The inspiring teacher in computing

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Abstract
A major aspect of staff development identified at the start of the 2010/11 academic session in the department of Computing, Engineering and Technology at the University of Sunderland was to develop the concept of the inspiring teacher. The motivations to address this concept primarily centred on the teaching of the computing disciplines and evolved from a desire to inspire students to learn and to want to learn and to enthuse them about their subjects. Additionally there were pragmatic motivations around student retention, employability and NSS results. This paper reviews the preliminary findings gathered from students and staff in 2011. Initial findings and comparisons indicate that there are both similarities and differences between student and staff perceptions in what is inspirational – and that these differences relate to both personality traits and to approaches used in curriculum delivery. Students were clear about what they felt to be non-inspiring teaching, yet from our very early discussions with academic staff, they were less clear about what is non-inspiring.

The paper examines the preliminary findings and begins to consider reasons for the differences in perception between staff and students. Taking the project forward into 2012 the identified priorities, the comparison of different perspectives and the common themes will be used to create a series of staff development workshops. The purpose of the workshops will be to encourage staff to reflect on their practice and develop a common understanding of what it means to be an inspiring teacher and to implement changes where appropriate which will lead to more inspirational teaching for our students.
Keywords
Inspiring teacher, student engagement, learning.

1. Introduction

What is inspiring teaching, and how do you do it? These were the questions staff posed when the Department of Computing, Engineering and Technology (DCET) set them the challenge of being inspiring teachers. But what was our motivation for this? Encouraging students to learn and to engage positively with their learning were certainly objectives as part of our wider drives towards increased retention, and student satisfaction. The National Student Survey (NSS) explicitly requests students to consider whether their teachers have been enthusiastic, explained things well, intellectually stimulated them and generally made their course interesting. It also focuses their thoughts on whether we have managed to engender confidence and communication skills, two key employability attributes. In improving our offer then, we are obliged to investigate and reflect on these points so that where professional development may be appropriate we are well placed to deliver on it. This research seeks to explore the ways in which inspiring teaching can be developed and in order to do that we have begun to examine what the term inspiring teacher means both to students and to staff.

2. Methodology

Data was gathered from three different groups. First of all level 1 computing students were asked to think about what makes an inspiring teacher. They were prompted to consider people who have inspired them in the past and what were their characteristics, and to think about what made them feel inspired in their learning now. They were given a blank sheet of paper to write down their thoughts in this respect. Following an initial analysis of the data generated from these students, themes relating to personality, methods, experience and authenticity seemed to be emerging, and a slightly more focused question sheet was given to level 3 computing students so that although they could write anything they wanted to, they were asked in part to consider: how they know when they’ve been inspired by a teacher or a teaching situation (i.e. the impact or impression made); what characteristics of an inspirational teacher could they think of; what is inspiring and what is uninspiring in a teaching situation. They key outcome of this was that in addition to generating data which indeed continued to address those aspects of personality, methods, experience and authenticity, we also began to capture the impact of being inspired. Finally, a workshop was conducted with staff in which they were asked to consider: who inspired them; what were the characteristics of inspirational people; and what they considered to be inspiring in their own practice.

The data is being gathered and analysed according to a grounded theory approach, and at the time of writing we are still engaged with these processes.
3. Preliminary findings

As indicated above, specific themes were immediately apparent in the data. We are categorising these themes as relating to the following:

1. personality and authenticity,
2. experience,
3. approaches/methods used.

Because the data has been gathered thus far in different ways, we have different data sets from each of the groups. In this paper we will not detail all the responses but will present the common themes, discuss where gaps are emerging in different groups' perceptions, consider what the students are not inspired by, and turn to the question of whether the inspiring teacher is located only in the classroom setting. Finally we present our findings so far in regard to what impact the students feel inspiring teaching has upon them.

3.1 Common themes

All three groups (Level 3 students, Level 1 students, and Staff) spontaneously identified the following attributes which we believe are traits of personality: enthusiasm, passion, adaptability, and empathy. The students did not use the term empathy but gave examples such as “understands that we are young”, “understands each person’s needs and personalities” and “not patronising”. They all also highlighted knowledge/subject mastery/background, which we have categorised under experience. Finally, they all identified the following features in the delivery method or approach: preparedness, being able to break down information (interestingly the students repeatedly said break down while the staff said build up), being able to contextualise, giving individual attention, and making things relevant to the learners (“relate to modern culture”, “ability to make the subject relevant”). Staff spoke of striking a balance and level 1 students spoke of on the one hand being friendly and on the other being strongly in control of the class. We believe they may be making the same point here which is about confidence in class management. This of course requires further data collection and investigation.

While both adaptability and being prepared/organised are common themes, examining the language used throws up further interesting data. The students talk of staff being “comfortable” in the sense of being able to go with the flow, throw things up in the air, make a fool of themselves if it’ll help get a point across. Again, this points to confidence in classroom management, or to use the word the students did, being ‘comfortable’. While staff do mention a willingness to admit mistakes as a positive attribute in being inspirational, they also talk of “being yourself – with care”. There seems to be a reservation in how much control they are prepared to relinquish.
3.2 Mismatch of expectations

Interestingly, there were points which the students raised as important to them which the staff did not raise at all. These points tended to fall into our category of personality/authenticity. By authenticity, we refer to that aspect of a student/teacher relationship that convinces the student the teacher is genuinely interested in their wellbeing. They were: humour (“they make jokes or use funny real life situations”, “funny, easy to talk to, down to earth”, “happy, cheerful, bubbly”), friendliness (“can see them as a friend as well as a tutor”, “someone who knows your name and asks about your personal life that they remember e.g. how’s the job?”, “more of a mentor”), enjoyment (“a smile, they enjoy our company”, “they enjoy what they do”). Evidence of the importance of authenticity comes from a comment from one student who when asked how teaching could be more inspiring responded: “I don’t think teachers should try too hard with this it would be too fake and transparent. Teachers should naturally enjoy the subject they teach. The happier they seem the more inspiring they will be to me personally”. The use of humour in teaching has been documented previously, for example by Downs et al (1988). Specifically they examined ‘communicator style’ which for them included humour, self disclosure and use of narratives – all of which are emerging in our student data.

Being interesting (“they convey information in an interesting way”), and involving students in classroom interactions were two methods highlighted only by students (“get people involved”, “makes lectures interactive instead of just text and bla, bla, bla”, “instead of just throwing information at you they got you involved in the subject”). The level 1 students alone identified the quality of being a good listener. The students also pointed to scenarios such as “if the lecturers actually thought about the students”, “when the teacher is not interested in either the subject or the students’ understanding”, “criticising attempts to answer” and “treating students like children” which we categorised as respect. Students highlighted people skills and communication skills but at this point in our study we cannot be clear about staff opinions in this regard as the data we do have in this area is staff examples of communication skills (e.g. body language) rather than whether or not they feel it’s a factor in inspiring their students.

In terms of our overall aims in this research, it would seem to be important that we further investigate staff opinions and attempt to determine whether or not they do attach importance to humour, friendliness, enjoyment of their work, being interesting and interactive, listening to and respecting the students.
3.3 What's uninspiring?

Students have been very clear so far about what does not inspire them. Staff on the other hand were singularly unforthcoming on this point in the workshop we have done with them to date. Naturally we seek to explore this further in more workshops. For students the following is offered, which we have grouped into matters of pedagogy and matters of respect:

Pedagogy:

- “Lack of help or feedback”, “when we get told about the bad things without them being explained properly.”
- “Strict lessons – make you not wish to turn up”, “being abrupt”, “critical teaching e.g. asking a question, demanding an answer, complaining of the wall of silence, then criticising attempts to answer.”
- “Lectures”, “just reading from slides”, “monotone”, “endless amounts of facts being dictated for long periods of time”, “too much information for 1 hour and we leave without complete understanding”, “presentations that are not detailed enough for looking back at for further understanding.”
- “Tired teaching – the lecturer at the backend of a long shift, usually between 4 and after 6pm. They just want to go home. This is negative to teaching”.

While we group this last point under pedagogy, it is a sobering comment on our resource management & timetabling and could equally reflect our level of respect for the students.

Respect:

- “Someone who is unprepared and uninspired by the subject they’re teaching.”
- “Teachers who talk down to you and treat you like you’re back in secondary school
- “When the teacher doesn’t want to be there,” “someone who is uninspired by the subject they’re teaching.”
3.4 Where does inspiring teaching happen?

As previously mentioned, the data gathering instruments have differed across the groups, and this is something we seek to improve on as we move further into the study. However, in the data gathered so far, where the respondents have been asked to give examples of how teaching can be more inspiring there is a marked difference between staff and student responses. That is to say, students have almost completely given us examples of how to teach better in the classroom while staff have focused on the support they give outside of teaching to allow the students to cope with their learning, i.e. a stronger focus on the scaffolding we give them as pastoral tutors. So, staff talk of “going the extra mile” and giving one to one support. Students on the other hand suggest:

- “More hands on, practical work”, “give engaging tasks”,
- “Engage students more and offer more help after lectures”, “video logs and tutorials for extra help”.
- “Fun”, “jokes”, “relaxed”, “more banter”.
- “Relate to modern culture”.
- “More time in lectures so you can ask questions and understand the topic instead of having to go away and learn it on your own”, “Less reading – more interacting, and let people understand what they can get out of it”, “getting more involved with individual students”.
- “Break info down to allow more to be remembered”.
- “Use a variety of materials”.
- “People skills and approachability go a long way in helping understanding and building confidence”.

Of course these student responses don’t have to relate only to classroom activities aimed at introducing and helping them to understand new topics. Equally, these engaging, practical interactions that they request, which relate to modern culture and use a variety of materials, could be their assessments. As cascade partners in the 2008 FDTL funded project Engaging Students With Assessment Feedback (ESWAF) we were already cogniscent of the need for and benefits of engaging students using good assessment feedback practices (Handley et al, 2008).
One would assume that an inspiring teacher does not only inspire in the classroom, but can further engage and enthuse students with engaging assessments and relevant and interesting additional work, be that in the virtual or the real world. It is perhaps also not surprising that students studying STEM subjects in general – and here we examine the attitudes of computing students in particular – are keen to experience hands-on learning, teaching, and assessment (LTA). These additional aspects of LTA are of course areas which we hope to explore further down the line.

3.5 Impact

The level 3 student data showed that they felt the impact of inspirational teaching in three different ways which we categorised as before, during and after the classroom context as follows:

- **Before**
  “I begin to feel more the enjoyment of learning as opposed to the subject necessarily”.
  “Because it makes me arrive early, stay late, ask questions/engage, try hard to impress e.g. in the assignment.”
  “You like turning up to lessons.”

- **During**
  “When something you’ve been struggling to grasp suddenly clicks and makes sense.”
  “When you’re willing to make an extra effort for that teacher/in that class.”
  “Mind doesn’t wander and I do the work faster.”
  “When a lecturer increases my confidence.”
  “Made me think about the topic from a different point of view.”

- **After**
  “When you leave a lecture or tutorial and you’re keen to go and try out whatever you’ve been learning.”
  “When after a lecture I want to go away and learn more.”
  “Makes you feel positive and want to do something after being taught.”
  “Makes you willing to go the extra mile to do the work.”

In other words, the impact lasts beyond the teaching situation itself. It makes the students want to learn outside of the class, and it makes them eager for the next class. This is surely the transformational aspect of inspiring teaching and it is encouraging to see that the students talk in terms of increased confidence, trying hard to impress or make extra effort for the teacher, seeing things differently and – interesting that they use the same expression as the staff do about themselves – “willing to go the extra mile.”
4. Conclusion

It is comforting to note the agreement between students and staff as to what makes inspiring teaching. At this early stage in our uncovering of the data, however, there are some mismatches of opinion. Returning to the NSS and the language used in the questions that are asked of students relating to the teaching on their course, it is interesting to note that both staff and students spontaneously recount enthusiasm as an inspiring trait, while only students mention interesting. In the current climate, staff ought to be conscious that students are being asked to rate our ability to inspire interest. In terms of the employability questions, again it is only the students who use the word confidence. It is good to see that some students understand teaching is not about passing on knowledge but is about developing the ability of students to develop their own knowledge: “I begin to feel more the enjoyment of learning as opposed to the subject necessarily”. It would seem that they understand the value of engendering confidence, but do the staff?

Our ideas for the future obviously involve further and more robust data gathering and analysis until we reach saturation in the data. There are then many further avenues to explore such as whether or not different attitudes persist between staff from research intensive universities and staff from teaching focused universities; and what part technology might play in the inspiring teaching situation, as there has so far been a distinct lack of mention of it in our data.

Our motivation in this study has been in part to ensure appropriate staff development can be effected in our department. As we have categorized our data so far, inspiring teaching could be traced back to both personality traits and approaches (or features of approaches) used in curriculum delivery. It seems obvious that we ought to be able to work on staff development activities to improve delivery. Those aspects that relate more to personality and in particular authenticity may be much more difficult to address, however, and indeed it may not be desirable to do so. As one student noted: “I don’t think teachers should try too hard with this it would be too fake and transparent”.

5. References
