An efficient and effective system for interactive student feedback using Google+ to enhance an institutional virtual learning environment

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Keywords: assessment, feedback, Google+, social networks

Abstract

Whether or not you take a constructivist view of education, feedback on performance is inevitably seen as a crucial component of the process. However, experience shows that students (and academic staff) often struggle with feedback, which all too often fails to translate into feed-forward actions leading to educational gains. Problems get worse as student cohort sizes increase. By building on the well-established principle of separating marks from feedback and by using a social network approach to amplify peer discussion of assessed tasks, this paper describes an efficient system for interactive student feedback. Although the majority of students remain passive recipients in this system, they are still exposed to deeper reflection on assessed tasks than in traditional one-to-one feedback processes.
Introduction

The purpose of feedback in education is to promote reflection as part of a cycle of learning, exemplified by the constructivist experiential learning theories of Piaget (Dewey, 1933; Kitchener, 1986; Kolb, 1984). Mechanistically, feedback, like assessment, is often used at a degraded level merely to compare standards and expectations with actual performance in order to evaluate the quality of assessed work. This low level unidirectional transfer from teacher to student reduces the possibilities for learner development through reiterated cycles of experience - reflection - conception - experimentation. Used correctly, feedback can have a very powerful effect on learning (Hattie & Timperley, 2007). Unfortunately, under the pressure of time, feedback is often used ineffectively as a limited enhancement of the assessment process. In particular, the practice of disengaging marks from feedback to promote student learning is a fundamental principle which is rarely put into practice. The Higher Education Academy EvidenceNet wiki (Higher Education Academy EvidenceNet, 2010) gives an extensive bibliography of evidence in this area (Black & Wiliam, 1998; Butler, 1988; Carless, 2006; Rust et al, 2005).

There are many constraints on the effective use of feedback in higher education, time and technology being uppermost among these. Academic staff are often pressured by large numbers of students and the demands of research-driven institutions. Few staff are able to indulge in the intensive, collaborative, face to face tutorial processes of yesteryear (Nicol, 2010). Students are pressed by time and frequently see feedback as a retrospective rather than a feed-forward exercise. "There are few rewards for students who are not strategic" (Gibbs, 2006). Both are pushed by educational technologies which facilitate quick fix, unidirectional interactions rather than exploration and discussion. Simply delivering more feedback via email, audio or video will not be effective unless students engage in a reflective dialogue with educators. "Tutors need to provide more guidance to students regarding the use of feedback, possibly by introducing better scaffolding and variation into their feedback" (Orsmond & Merry, 2010). Consequently, there are often tensions between staff and students around expectation on the provision and utilisation of feedback (Bevan et al, 2008; Scott et al, 2009). These can only be resolved by discussions between staff and students to resolve conflicts of expectation, understanding and acceptance (Scott et al, 2011).

Social tools such as blogs and wikis offer possibilities for technological enhancement of the feedback cycle (Hatzipanagou & Warburton, 2009), but under the pressures listed above (in particular "don't have time"), both staff and students frequently fail to engage with these tools at a meaningful level. In contrast, the majority of students are highly engaged with social networks, although they may prefer to separate online academic and social activity (Duffy 2010; Jones et al. 2010). Previous work has shown that academic-related student contributions to a public social network are a proxy for student engagement (Badge et al, 2012). Building on this experience, a social networking approach was used to engage students in a recursive cycle of discussion on assessed work in order to facilitate increased engagement with feedback.

Background

The studies described in this paper were approved by the University of Leicester Committee for Research Ethics Concerning Human Subjects prior to commencement. All first year undergraduate students in the School of Biological Sciences at the University of Leicester (approximately 250 students per year) take a common key skills modules encompassing I.T. and numeracy skills. As part of this course, students are required to make regular assessed contributions to a social network. Google+ (plus.google.com) is used for this purpose as it is conveniently linked to other tools that students use on this module (Google Documents for collaborative writing, Google Reader for RSS feeds). Google+ has fine-grained privacy controls based on the idea of sharing content with defined user “Circles” (see: bit.ly/ysD563), but more importantly, it is distinct and separate from Facebook (facebook.com), and so avoids complications arising from the overlap of social and professional online identities (Baran, 2010). Guidance and assessments are delivered to students on these modules via an institutional virtual learning environment VLE (Blackboard), supplemented with twice weekly face to face help sessions. Results are presented here for group feedback threads on Google+ rather than individual feedback given to students. The format of tasks on this
continuously assessed module is varied. Multiple choice questions (MCQs) are used to assess a number of tasks in order to provide rapid low-level feedback to the large number of students involved (~250):

01: Understanding scientific literature: MCQs
02: Google Reader RSS subscriptions: Share and describe relevant items via Google+
03: Intellectual property: Online MCQs
04: Collaborative (group work) Google Documents report
05: Midterm Maths Exam: Online MCQs
06: Final Maths Exam: Online MCQs

The VLE forms the central hub and authentication system for the module, but most student time is spent elsewhere. Student marks are delivered via the VLE gradebook. Personal feedback is delivered on the assessed items (online quiz results, via shared items on Google+, comments on Google Documents), but overarching group feedback is delivered via privately shared circles on Google+ (Figure 1).

*Figure 1 - Overview of student feedback design*

![Figure 1](farm8.staticflickr.com/7161/6760207521_7fe0666d4b_o.jpg)

Figure 1 illustrates how student feedback delivered via privately shared circles on Google+ is separated from assignment marks on the institutional VLE. Typical feedback consists of a breakdown of class achievement, summary points and an invitation to reflect on personal performance and action points, often related to the setting of SMART targets ($Specific$ – not vague, $Measurable$ – you can tell if you have achieved it, $Achievable$ – possible in the specified time, $Realistic$ – actions are realistic, $Time$-related – specified time period).

High resolution image: [farm8.staticflickr.com/7161/6760207521_7fe0666d4b_o.jpg](farm8.staticflickr.com/7161/6760207521_7fe0666d4b_o.jpg)

**Results**

Students are directed via a link in the VLE to privately shared (cohort) feedback threads in Google+. Since students are used to commenting via Google+, this highly engaging format promotes considerable discussion of key points about each assessment. A short staff prompt is used to initiate the discussion, which is often lengthy and continues for several weeks following each assessment, with on-going staff...
contributions to the thread where requested, answering questions and pointing out feed-forward aspects arising from the assessed task. Table 1 shows an analysis of four such feedback threads:

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Thread Participants</th>
<th>+1's</th>
<th>Reshares</th>
<th>Total word count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feedback01: (Bb Quiz Bibliographic databases)</td>
<td>81</td>
<td>17</td>
<td>19</td>
<td>5108</td>
</tr>
<tr>
<td>Feedback02: (Google Reader)</td>
<td>64</td>
<td>5</td>
<td>21</td>
<td>5301</td>
</tr>
<tr>
<td>Feedback03: (Bb Quiz Intellectual property)</td>
<td>65</td>
<td>6</td>
<td>12</td>
<td>5599</td>
</tr>
<tr>
<td>Feedback04: (Bb Quiz Maths)</td>
<td>67</td>
<td>3</td>
<td>9</td>
<td>5105</td>
</tr>
</tbody>
</table>

+1’s are one-click recommendations on items similar to the Facebook “Like” button.

*Figure 2 - Analysis of student feedback comments*
Student response to all four feedback exercises analysed here was similar, although the tasks involved were quite different, ranging from online MCQs to discussing course-related items discovered via RSS feeds. The average student comment length was 77 words. The assessment on intellectual property (online MCQs) provoked the most discussion (5,599 words), the maths quiz (Feedback04) the least (5,105 words), presumably because students considered answers to the maths given via the quiz questions sufficient information. Overall, it is most likely from the content of feedback comments posted that variation between the four threads analysed is mostly due to the nature of the assessment being discussed (e.g. maths MCQs in Feedback04 versus more challenging concepts concerning intellectual property in Feedback03). There was a limited amount of inter-comment discussion (replies to previous comments), approximately 10-20% of comments made, but most comments were free standing responses to issues students had identified and to staff prompts initiating the feedback threads. Overall, most of the comments received from students who actively engaged with feedback were positive:
Initially, I found it excruciatingly annoying to post my lecture reviews on Google+ because I feel like we are being judged on how active we are online. However, posting a few comments regarding my lecture reviews, I definitely didn't find it that tiresome anymore! It feels great to be reviewing at the same time and read comments from peers discussing or sharing their perspectives of the same or different topics.

Google+ is indispensable if we all intend to make the most of our degree programme and the course of our study at the university. I already had a Google+ account but would never have thought to use it to subscribe to biologists and get information relative to my course. Now that we are using it for this I find having to look for articles and videos that I probably wouldn't have bothered to do otherwise is really enriching the course for me.

Before this module I hadn't even heard of Google+ (is that really bad?! ) and was a bit unsure of how it would help me in my degree. A few weeks in, and I really appreciate the benefits of using Google+. It's a fantastic way of sharing the wealth of knowledge that's available on the internet and definitely helps when piecing together the info after lectures.

So far I have learned that Google+ is just not a place to share candid pictures or hourly updates, but a place to share our knowledge with other people.

At first, I was rather sceptical whether I may have to fake an interest in some of these articles in order to gain marks. However, the RSS feed has forced me to search through articles and I have found the process hugely rewarding; not only do I find the majority of articles highly interesting, I find myself searching through the articles even if I have no intention of posting them on Google+.

I'm not saying that if it wasn't for the I.T. module I wouldn't be doing outside reading I'm simply saying that it may have been sidelined in favour of, for example, practical write ups and lecture follow up work. I think that Google+ and Google Reader are both great incentives to do your own research and background reading and increasingly I am finding it useful to read other people's posts in order to round off my post-lecture learning.

Figure 3 shows a word cloud (via wordle.net) for each of the four feedback threads discussed in this paper.
Discussion & Conclusion

This preliminary study of the effectiveness of Google+ does not attempt to look beyond the simple metrics presented here by incorporating, for example, network analysis, or discourse analysis of the type described by De Liddo et al (2011). Having established evidence supporting the utility of our approach, such analyses will form the basis of subsequent investigations. Overall, student responses to the use of Google+ on the module in general and for feedback in particular was positive. Although only a minority of students (maximum 81/257) actively contributed comments to the feedback threads, circumstantial evidence (word of mouth) shows that the majority of students passively participated by reading the feedback threads on Google+. Many of the same students contributed comments to each of the feedback threads, but there was some variation from task to task.

Some of these first year students struggled to see the value of wider reading encouraged by use of RSS feeds, and of reflecting on feedback. A few comments on the module questionnaire illustrated the strong mark-dependency of this cohort and clearly show the value of feedback other than marks attained is not widely appreciated. Few if any concerns were expressed about privacy issues since students found the use of the Google+ Circles architecture simple and intuitive to use. Very few students chose to post any public content on Google+ outside of their cohort Circles during this module, although in subsequent modules the number of public postings increased somewhat.

By and large the same student tend to comment on feedback threads each time, a highly engaged group of 60-70 out of a cohort of ~250. However, it is clear that many more students read the feedback threads read than actively comment - it is impossible to give a precise number, but based on overall Google+ activity, an estimate of 80% of the cohort is probable. The threaded nature of Google+ enhanced by the links from the VLE promotes discussion on feedback threads entirely parallel to return of student marks via the VLE itself. Resharing items amplifies and refreshes the feedback threads, bringing them to the attention of a wider group than might otherwise initially engage with the process. Although there is no straightforward way to assess the number of +1’s given or received and the volume of content posted by students precludes straightforward counting, in rough terms, the majority of items posted received at least one +1 acknowledgement, either from a member of academic staff (frequent) or from other students (less frequent but still common). Positive reinforcement in the form of simple +1 responses from both staff and peers reinforce the feedback mechanism, creating multiple activity loops.

This is a highly efficient design for delivering feedback to large student cohorts and for elicitting reflective feedback from students. Once set up, this pattern of assessment and feedback using online quizzes and Google+ takes comparatively little staff time since peer interactions amplify staff input. The time investment required is mostly front-loaded in setting up students expectations around the usage of Google+ required, meaning that post-testing, feedback can be delivered quickly and efficiently to a large cohort. Nicol, D (2008), said that: "Peer interaction and collaborative learning can enhance the development of learner self-regulation. Peer processes can help attenuate the teacher’s voice and strengthen the students’ voice; they often result in students scaffolding each other’s learning and they also develop in students the ability to make assessment judgements about the work of others (e.g. where peers critique or assess each other’s work), skills which are often transferred when students turn to regulating their own work.” The use of Google+ to enhance these interactions is an efficient route to realizing such an intention and engaging students in high quality feedback interactions.

References

http://www.bioscience.heacademy.ac.uk/journal/vol12/beej-12-1.aspx
Appendix 1: Open peer review

The manuscript of this paper was subjected to open peer review by publication of a draft at the following URL:
http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html

Reviews were invited and the following guidelines suggested:

1. Please read the manuscript then leave your review as a comment on this blog post. Please use page and paragraph numbers to refer to specific sections of the manuscript.
2. Reviews may be named or anonymous as you wish.
3. To expedite the publication process, this manuscript will be open for review for 14 days from today.
4. Following the review period, all substantive reviews will be taken into account and the manuscript revised accordingly. (My best estimate from blog stats is that between 1,000 - 2,000 unique visitors view the content on this site. If 1% of visitors take the trouble to leave a substantive review, that’s a much more rigorous review process than any academic journal I am aware of.)
5. If the majority view is generally positive, the revised manuscript (including reviews and author responses) will be published on the Leicester Research Archive.

Eight reviews were received which can be seen, together with author responses which have been incorporated into the final version of the paper presented here, at the original URL or in Appendix 2.
Appendix 2: Reviewer’s comments and author responses

Dave Bridges January 16, 2012 1:55 PM http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1326722151463#c5808954859115003276
Major Comments:
Since these may change over time, I would suggest providing a more detailed description of the current privacy capabilities and limitations of G+.
I cannot clearly read Figure 1 in this pdf. Can a higher resolution image be provided as an example (with the understanding that student comments may need to be redacted). Because of this is is unclear what the specific nature of the comment discussions were. Whether they were productive and whether they served to enhance or extend the current material is quite relevant.
Were there inter-comment discussions (replies to a comment). At what rate were students interacting with each other vs interacting with the staff?
Is there a better method to determine the number of passive viewers? For future studies, a post-course survey may be warranted.
What was the comment distribution (were there few long ones and many short ones or vice versa). A histogram may be helpful here.
Among those who did not engage with feedback, what were their criticisms?
The easy +1 or “like” system is a benefit for students to give quick low-barrier feedback. A further discussion of this point, and the number of +1’s may be helpful.
Minor Comments:
Pressurized -> Pressured (p2 pgph 1)
Next sentence Few -> Few Staff
Provide a reference for separation of online academic and social activity
I am unclear about why G+ being separate from facebook is relevant
Define MCQ before it is used
Results first pgph used -> accustomed
Need “A” and “B” on the panels of Figure 2. The y-axis on Figure 2B is misleading and ought be set to zero

Response:
More description of content sharing on Google+ via "Circles" has been included.
A higher resolution image of Figure 1 has been provided, and further commentary on the nature of students comments given in the results section.
There is no rigorous system to determine the number of the number of passive viewers of content on Google+. Students who are passive content consumers are also least likely to contribute to post-course surveys.
Histograms showing comment length distribution have been added (figure 2c).
Many of the students who did not engage with feedback are unresponsive, both on the network and on module questionnaires. However, some direct student quotations to illustrate the range of views expressed have been included in the Results section.
There is no straightforward way to assess the number of +1's given or received and the volume of content posted by students precludes straightforward counting. In rough terms, the majority of items posted received at least one +1 acknowledgement, either from a member of academic staff (frequent) or from other students (less frequent but still common).
Minor Comments: all incorporated.

Martin Weller January 16, 2012 2:00 PM http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1326722440665#c5544087388517923586
Paper review (comments on process in separate comment):
Link to constructivism - is feedback really associated strongly with constructivism? I would have thought it features highly in all learning theories? Behaviourism is very feedback intensive for instance. So I wasn't sure about making the link specifically to this learning theory.
You may need to explain the headings in Table 1 more clearly (what is "+1").
Pg 5 - "circumstantial evidence (word of mouth) shows that the majority of students passively participated by reading the feedback threads on Google+". - do you have any analytics which might help corroborate this?
Fig 3 - do pretty word clouds actually tell us anything? Apart from during a discussion about maths they used the word 'maths' a lot. There are other semantic analysis tools which might tell you the level of writing or argumentation, for instance. What would be most useful is to have a comparison of this activity with that of a previous cohort using only the VLE.
I don't think you can justify the claim "Once set up, this pattern of assessment and feedback using online quizzes and Google+ takes comparatively little staff time since peer interactions amplify staff input" - it could be that all students were saying was 'I thought this quiz was rubbish, and the answer to 7 is 42'. That doesn't demonstrate reflective engagement with the feedback. I'd like to see some more detailed analysis of the type of interaction to back this claim up. It may well be true, but from the evidence presented I don't think you can say that. See for example, the work Denise Whitelock has done on analysing e-assessment feedback (e.g. http://cloudworks.ac.uk/cloud/view/5306) and Anna De Liddo on discourse analysis http://oro.open.ac.uk/25829/1/DeLiddo-LAK2011.pdf

Response:
The nature of +1's has been explained in a footnote to Table 1. "circumstantial evidence (word of mouth) shows that the majority of students passively participated by reading the feedback threads on Google+" - any firm metrics would have been included, that is why this comment was added - we know that more students read the feedback than contributed by informal verbal comments made to members of staff. The comments about student participation have been moved from the Results section to the Discussion.
Word clouds serve a useful purpose in providing an overview of a large dataset (21,113 words from around 100 participants) which cannot be published directly due to the terms of the ethical approval granted for this research.
There is no direct comparison to any similar previous activity using only the institutional VLE available, hence this cannot be included.
Although we cannot (and do not wish to) access student backchannels such as direct messages, emails and verbal communication, the content of the feedback posted amply justifies the statement that "Once set up, this pattern of assessment and feedback using online quizzes and Google+ takes comparatively little staff time since peer interactions amplify staff input" with no evidence to the contrary. Any research performed by others using different systems (such as Facebook, where motivation and mindset may be very different) may well have reached different conclusions. This paper makes no claims about that, only about the utility of Google+ used in the manner described herein. A note about discourse analysis (and network analysis) has been added to the Discussion).

Colin Milligan January 16, 2012 4:45 PM http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1326732303442#c370400962535689483
Introduction: you spend time emphasising the importance of providing an opportunity for a feedback dialogue between students and tutors and illustrate how a simple social tool can provide an efficient means of supporting this, however this left me with a couple of unresolved questions: First, is creating an opportunity for dialogue enough (for instance, effective feedback practice also relates to providing opportunities for the students to act on the feedback given, not just discuss it) and second, is this assessment/feedback design suited to particular assessment tasks (the shared feedback relates to class level issues, rather than individual ones)? A broader discussion of the scope of this design/intervention would have been interesting and useful.
Background: see above: For clarity, it would be useful to state that the results being presented refer to the group feedback threads and not to the personal feedback provided. It does become clear later on, but it would be useful to have it stated explicitly.
Results:
If I were conducting a formal review for this paper, I would have significant concerns about the claim surrounding 'passive participation'. If you can't provide any specific evidence to support this claim, I think it would be better to remove it. You could still speculate that this occurs, of course (I'm sure it does).
Not sure of the value of comparing the length of four feedback threads: quoting the range (5105-5599) is fine, but as we (readers) don't know anything about the content of these threads the comparison isn't particularly relevant. The comment which is provided (about the maths quiz) only provides a possible explanation for FB04, but FB01 is only 3 words longer (and has more thread participants hence shorter average comments). It would be useful to have a comment on the fall off between FB1 and FB2, 3 and 4 in number of thread participants and +1s, and FB1/2 and FB3/4 in terms of reshares. As a reader I can see these patterns just by looking at the data so I expect the author to comment on them, even if it is only to say 'this is just noise' or whatever.
Average comment length was 77 words ... I suppose if I was being thorough, I would want to know median/mode etc - are there a few long comments and lots of 'I agree's'? Also, this is averaged over the four Feedback threads - see the comment above.
'Overall, most of the comments received from students who actively engaged with feedback were positive' sets alarm bells ringing with me: I'd been assuming that the discussions occurring in this thread were about the feedback content, but this implies that at least some comment actually referred to the process. Or does this statement refer to comments collected separately. It would be good to clarify.
Discussion: it would be useful to acknowledge some of the questions which this study wasn't able to address, and perhaps suggest a design for further study. For instance, textual analysis to see what is happening in these feedback threads (do they become lengthy discussions about specific issues, do they extend beyond the original content, is there any evidence for them leading to new learning - e.g students suggesting resources etc) or a comparative study with 'in class' feedback sessions (which in a class of 250 would necessarily be unidirectional tutor-student).
Of course, you come to the end of a review and it all feels very negative, as I have listed the problems I had with it, and I was invited to be critical. I should say that I think the paper is interesting and well written, and certainly the results presented are valuable. And I applaud the open publishing with peer review approach you've taken.

Response:
The reviewer's comment on the Introduction is reasonable, but lies beyond the scope of this preliminary investigation, which sought to provide evidence of the effectiveness (or otherwise) of Google+ used in the manner described.
The scope of the paper has been clarified in the Background section.
'passive participation' - see response to Martin Weller above. The comments about student participation have been moved from the Results section to the Discussion.
Additional data (figure 2c) and commentary on the variation between feedback threads has been added to the Results section.
Direct student quotations from the feedback threads to illustrate the range of views expressed have been included in the Results section.
Additional content has been added to the Discussion addressing the points made.

Overall I think this is an intriguing paper, which has opened my eyes to new ways of doing things - and as someone now NOT teaching undergrad's, I should shy away from some of the pedagogical issues... however I concur with another comment, that word clouds prove very little, apart from looking pretty. They are great for slideshows where you can go for the "oh, wow!" response, but mean little in this context. Possibly replace them with a table with some more substantive analysis of the student responses?

Response:
See comment about word clouds in response to Martin Weller above.

**Mark Rawlinson January 17, 2012 9:44 AM**

http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1326793484407#c5549687681415448144

The idea of using Google + to enable students to participate in an asynchronous discussion of generic feedback on assessment tasks looks promising as a learning opportunity.
I am less clear about quantities and qualities. How many students in the cohort were active rather than passive? How much staff time spent in administering the threads (reading, prompting)? How might we get an idea of how such online writing contributes to learning (beyond being 'a good thing in itself?')

I found the paper really stimulating from a personal point of view - it got me thinking about the larger conceptual contexts, and about my own practice - good abstract and introduction.

**Response:**

As much information as is available about passive use of feedback in this system has been included in the Discussion.

**Grainne Conole January 17, 2012 2:09 PM**

http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1326809370697#c2507123656333289115

I really like the focus of this paper - assessment in today's digital context is a key issue. We need to align what we are trying to do pedagogically with the power of new social media. GooglePlus is a good environment to use for this form of peer feedback. Minor points when you talk about reflection you might like to reference Dewey. For the cycle bit add Kolb. pg 2 Dialogue not dialog. Did you get any quotes from students if you did would be good to include something on this.

**Response:**

"dialog" - corrected.
Reference to Dewey's work has been included.
Student quotations to illustrate the range of views expressed have been included in the Results section.

**Doug Belshaw January 24, 2012 10:01 AM**

http://scienceoftheinvisible.blogspot.com/2012/01/its-academic-publishing-jim-but-not-as.html?showComment=1327399309231#c3565920475634378082

Hi Alan, I love what you're doing here. I certainly found feedback on my blog useful for my thesis! (see Appendix 2 at http://neverendingthesis.com)
p.3 - What if students *have* established a social identity on Google+? Longer-term, perhaps the Facebook/G+ is not a useful distinction? (for example on p.4 you mention that students are 'used to commenting via G+')
p.3 - The acronym MCQ is not introduced, nor is a rationale for their use given.
p.6 - I haven't got a reference for you (sorry) but I'm fairly sure there's research around giving students both a mark and formative feedback which shows that mixing the two leads to them just focusing on the score? It would be good to reference that.
A useful paper overall that would be great if tightened up using the feedback(!) above. I think a 'how-to' style blog post to accompany it would also be handy. :-)

**Response:**

Only one student reporting having an existing Google+ account when this work was performed. If repeated in future, advice given to any students with existing Google+ identities would need to be taken into consideration.
"MCQ" has been defined and their use in this context explained.
Background. How do students form a cohort on Google+ Is the tutor a central point or do students connect directly to each other too? If so how is this achieved? because circle sharing isn't going to be obvious to people who don't use Google.

Figure 1. I confused the running title with the Fig 1 label. This will probably not be an issue in a printed form of the document.

Is the world a better place with this paper in it? Yes.
Is it taking space that could be used for a more worthy paper? No.

Response:

Issues of network structure, online cohort formation and Circle sharing have deliberately not been addressed in this manuscript in part to keep the focus on feedback rather than the technicalities of Google+ and also because they are part of subsequent investigations outside the scope of this preliminary report.

The layout of Figure 1 has been reformatted.