Asking the Right Questions – Crowd-Sourcing Items for Student Experience of Teaching Survey Questionnaires

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Introduction

Formal feedback for teachers is commonly derived from three sources: line management, peer observations, and student evaluation of teaching (SET). Observations undertaken by line managers and peers allow teachers to have strong and weak elements of their teaching identified by fellow professionals. In this way, certain aspects of classroom behavior that teachers may not be aware of, due to their being immersed in the process of teaching, can be identified, communicated and, ideally, remedied. However, this feedback tends to be technical and practical in nature as it is generated by peers who are knowledgeable in the fields of education and pedagogy.

SET gives students the opportunity to report back on how well a teacher's approach and classroom behavior is received. As the students have regular contact with their teachers in an educational setting, and as the targets of their teachers' teaching, they are perhaps best placed to provide insights into the quality and effectiveness of a teacher's skill

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(Follman 1992, 1995; Peterson et al., 2000; Worrell & Kuterbach, 2001).

Student evaluation of teaching (SET) has become an increasingly common feature of the teacher evaluation process. While pioneered in tertiary education (Remmers & Brandenburg, 1927), SET is also becoming more common in primary and secondary educational contexts (MEXT, 2003). However, while best practice recommends student involvement in all stages of the SET process (Rowley, 2003), this is much less apparent outside of tertiary education, despite evidence showing that primary and secondary students are well able to differentiate and discriminate between teachers (Ferguson, 2010).

In this report, an attempt to increase student involvement in the development of an SET questionnaire in a Japanese high school through the crowd-sourcing of questionnaire items is described.

Literature Review

Considerable research has been conducted into student feedback, in particular to determine whether students can adequately reflect and report on the skills and abilities of their teachers, and to ascertain the reliability of such ratings. Reassuringly, it has been found that students from Grade 6 and up assess each teacher independently (Ferguson, 2010), are able to identify which teaching methods are effective and which are not (Follman, 1992; Worrell & Kuterbach, 2001), and can discriminate between their teachers' teaching skills and their interpersonal skills (Aleamoni, 1999; Peterson et al., 2000). In addition, ratings of teachers provided by students are no less reliable or valid than those provided by adults (Follman, 1992, 1995; Worrell & Kuterbach, 2001). Furthermore, the validity of student ratings is reinforced when compared to student achievement, with higher teacher ratings being closely related with higher student performance, and

vice versa (Wilkerson et al., 2000; Kyriakides, 2005; Crow, 2011).

Unsurprisingly, receiving good quality feedback from students can help teachers to improve their teaching skills (Follman, 1992, 1995; Aleamoni, 1999; Roche & Marsh, 2002). However, useful as it is, student feedback is not without its drawbacks. Perhaps the most obvious of these is that students are students, and as such, they do not have technical knowledge about teaching and a full understanding of the demands and duties of a teacher (Follman, 1992, 1995; Goe et al., 2008; Worrell & Kuterbach, 2001; Goe et al., 2008). This lack of awareness of the full range of duties and responsibilities held by their teacher is one reason why student ratings of a teacher can be somewhat different to ratings of the same teacher produced by their peers (Aleamoni, 1999). In addition, student motivation to complete and submit feedback on their teachers may not remain consistent and, as often the case with questionnaires and surveys, drops as either or both the length or the frequency of the survey increases (Brennan & Williams, 2004). Finally, student feedback of teaching is collected and given on the assumption that the teacher will respond to that feedback, and it can be demotivating and disappointing for students if they do not see that their teacher is responding to their feedback appropriately (Richardson, 2005).

Furthermore, while considerable effort has been made to ensure that student feedback is valid – that it provides an accurate assessment of a teacher's teaching – the fact remains that the content of SET instruments are usually prepared by educational professionals, and involving the students at the conceptualization stage is uncommon, even in tertiary education (Cook-Sather, 2009). Consequently, while pilot studies and validation tests are carried out on some SET instruments, many are never validated (Rowley, 2003). As a result, can we really be sure that we are asking the questions that our students want to answer about

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their teachers? In addition, if educational professionals write the SET instruments, where does their ownership actually lie?

Giving the students a voice via an SET is an important part of studentcentered education. It encourages students to consider the 'course goals and the teaching-learning process' (Diamond, 2004, p.226) and involves the students in the design of 'their own educational process' (Keutzer. 1993, p.239). SET data can be collected through a wide variety of methods including structured feedback sessions, focus groups, snowball evaluation, formal and informal interviews, shadowing, student diaries and, most commonly, surveys and questionnaires (Rowley, 2003; Cook-Sather, 2009). Formal student feedback also provides administrators with a quick and cheap way to assess their teachers' performances (Little et al., 2009; Worrell & Kuterbach. 2001). Thus, it has become an increasingly common part of the process of professional development since it was first trialed in the 1920s (Remmers & Brandenburg, 1927). However, it is not uncommon for administrators, particularly for short courses, to create student feedback instruments that are focused on measuring students' overall satisfaction of a course, and which provide little feedback of use for the teacher.

To date, the majority of research on the construction and use of SETs has been conducted in the United States and Europe, with far less research being conducted in non-western contexts. In addition, most research has focused on SETs in tertiary education, with much less investigating their use in secondary or primary education. However, the use of SETs outside of western contexts is increasing. SET surveys have been compulsory in primary and secondary Japanese educational institutions since 2008, as part of the Japanese Ministry of Education's Plan 21 to improve teaching quality and student satisfaction (MEXT, 2003). The extent to which students have been, or could be, involved in the process of creation of their

SETs is not clear, however. Consequently, an investigation into whether Japanese high school students are able to generate suitable questions for an SET questionnaire, and what those questions might be, was conducted.

Methodology

Context

The investigation took place in a six-year private co-educational high school in the Kanto region of Japan. Student feedback is obtained in the middle and at the end of each term (six times per year). This gathering of student feedback at mid- and end of course points follows best practice as it allows teachers to respond flexibly to concerns raised within the same term, as well as providing useful guidance for possible revisions to future iterations of the course (Keutzer, 1993; Diamond, 2004; Caulfield, 2007). The current instrument consists of a questionnaire with four items (see Table 1 below), for which the students can rate the teacher as satisfactory, average, or unsatisfactory. Some additional space is provided for students to provide comments.

Table 1. Student feedback survey items

	•
1.	Is your teacher's voice clear?
2.	Does your teacher use the blackboard well?
3.	Does your teacher explain things clearly?
4.	Do you understand the teacher's lessons?

Teachers receive a summary for each of their classes and a representative selection of any comments. Should a teacher receive a poor rating from a class (generally greater than 10% of students expressing dissatisfaction), they are required to undertake some kind of administrative

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action, such as submitting a report reflecting on why they received that feedback and outlining a plan for improving the situation with that class.

Approach

The original intention of the study was to conduct a questionnaire survey of the Grade 11 students in order to perform a validation of the existing SET questionnaire. After subsequent discussions with the school year heads, it was decided to expand the participating students to include all of the students from Grade 7 through Grade 11. However, it was recognized that a questionnaire survey approach would inevitably suffer from the same potential issues as the questionnaire that was being investigated. It was consequently decided that a different approach should be taken, and that the students would be asked to write their own SET questionnaires.

Participants

The participants consisted of 798 high school students drawn from Grade 7 through Grade 11; 398 girls and 400 boys, aged from 12 through 17 years old.

Procedure

Data collection took place during one post-end-of-term-test lesson at the end of the second term. At the end of the second term in Japan (during the month of December), it is not uncommon for there to be one or two lessons after the end-of-term test and the beginning of the winter holiday, which are often devoted to seasonal activities, and this provided an ideal opportunity to conduct the data collection activity of this study, which followed the procedure outlined below:

- e shown an
- 1. At the beginning of the lesson, the students were shown an explanatory sheet (see Appendix). Students who did not wish to participate were allowed to do self-study.
- 2. The students were divided into groups of three to five members each.
- 3. Each student group was given a copy of the current SET questionnaire.
- 4. The teacher explained how to create different question types, specifically scalar (rating a statement on a three or five-point scale), forced choice (YES/NO items), and open question types (where space is given for a freely-written answer).
- 5. The students were then allowed to make their own SET questions, with the teacher acting as a facilitator.
- 6. At the end of the lesson, each group's contribution was collected.
- 7. The students were asked for any feedback comments about the experience. These comments were elicited orally, and noted down by the supervising teachers.
- 8. The students were thanked and reminded that the results would be passed on to the school administrators, but that there was no guarantee that the student feedback questionnaire would be revised.

Once all the student-generated questions had been collected, they were grouped into categories by three blind judges (teachers unfamiliar with the students and the school's SET questionnaire). The categorized questions were then returned to the researcher for further analysis. Finally, the results were fed back to the teaching faculty and consideration was given to revising the SET questionnaire to include the additional factors identified by the students.

Results and Discussion

While self-study was offered as an option for students who did not wish to participate, in fact no student chose this option. Each student group produced an average of three additional question items for consideration (623 in total). Only three groups from Grade 7 failed to produce any additional question items.

Cognitive Load

When student comments about the activity were collected orally at the end of the activity, the students almost universally reported that they found the task to be interesting but difficult. This response was further elaborated by multiple comments reporting that it was the first time the students had had to think about classes and teaching in this way, and that it was their first time to think about teaching from a teacher's perspective. Other research has indicated that producing questions for inclusion in a questionnaire can be a very challenging task (Rowley, 2003). In the case of this research, rather than completing the task as instructed and producing their own SET questionnaires, the students re-interpreted the instructions and re-formulated the task into two steps:

- 1. Is the current SET questionnaire acceptable? [If not, how should the content be revised?]
- 2. What additional questions are needed?

This reformulation significantly reduced the cognitive load of the task and allowed the students to focus on what they thought was missing or wrong about the existing SET questionnaire rather than attempting to write a completely new one.

Unusable Questions

Inevitably, some groups returned unusable questions, and approximately ten percent of questions were rejected. These unusable questions were either clearly directed at specific teachers ("Is your teacher strong?" and, "Does your teacher like pizza too much?"), or were focused on general school issues, including proposals for the abolition of homework and for the student election of the school principal. While interesting, such questions were unsuitable for an SET questionnaire. However, the anticipation that some unsuitable questions would be returned was one reason why the students were asked to produce possible SET questions as a body, rather than as a single grade or class.

Student-Produced SET Factors

Once unusable questions had been identified and removed, the remaining student-produced questions were analyzed in two steps. The first step was to identify multiple iterations of the same question. Of the 540 questions judged to be relevant to SET, some were produced independently multiple times, while others were produced only by a few or even a single group. The second step of the data analysis was to cluster the list of questions into coherent factors. To achieve this, each judge clustered the questions independently. The researcher then subsequently compared the item set produced by each judge in order to create a single set of factors and items. This set was then returned to the judges for final agreement.

In addition to the questions relating to the three areas of teaching skills that made up the original student feedback survey, (clear voice, board work and explanation) which the students endorsed (thus providing content validation of those questions), the students produced questions that clustered into the following factors: teaching skills, teacher professionalism,

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teacher interpersonal skills, and teacher behavior.

Teaching Skills Factor

As noted above, the students endorsed the original SET questionnaire questions. However, they also revised and expanded the teaching skills factor, as shown in Table 2 below.

Table 2. Expanded Teaching Skill items

	,
1.	Is your teacher's voice clear?
2.	Does your teacher use the blackboard well? \rightarrow Does your teacher write clearly?
3.	Does your teacher explain things clearly?
4.	Do you understand the teacher's lessons?
5.	Is the pace of the lesson too fast or too slow?
6.	Does your teacher use a variety of activities?
7.	Does your teacher help you when you need help?
8.	Does your teacher answer your questions?
9.	Does your teacher set too much homework?

Where the original SET focused on the teacher's voice, board work and explanatory skills, the students differentiated between a teacher's ability to explain things clearly and the overall comprehensibility of their lessons. In addition, the students indicated that the overall legibility of a teacher's writing was of greater relevance to them than the original, more limited, focus on the teacher's board work. Expanding this category were items that focused on the teacher's responsiveness to student needs, the range of classroom activities included in the teacher's lessons, and amount of homework set. Research, such as that by Walker (2008) has identified teacher responsiveness and creativity in class as key characteristics of an

effective teacher. Furthermore, effective teachers assign regular, but short, homework activities rather than extensive homework assignments that can be demotivating to students (Cooper, Lindsay, Greathouse & Nye, 1998).

Teacher Professionalism

In addition to teaching skills, the teacher's professionalism and approach to lessons emerged as a factor identified by the students. The key questions are listed in Table 3.

Table 3. Teacher Professionalism items

1.	Does your teacher look professional?
2.	Does your teacher come to class on time?
3.	Is your teacher enthusiastic?
4.	Is your teacher knowledgeable?
5.	Are your teacher's lessons interesting/fun?
6.	Is your teacher active?

Students do not come to lessons as *tabula rasa* (blank slates), but have their own concepts and expectations of teachers and lessons (Murphey, Falout, Fukuda, & Fukuda, 2014). The questions produced by the students focus on the importance for a teacher to be both professional and passionate about teaching. Essentially, education is communication, but teachers communicate much more than just the target lesson content; they also signal to the students how they feel about the subject, teaching, and the class. While a teacher's professionalism and enthusiasm can never motivate all of the students in a class, a lack of either can potentially demotivate every student – after all, if the teacher does not seem to care about the lesson, why should the students?

Furthermore, the students seem to be showing a preference for teachers

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separation of teacher professionalism and teacher interpersonal skills into independent factors.

One reason a school may not include teacher interpersonal skills in an SET questionnaire is the fear of a Dr. Fox effect - that a personable and loquacious teacher could receive high ratings based on their personality despite teaching poorly and presenting lessons with little real content (Marsh & Roche, 1997). However, research has shown that students from Grade 7 are able to distinguish between a teacher's technical skills and interpersonal skills (Aleamoni, 1999; Peterson et al., 2000), and there is no reason why a good SET questionnaire should not include both factors.

Teacher Behavior

The final factor identified by the students focused on the teacher's attitude and behavior towards the students in class. While related to both teacher professionalism and teacher interpersonal skills, the judges felt that these items clustered together to form a distinct factor. The items produced by the students are listed in Table 5.

Table 5. Teacher Behavior items

1.	Is your teacher fair?
2.	Is your teacher impartial?
3.	Is your teacher too strict?
4.	Is your teacher unreasonable?
5.	Does your teacher show favoritism?
6.	Is your teacher angry all the time?
7.	Does your teacher look down on anyone?
8.	Have you been bullied by your teacher?
9.	Has your teacher been violent towards you?
10.	Has your teacher sexually harassed you?

who are active and have a wider knowledge beyond their own subject area - many students can benefit from learning how different subjects interrelate as opposed to being distinct. An example of this principle in action is the Fibonacci Project, an EU-wide program to improve mathematics and science education via cross-disciplinary and crosscurricular approaches.

Teacher Interpersonal Skills

The third factor identified by the students focused on the teacher's interpersonal skills. The items produced by the students are listed in Table 4.

Table 4. Teacher Interpersonal Skills items

	·
1.	Is your teacher friendly?
2.	Is your teacher kind to you?
3.	Is your teacher positive and encouraging?
4.	Does your teacher chat with you?
5.	Do you want to ask your teacher questions?
6.	Does your teacher smile?
7.	Is your teacher an interesting person?
8.	Is your teacher funny?
9.	Is your teacher cool?
10.	Do you want to have lessons with this teacher next year?

For any group of students, the creation of a warm, positive, and friendly learning space is important, but this is particularly so for adolescents who are going through profound psychological changes (Gorham, 1988). The creation of such a student-friendly learning space is more heavily dependent on the teacher's empathy and interpersonal skills than on their technical teaching skills (Ramsden, 2003), and this is reflected in the

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other groups.

Most of the items in this factor reflect the high value students place on being treated fairly and on teacher impartiality, the absence of which can negatively affect student motivation (Aydogan, 2008; Crone, 2013; Walker, 2008).

The final three items listed are of concern, as they do not reflect poor teaching but immoral and illegal behavior. Such behaviors may not be uncovered in observations conducted by peers or line managers, and their inclusion in a student feedback survey could be part of the mechanisms a school has in place to ensure such activity does not occur. However, while there is a strong case to include such items, various ethical considerations must be met. Teachers may object to the inclusion of such questions because they fear the effect untrue accusations could have on their careers or because they feel offended by the implications of such questions. On the other hand, students may avoid answering such questions out of the real fear that a teacher could identify who had made the report. As a result, it is necessary to find a way to protect student anonymity and avoid insulting the teaching staff. One possible indirect way would be to include a reminder that behavior such as bullying and sexual harassment is not tolerated and that any student who experiences it or who witnesses it should report it to a trusted third party, such as a school counsellor or nurse.

An unfortunate limitation of the methodology used in this research, especially in light of some of the Teacher Behavior items, is that it is not possible to tell if more frequently produced questions are due to their importance to the students or the fact that they come more easily to mind than other questions. To overcome this in future investigations, the methodology should be revised to have the student groups rate the relative importance of the questions they have produced, or of those produced by

Conclusion

There is a danger that teacher-made SET questionnaires have a narrow focus on technical teaching skills. However, effective teaching is multifactorial in nature and, when considering the quality of an instructor's teaching, students as young as 12 years of age are both able to discriminate between these factors and, as this study shows, to generate relevant questions when asked as a body.

Making sure that the full range of student input is obtained can be a difficult process as there is always the danger that the opinions of outspoken students will dominate those of less confident students, and that the selective incorporation of marginal students' input can become a form of tokenism (Cook-Sather, 2009). The procedure adopted in this study strove to minimize these issues by obtaining input from as great a part of the student body as possible and by dividing the students into small groups to reduce the effects of outspoken students. Furthermore, the use of judges who clustered the student-produced questions into factors meant that the frequency a question was produced by the students was not necessarily fundamental to its inclusion in the final set of questions.

Furthermore, while this investigation centered on an SET questionnaire, there is no reason why the same process could not be applied to produce target questions in other SET instruments such as focus groups, feedback interviews, or snowball evaluation (a sampling method whereby a well-placed individual is asked to recommend a person for interview, that interviewee is then asked to recommend the next interviewee, and so on). A cautionary note must be sounded, however. If this kind of exercise is conducted, students must be able to see that their input is respected

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and that the student feedback instrument is actually revised accordingly. Not to do so risks disenfranchising the students and discouraging them from future participation in feedback evaluations (Bury, 2015, personal communication).

Investigating the ability of Japanese secondary students' to produce. or otherwise provide input, into the development of their school's SET is a relatively new area of research, and this article adds substantially to it. However, the findings presented in this article represent only a single private high school. In order to ascertain whether the results reported are representative of Japanese high school students in general, with regards to both student willingness to produce SET items and the utility of those items, will require further research. A first step will be to repeat the study in a public school. Subsequent studies should also seek to identify any differences between academically oriented high schools (where the majority of students will enter university on graduating) and vocationally oriented high schools (where the majority of students will enter work on graduating). Cultural differences should also be investigated. Do Japanese high school students produce different SET items when compared to high school students of other cultures, or are the factors underlying effective teaching culturally invariant? Furthermore, are there cultural differences in willingness to participate in the creation of SET items, or the approach taken by students? Finally, the opportunity to have the students reflect on the SET questions and factors that they had produced was missed in this study. Future research should ensure that students are given the opportunity to express their opinions on the SET that they create.

Eliciting student-generated SET items in the manner described in this article is quick, cheap, and can serve to ensure that subsequent SET questionnaires maximize student ownership and ask the questions the students want (and need) to be asked. Consequently, this is an activity that in-service teachers should give serious consideration to undertaking, especially those based in larger institutions like high schools where the student body is relatively stable over time, and where the students can become active participants in developing their own SETs (Lodge, 2005). If student evaluation of teaching is to achieve its potential as a tool for improving teaching standards and educational achievement, we must be certain that we are asking the right questions.

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APPENDIX: STUDENT INFORMATION SHEET

Please help us with our research!

Every term, all the students complete an $7 \times 7 - 1$ about their teachers.

If the school made a new $7 \times 7 - 1$, what questions do you think should be in it?

Please make a list of the questions you think are important.

Later, we will make a list of all the questions students from different classes made and give it to the school.

Then, if the school makes a new $7 \times f - 1$ in the future, they will be able to hear your voices.

Thank you.

私たちの研究を助けてください。

毎学期、すべての生徒が教師について のアンケートに答えます。

もし学校が新アンケートを作るとあれば、あなたたちはそれにどのような質問を入れるべきだと思いますか?

あなたが重要だと思う質問のリストを 作ってください。

後で、私たちはすべての質問をまとめて、学校にそれを提役します。

そして、学校が未来に新しいアンケート作る場合、あなたたちの意見を反映 することができます。

ご協力をありがとうございました。

(アンソニー セリック・講師)