, Australia.
- Mavletova, A. 2013. "Data Quality in PC and Mobile Web Surveys," *Social Science Computer Review*, (31:6) pp 725-743.
- Millar, M., and Dillman, D. 2012. Encouraging responses via smartphones: effects on respondents' use of mobile devices and survey response rates. *Survey Practice*, (5:3).
- Mirosa R. 2013. "A technological tragedy – QR codes as a recruitment tool for online surveys of students and graduates." Paper presented at the Association for Tertiary Education Management (ATEM) conference, 3 - 4 July, Wellington, New Zealand.
- Nulty, D. 2008. "The adequacy of response rates to online and paper surveys: what can be done?" *Assessment and Evaluation in Higher Education*, (33:3) pp 301-314.
- Oliver, B., Tucker, B., Gupta, R., and Yeo, S. 2008. "eVALUate: An evaluation instrument for measuring students' perceptions of their engagement and learning outcomes." *Assessment & Evaluation in Higher Education*. (33:6) pp 619-630.
- Pope G. 2010. "Getting better response rates and data from course evaluations." Retrieved 14 July, 2014, from <http://blog.questionmark.com/getting-better-response-rates-and-data-from-course-evaluations>
- Radloff, A., Coates, H., Taylor, R., James, R., and Krause, K. 2012. *University Experience Survey*. Report commissioned by the Department of Industry, Innovation, Science, Research and Tertiary Education, Australia, Australian Government
- Wilson, K., Lizzio, A., and Ramsden, P. 1997. "The development, validation and application of the course experience questionnaire," *Studies in Higher Education*, (22:1) pp 33–53.

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