On a Need to Know Basis: "Electronic" vs. "Live" Problem-based Learning Tutor Briefings

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Abstract

The aim of this study was to explore the perceptions of eleven different subject-specialist medical school staff with varying experience levels, of the benefits and drawbacks of adopting an electronic tutor briefing format rather than the traditional face-to-face tutor briefings when used in support of problem-based learning sessions across an eight week module in the second year of the Keele undergraduate medical curriculum. Our aim is also to identify and explore the benefits and interdisciplinary value of adopting or adapting these for the legal education discipline. This study shows that an electronic tutor briefing format is successful in supporting tutors with their teaching but there are still issues in presenting it as a wholesale replacement of the live briefings in its current form and our future work will expand this pilot into the legal education arena to test the validity of our findings in another discipline.

I INTRODUCTION

Self-directed learning (SDL) is a pedagogic practice that is commonplace in Higher Education and can be applied in a number of different ways (Garrison, 1997). Within the umbrella of self-directed learning sits problem-based learning (PBL), a pedagogic method where a "problem" forms the scaffold around which learners self-assess their learning gaps through small group discussions before establishing their own learning goals and then researching these (Williams, 2001). SDL and PBL are readily used in medical and legal education nationally and internationally (Tiwari et al, 2006; Kurtz et al, 1990) but come with a range of challenges as a pedagogic approach to learning. A central challenge and one related to this work is the role of the tutor in PBL as a facilitator rather than a subject expert. What this means is that PBL tutors require a different skill set than their traditional discipline specialities because the learners are directing their own learning and the role of the tutor therefore changes to one of guide rather than source of information (Neville, 1999). One inherent issue with this change in tutor role expectations in the PBL setting is therefore tutor preparedness. Tutors are required to facilitate learning around subject areas outside their own expertise (Loyens et al, 2015). One way that universities address this challenge is with face to face tutor briefings and accompanying information which are aimed at orienting tutors of any background and/or level of experience with the intended learning outcomes of the PBL session. This approach is universal practice in both legal and medical education where a PBL approach to learning is being applied. However, it does present a range of practical issues for tutors in getting the most of face to face briefings, including adequate preparation for sessions at relatively short notice and most difficult, actually attending briefings in person at specific times and days (Kanter, 1998). As experienced SDL and PBL tutors ourselves as well as being module leaders responsible for the briefing of many other SDL and PBL colleagues, we are well placed to consider alternative ways to improve practice in preparing and critically, supporting tutors for their teaching sessions whilst ensuring an excellent learning experience for the learners

The scope of this work was to explore one cycle of action research and is therefore a pilot study seeking proof of principle for an electronic tutor briefing system as a desirable alternative to face-to-face briefings for a range of logistical and pedagogical reasons discussed below. In the context of medical education, the innovation inherent within this project comes from adopting a technological delivery method for problem-based learning (PBL) tutor briefings rather than face-to-face meetings. It is known that there are two key factors that are critical to PBL tutor success – tutor expert subject knowledge and tutor ability to facilitate the learning (Groves *et al*, 2005) and it is also established that the field of medical education has been making movement forward in the last 10 years in addressing the opportunities that e-learning provides (Letterie, 2003). However, to date, wholesale use of a technological delivery system for tutor training in medical education has not been reported. Any research on this topic has been principally concerned with learner and instructor attitudes to e-learning more generally, something that is also true in legal education (McCall, 2010) and in other disciplines, such as computing (Liaw *et al*, 2007).

It was interesting in the context of this study to draw on Rogers` model for diffusion of innovation (ranging from "Innovators" to "Laggards") in the tutor responses to adopting this new practice (Rogers, 2010). The intention of the pilot intervention was to improve two areas (tutor knowledge and tutor facilitation) in relation to the tutor briefing process by using technology to increase efficiency of briefing content delivery by providing an easy-to-access (downloadable, coloured, sectioned, targeted to learning outcomes) crib-sheet to aid tutors in facilitating their teaching sessions.

A *The Module*

The Life Support and Defence module within the current Keele medical undergraduate curriculum consists of eight individual week-long PBL cases intended to trigger in-depth learning about the function and pathology of the skin, blood, respiratory and cardiovascular systems. Problem-based learning is regarded as a sub-type of self-directed learning that uses guided

learning resources and builds on prior student knowledge (Finch, 1999). The first four PBL cases deal with immune pathology in the contexts of autoimmunity and hypersensitivity, blood physiology and the consequences of blood disorder. The latter four cases deal with respiration and have a focus on airway secretions and patency, the pulmonary circulation, sexual health, viral infection and public health issues. Additionally, topics such as transplantation, balloon catheterisation, sudden death, drug interactions, iatrogenic disease and the coroner's court are also covered.

B *Overview of PBL Tutor Responsibilities*

The role of the module leader is to provide eleven PBL tutors with relevant briefing information – both discipline specific and logistical – to help prepare them to facilitate their PBL sessions each week and to give them a grounding in the weekly intended learning outcomes whilst identifying points where the curriculum overlaps with prior learning. The role of the PBL tutor is a vital one as the tutor ensures the PBL process is successful for learner motivation, helps learners gauge the required depth of knowledge and aids successful social interactions in the small PBL group work (Rotgans and Schmidt, 2012; De grave *et al*, 1999).

C *PBL in Legal Education*

Problem solving is also an important element in programmes of legal education intended to equip students to progress to a career in one of the legal professions. However, although PBL has been successfully adopted by some institutions, most notably the York Law School, the most prevalent method of problem orientated teaching in legal education almost certainly remains the presentation of the relevant law, followed by a factual scenario requiring students to advise one or more parties (Orji 2015). Consequently, the 'significant meeting' (student and tutor) comes at the end of the relevant cycle of learning, rather than at its beginning. The prevalent culture in legal education is one of private study, with students not usually expecting to work together until the tutorial itself. This culture can also be true for tutor preparation, although many module leaders will distribute some form of tutorial briefing or summary in advance of the tutorial.

D *Tutor Support in Legal Education*

Frequent tutor briefing meetings are not common in the Law School at Keele. Relatively small teaching teams, (rarely, if ever, more than six) and the fact almost all tutors are full-time academic staff or PhD students may mean that there are more opportunities for 'informal' discussions, although it does not necessarily result in greater availability for scheduled meetings. In the absence of such meetings, much of what might be considered analogous to a "briefing" is done electronically at Keele. For example, the use of collaborative documents made accessible to the teaching team *via* Google Drive. This is fundamentally different in scope and intent than the e-briefings we are researching in this study because of both the collaborative nature of these pilot documents and the longer timescales that mode of co-constructed documentation involves. If the results of this study warrant it, we would look to adopt the format of e-briefings we pilot here in the Law School at Keele as a way to complement our existing tutor co-creation practice.

E *Overview of the Existing Tutor Briefing Format in Medicine*

Historically, there has always been a thirty minute face-to-face briefing for teaching staff just prior to running their weekly PBL sessions. These briefing sessions run on Fridays at 13:00, sandwiched between teaching sessions on the busiest teaching day of the week (see below). There are several reasons why these live sessions have variable tutor attendance; some tutors are not based in the building, some are very familiar with the content etc. which means it is rare

A "TYPICAL" FRIDAY DURING TERM-TIME (09:00 – 16:30)

| 09:00 | 10:30 | 12:00 | 13:00 | 13:30 | 14:30 | 15:00 | 16:30 |

| PBL session
Gps 1 - 6 | PBL session
Gps 7 - 12 | Wrap up | | Lecture | rest | PBL session
Gps 1 - 12 |

Tutor Briefing Session
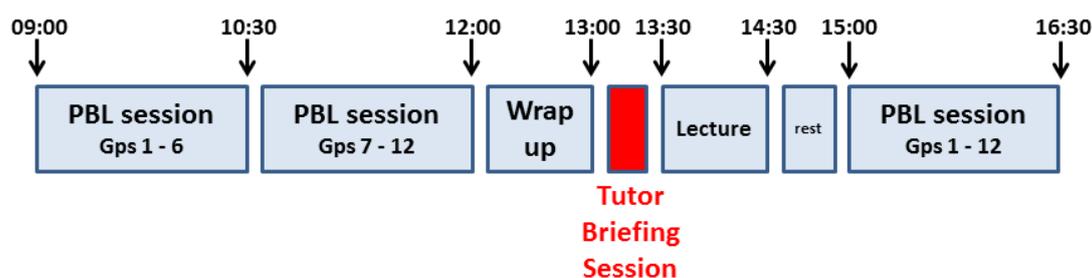
to get every tutor in attendance on any given Friday. During the briefing sessions the module leader typically spends a portion of the time reading excerpts from the tutor notes aloud to the attending tutors as well as answering any comments or questions. Briefings can spend large portions of this short time discussing very minor case details at the expense of the rest of the session content where the presence of specialist subject experts can distract from the core purpose of the briefings and some briefings devolve into simple "chit-chat" rather than targeted, pedagogic discussions.

F *Rationale for the Intervention*

The starting assumption for this piece of action research is based on empiric observations that a great deal of face-to-face tutor briefing time is poorly used for two central reasons:

1. Module leaders simply reading from the tutor book is a redundant activity. Further, the timing of the briefing sessions, just 90 minutes before the actual teaching is to take place, does not realistically leave tutors enough time to address any pedagogic concerns they might have.

2. Addressing logistical issues that are more appropriately directed solely to the module leader – these issues arise typically from less experienced tutors who are seeking general procedure guidance **or** matters of minutiae, typically from subject experts…neither one being a good use of time for the other tutors.

In short, this work seeks to determine if the existing system of face-to-face tutor briefings are an inefficient and unnecessary use of critical tutor time, failing to effectively support less experienced tutors whilst being simply unnecessary for more experienced ones.

G *Potential Benefits of the Intervention*

In order to address these issues, it was decided to pilot an electronic tutor briefing (e-briefing: comprising of a short cover email of the main subject of the week and a 1-page tutor crib sheet summarising the main learning points, activities and supporting resources of the week – see Appendix 1) as a replacement for the face-to-face meetings during this module. The pedagogic rationale for adopting an electronic format to address the identified issues was based on two perceived benefits this approach might offer.

- Fridays are the most stressful and content-packed day of the entire week with guest speakers, module oversight, administration tasks, contingency for absences (both staff and student) and a host of other tasks all requiring module leaders attention. Removal of the face-to-face tutor briefings from this list makes managing the module significantly easier, giving leaders critical extra time to ensure the module is delivered successfully, thereby improving the student experience.
- An e-briefing allows provision of all relevant guidance information to tutors much earlier in the week; typically 4 days before the teaching session that it is intended to help with. This strategy also gives tutors additional time to email leaders with specific questions each week and if the question is useful to the entire group, leaders can circulate this to the wider tutor group. Additionally, e-briefings afford an opportunity to provide a weekly crib-sheet designed to help tutors within the teaching sessions, with this sheet forming part of the e-briefing package (Appendix 1).

H *Relative Pros and Cons of the Chosen Technological Intervention*

The literature makes a convincing argument that the medium of communication has a real impact on the level of interaction that learners experience (Hutchby, 2001), which is principally why an e-mail technology delivery system was picked to implement this intervention. The writing of Paul Goodman distilled these ideas into a series of very useful points that were considered before rolling out this project (http://paulgoodman67.hubpages.com/hub/The-pros-and-cons-of-email). Briefly and in context with the educational needs of this action research, the pros of an email delivery mechanism are; speed, accessibility, facility to attach other forms of media and ease of organisation. For every pro there is an inevitable con, which in this case can be misunderstanding or lack of clarity, information overload, and issues of this being a passive information delivery mode. Of these criticisms, it is really only the last one that was anticipated to be a potential issue where the tone of an e-briefing might lead the tutors to either disregard them completely or not attach suitable importance to the information.

II RESEARCH METHODS

A *Data Collection Parameters and Ethical Considerations.*

Eleven tutors were involved in facilitating PBL teaching within this module over its eight week period; some had taught on this module previously and other had not. All tutors were already accustomed to face-to-face briefing sessions each week as part of the other modules on the course. Once ethical permission had been applied for and granted (available upon request), these eleven tutors were asked to fill in the accompanying questionnaire post-module (Appendix 2) detailed below. Each tutor was informed that there were no disadvantages, risks or benefits to taking part in this study beyond improvement of the module and given a minimum of twenty four hours' notice of taking part and had the right to withdraw from this study at any time.

B *The Question Instrument*

The aim of the first half of our question instrument (Appendix 2) was to gauge tutor opinion of the usefulness (Question 1), scalability (Question 2) and general perceptions (Question 3) of the electronic briefings. We decided to use a 5 point Likert scale to allow for a completely neutral stance on these question as we felt this supported selection of any other point on the scale as a "real" opinion, thereby increasing the validity of the data as well as lending itself to graphically representing the spread of these opinions to aid clarity of data interpretation (Bowling, 1997; Likert, 1932). For the second half of the question instrument we elected to offer three free-text questions in an attempt to allow tutors to qualify their expressed opinions from the first half if desired as well as to explore tutor perceptions of the benefits and draw-backs of our intervention. Data collected in this mixed methods approach would allow us to cross-reference Likert opinions

with the provided free-text to allow for a more reliable interpretation of overall tutor experience of our intervention.

III RESULTS

A *Likert Scale Data – Figure 1*

Responses were coded numerically on a 5-point scale, with 1 denoting Strongly Agree and 5 denoting Strongly Disagree (see Figure legend for full list). In each case, the Y-axis scale (height of bars) denotes number of tutors (from a total of eleven) who indicated that specific number in their responses.

Question 1: Electronic tutor briefings were useful to me during Unit 3.

Question 2: I would like to see more of this type of electronic briefing incorporated into other Units of the course.

Question 3: Electronic briefings are a good way to present multiple different types of information that tutors need to be aware of each week.
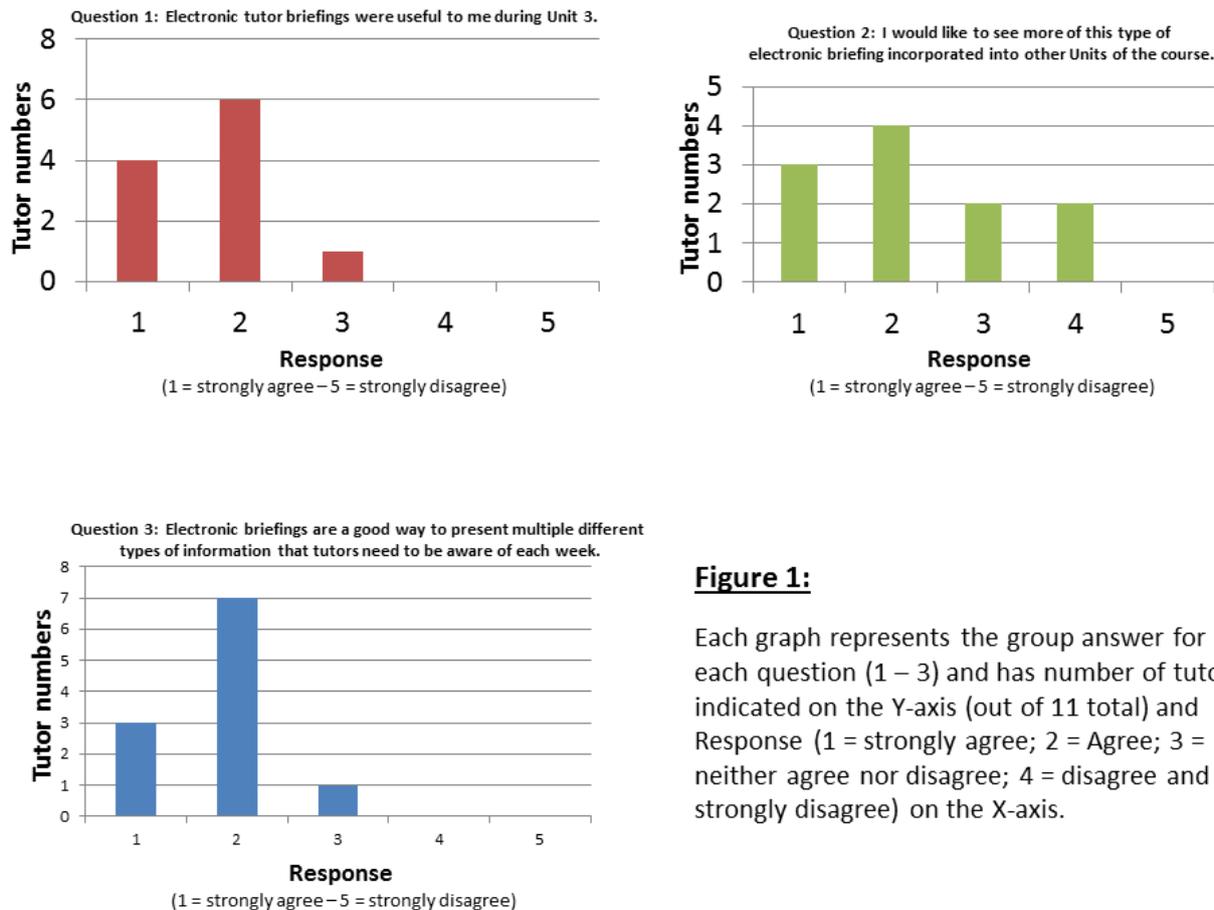
Figure 1:

Each graph represents the group answer for each question (1 – 3) and has number of tutors indicated on the Y-axis (out of 11 total) and Response (1 = strongly agree; 2 = Agree; 3 = neither agree nor disagree; 4 = disagree and 5 = strongly disagree) on the X-axis.

B *Free-text Data – Emerging Themes*

The following themes emerged from the eleven tutor comments, across the three questions asked on the form. As will always be the case, some tutors wrote more than others but each tutor made some attempt to answer every question. Collected and colour coded free-text responses from all eleven tutors (separated by question) are presented in Figure 2 for information (Appendix 3). Thematic analysis of the free-text comments was performed followed by grouping of the emergent themes (3 major themes and 2 minor themes) by colour for ease of visualisation to allow discussion of each theme separately (Gibbs, 2007). The colour key:

- **The Crib Sheet perceptions** – A **major** theme pertaining to tutor perceptions of the crib sheet.
- **Logistics (timing, preparation)** – A **major** theme pertaining to perception of issues to do with timing of the e-briefings and/or tutor preparation time making the logistics of session facilitation or diary management easier.

- **Experienced vs. new tutor perceptions and support** – A **minor** theme pertaining to perceived benefits or draw-back of the e-briefings for either more or less experienced tutors.
- **Context for discussion, feedback and questions** – A **major** theme pertaining to tutor perception of what is lost in moving from a live to an electronic briefing method.
- **Distracting or unproductive "live" discussion** – A **minor** theme pertaining to an issue of the quality of discussions at the live briefings that emerged from tutor comments.

C Discussion and Evaluation

Does implementing an electronic tutor briefing (e-briefing) system actually address the number of tutor-identified issues associated with a face-to-face briefing format?

Due to the sample size, non-parametric statistical analysis of the Likert data was not possible; however the trends shown are interesting as touch points of academic opinion across the mixed tutor group before delving into the free-text comments. The answers to **Question 1** (was the e-briefing useful?) show that ten of the eleven tutors agreed with the statement and that the final tutor had no strong opinion on the subject. For **Question 3**, we see the same spread of responses, with ten of the eleven tutors agreeing that the e-briefings were a good way to present the types of information they need each week again, with one tutor having no strong opinion on the matter. The free-text comments regarding the usefulness of the crib-sheet specifically will provide further insight into as the mix of information on the crib-sheets should prove useful to tutors in facilitating their sessions. It is the spread of opinion in **Question 2** that surprised us the most. Of the eleven tutors, seven were in agreement with two having no strong opinion and the remaining two in disagreement that they would like to see the e-briefings in other modules. Digging into this data, both the disagreeing responses came from experienced tutors and one of them was also responsible for the neutral comment on **Question 1**. Given the strength of feeling exhibited across the other two questions, this might be an indication that the novelty of the e-briefings is good for a short while but that there is a lack of confidence from some that it addresses their long-terms needs as teachers. What can also be inferred from this data is that there might be an indication experienced tutors do not feel the e-briefings are particularly helpful. The free-text data should help clarify specific aspects these opinions might refer to or indeed, whether this is a more general comment on the e-briefing technology *per se*.

D Crib Sheet Perceptions

When considering the crib sheet, the initial assumption was that the tutors would find the introduction of a crib sheet *via* an electronic delivery system useful. Hutchby postulated as recently as 2001, that the medium of communication would have a profound impact on the form and level of interaction that learners experienced (Hutchby, 2001). This touches on a higher education sector change in recent years towards acknowledging that teaching with technology, particularly online, draws upon a different skill set than traditional teaching, an idea was captured quite elegantly by a comment from Salmon in 2003 stating:

> [a]ny significant initiative aimed at changing teaching methods or the introduction of technology into teaching and learning should include effective e-moderator support and training, otherwise its outcomes are likely to be meagre and unsuccessful.

The crib sheet was the subject of many positive comments from the tutors where words like "orientation", "accessible" and "guidance" were commonly used to describe this resource. As the module leader, it was gratifying to discover that the original intention of providing a reference sheet was not only well received but that tutors were finding it "especially useful" and a "good summary of information". Indeed, even the one tutor who protested that they "didn't actually use the crib sheet" immediately qualified this point by stating that "having a summary sheet available during preparation is helpful".

Based on the data available it is clear that tutors value this resource and that it had a positive impact on their facilitation of teaching sessions. Therefore, it is worth considering that one

potential outcome of this research could be in recommending adopting a crib sheet resource on all modules on the course, regardless of whether they have a face-to-face or an electronic briefing mode, if this tool is useful to tutors. 'Crib sheets' are also issued by some module leaders in the Law School at Keele, in the form of tutorial briefings (intended for the tutors only) or tutorial summaries (subsequently published to students, usually via Keele's VLE). Anecdotal evidence is that these are especially valued by career-young tutors, and by tutors new to the particular teaching team.

E Logistics (Timing, Preparation)

Educational research in the field of Medical Education repeatedly acknowledges that learning and teaching is a stressful pursuit in high stakes clinical environments (Spencer, 2003). Nowhere was this more obvious than in the original intent to relieve pressure on the busy undergraduate teaching schedule for tutors. Looking at the data, tutors agreed with this intent, offering comments in support of the e-briefings using descriptors such as "faster", "not running around madly", "convenient" and "maximise my effectiveness" to describe the personal benefits of the e-briefings system to them. In that regard, this approach was a success because if stress has a detrimental effect on staff then that could have a negative impact on the student experience (Stevenson and Harper, 2006). The other dimension of the logistics theme is in altering the timing of when the briefings take place and determining whether the assumption about "earlier is better" was something the tutors agreed with. Their responses were quite strikingly positive on this aspect, with one comment in particular articulating the group feelings very well:

> timing – with the briefing only occurring a couple of hours before the session, I would have already done all my preparation for the session the night beforehand, so largely we are going over much of the same things again. Having an electronic briefing to hand at the time of my preparation time for the session a night or two in advance, allows me to make amendments to my own notation of the PBL case at the point where I'm going through the information.

As a teacher, preparation time for sessions is a constant risk *vs.* reward balance to strike: too much preparation (time consuming), the sessions become didactic and the self-directedness of the lesson is lost *vs.* too little preparation and tutors cannot guide the learners to the most effective information. The literature on this topic is extensive and includes some innovative confirmatory insights from school-based research as well, as an indicator of the ubiquity of this issue (Liston *et al*, 2006). The data collected here highlighted the e-briefings as a good way to create time in a busy schedule but perhaps more importantly; it clearly gave the tutors the extra time to prepare their sessions for the benefit of their students.

Although the 'stakes' may be different, legal educators also find themselves under considerable stress, not least because of the need to balance competing demands of research, teaching and administration. Electronic briefing (provided it is published in good time), allows tutors to make the most of their time, and to be confident that they are facilitating discussion and understanding of relevant law, in an appropriate amount of depth (thereby further relieving stress). The risk of being overly didactic is arguably significantly greater in the traditional problem-solving approaches prevalent in legal education than with PBL, although in our experience, this is more likely to be influenced by the degree of student preparation for the tutorial than by the content of any tutor briefing.

F Experienced vs. New Tutor Perceptions and Support

The prevailing opinion was that experienced tutors (tutors who had seen the cases before) were in support of the e-briefing format, citing reasons such as "short summary briefings are useful reminder….when they are comfortable with the tutor material already" whereas there was a feeling that "inexperienced tutors are unlikely to have enough support from just the electronic sheet" and this was an unexpected finding as it was purposefully intended that the e-briefings would help inexperienced tutors. However, there was a clear feeling that "less confident tutors may prefer a face to face discussion….rather than email correspondence".

Interestingly, these views starkly contradicted the comments less experienced tutor themselves made; intimating that e-briefings were "useful for stand-in tutors, particularly those not familiar with the unit (module)" and that is was "particularly the case when providing one-off cover for a colleague". Clearly further data collection is required to drill into this dichotomy as one stance would seem to preclude the other. Upon reflection, one reason that makes sense of these two viewpoints is based on experiences of standing in for other tutors and might therefore be less to do with the long-term learning goals of the students and more about a stand-in tutor ensuring that the minimal learning outcomes are met. In this regard, a stand-in tutor might find the crib sheet very useful as a way to deliver a competent session under these circumstances whereas a long-term tutor might have additional questions that thread longitudinally through the module and their teaching.

In legal education, there is likely to be a significant range of teaching experience across tutors on most core modules. This may be due to seniority within the academy, or because the law school draws on practitioners as well as full-time academics. As has already been observed, tutor success is ultimately dependent upon expert subject knowledge and ability to facilitate the learning (Groves et al, 2005), neither of which can be achieved by e-briefing alone. However, e-briefing applied in a legal education context may give tutors the confidence that they need that they are addressing relevant factors in an appropriate way and more importantly, communicate this covalence to their students.

G *Context for Discussion, Feedback and Questions*

This theme emerged quite clearly from the data and centred around two perceived issues with e-briefings and what the tutor views on what they had lost in moving away from the live briefings. The feeling was that the e-briefing "does not provide the context that a live briefing provides", meaning that the live briefings were perceived as "providing more detail about the important points, hints about probes etc. could be given and tutors have a chance to make comments, ask questions and share expertise". The core comment that articulates the feelings tutors expressed was that "Face-to-face discussions between tutors remain the gold standard for feed-forward and feedback discussions of student learning in their groups". Indeed, this threw up an aspect of live briefings not previously considered; that they were "beneficial in terms of obtaining feedback from the tutors and students (via the tutors) on the cases and various teaching events of that particular week" and that it might be "occasionally useful to hear what other groups had troubles with or points raised from previous cases". These issues are not unique to medical education: law tutors, like their students, also learn, and should expect to learn, by sharing their experiences. In the legal context, we have experimented with using collaborative Google Documents to achieve this electronically, but with limited results to date and beyond the scope of this work.

H *Distracting or Unproductive "Live" Discussion*

Interestingly, having just identified a desire from tutors to retain the discussion / feedback elements emerging from the previous theme, the next theme actually challenges not necessarily the need for, but the quality of, those discussions. One of the reason for moving to an e-briefing approach was because tutors frequently find face-to-face briefings unproductive and tutor perception here did agree, with comments emerging indicating that "sometimes tutor briefings can be annoying as certain individuals go on about their personal hobbyhorses" and, most gratifyingly for the original rationale for this research, "discussions and questioning can be important, but set against that is the absence of brainless chat!!". Upon reflection, many tutors feel that a large part of live briefings are taken up with unnecessary chat. Taking this into account, it might be possible to add another tool such as Facebook or Twitter, to the e-briefings to allow a platform for feedback and questions whilst cutting out the live session "brainless chat". Ideally, our second action research cycle will explore whether this would be feasible and is briefly outlined below.

IV CONCLUSION AND FUTURE WORK

Our work here has focussed on exploring perceptions from staff on the relative pros and cons of using an alternative form of tutor briefing in relation to weekly PBL sessions in the medical curriculum. We found that overall tutor perceptions were positive towards an electronic briefing format with some interesting perceptions of the relative risks of our approach coming out of the data. This project highlights that, effective as e-briefings may be, its convenience may inadvertently be at the expense of the ability to easily feed forward.

Below is a summary table reflecting tutor perceptions of the piloted e-briefing approach:

e-Briefing:

RISK	REWARD
Loss of feed-forward / feedback	Targeted, on-topic information
Loss of discussions / questions	Crib sheet as a (general) guide for teachers
Not enough support for "new" tutors	Alleviation of stress on Fridays
	Efficient / effective use of tutor time

One of the drawbacks of this project was that whilst the crib sheet had been identified as being useful to the majority of tutors, it may not be sufficient for some tutors and a prevailing opinion from our findings is that there is a need to retain some aspects of the face-to-face meetings to adequately support tutors new to the course content but also to avoid wasting tutor time with "unproductive" meetings on extremely busy teaching days. Therefore, our on-going work will design a second cycle of action research to ask three new questions, two of which are emergent from this study and the third is a logical next step to consider:

- Is there a different or additional technology that I could adopt/adapt to make the electronic briefing more useful for the staff and thus address the identified weaknesses?
- Are these finding reproducible in a legal education context at Keele?
- Given the competency focus of both medicine and law *via* their respective professional bodies, we would like to explore whether our approach here would be of use in supporting learning in the broader international arena. To that end, we would look to trial our intervention in non-UK medical and legal educational contexts.

One key finding from our pilot work is a clear need to retain a feed-forward / feedback mechanism in the next iteration of these e-briefings and one alternative to the video-based briefing idea is perhaps to adopt another technology, such as Facebook or Twitter to achieve this end, as proposed by Morris and Stommel in their very informative blog post on alternative discussion tools in education: (http://www.hybridpedagogy.com/journal/the-discussion-forum-is-dead-long-live-the-discussion-forum/).

This approach might strike a good balance between the positives that an electronic briefing confers and the identified drawbacks identified in our pilot work. Further, our approach is transferable for both PBL and traditional problem-solving teaching methods used in medical and legal education internationally, especially but not limited to, tutor groups drawn from practitioners or teachers who are not full-time or regularly facilitate these sessions, all towards ensuring best practice around tutor training towards facilitating excellent student learning.

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APPENDIX 1

Example of Tutor Crib Sheet – each week has guidance for the tutor in the session content, associated learning taking place that week and a list of module resources to aid their groups learning. Text in the crib sheet is separated and emphasised using formatting, bolding and colour to orientate the document with the intention of making it useful for tutors as a teaching aid.

WEEK 1 – The Enemy Within

Part 1

Characteristic Butterfly Facial Rash
Effects of systemic inflammation (joint pain, tired, hot and sweaty)
Notes in tutor book on **layers of the skin** (revision cue, subject to be **revisited in Week 8**)
Genetic aspect – Overlap with Unit 1, Case 3 (Aunt with Graves Disease)
Gender dimension to autoimmune disorders (this theme continued next week)
Blood tests – non-specific and have been covered before – **differential diagnosis**
Timeframe indicates condition is now **chronic**
Naproxen (NSAID) prescribed
Use Full Blood Count to **chart progression** of disease
Naproxen treatment improves things a little but weight loss and aches suggest inflammation persists
Urine is now indicative of **kidney inflammation**
Lupus characterised by expression of **self-antibodies** associated with the disease – Belimumab (in part 2)

Prednisolone prescribed to relieve joint and skin inflammation (not kidney), students to look at side effects of glucocorticoids (Cushing's disease-like)

Part 2

Lupus UK charity fact sheet (Handbook in IT library – available on request
KBB Interview with Dr. Sanjeet Kamath
Beneficial effects in FBC, WBC`s and joints due to Naproxen, some side effects, like ankles swollen though.
Small tip of hat to bacterial culture testing on urine (Year 1, Unit 2)

Lab processing of urine by centrifugation looking for degraded leukocytes called granular casts, **indicative of inflammation**.
Rationale of a 24 hour urine collection – GFR, Creatinine, estimated GFR (Year 2, Unit 1)

Part 3

SLE **effects on brain** – mood, seizures, movement disorders, psychotic behaviours **PLUS** stigma of facial rash
Effects on self confidence and body image – Physical vs. psychological Negative aspects of family/social support – what support IS available?
Coping with the changes long term
Finish with indications of significant kidney inflammation and damage – severe proteinuria and kidney function – treatments to address this are available and detailed in last paragraph of tutor notes – Focus on Drug Mechanisms and S.E`s

WHAT`S ON THIS WEEK:

3 x Lectures on autoimmunity and Hypersensitivity from Patrick

Lecture on disfiguring conditions

Anatomy of Skin and Facia

Labs – Flare and Wheal

Wrap-up with Patrick

RESOURCES:

www.keelebasicbites.com for:

Interview
Drug Bites

KLE for:

ICP Resource List
Lupus Picture (facial rash)

APPENDIX 2: The Question Instrument

UNIT 3 – Life Support and Defence

On a need to know basis: "Electronic" vs. "Live" Tutor Briefing

FEEDBACK FORM

This questionnaire is your opportunity to give feedback on your opinion of the electronic tutor briefings as you experienced them during Unit 3. The feedback you provide will be used to improve the quality of future briefings and, by extension, the Unit in the future.

Please answer all the questions below and return to me at: r.crawford@keele.ac.uk **within 2 weeks** of getting this form.

Many thanks for your participation.

1. Electronic tutor briefings were useful to me during Unit 3.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

2. I would like to see more of this type of electronic briefing incorporated into other Units of the course.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

3. Electronic briefings are a good way to present multiple different types of information that tutors need to be aware of each week.

Strongly Agree	Agree	Neither agree nor disagree	Disagree	Strongly Disagree

What are your opinions of the potential benefits and/or draw-backs of using an electronic tutor briefing to support tutors during Units?

Please type your responses here and expand this space as needed.

Do you think that electronic tutor briefings could replace live tutor briefings? In either case, why do you think that?

Please type your responses here and expand this space as needed.

What was the most useful aspect(s) <u>to you</u>, of having the tutor briefings conducted electronically? Also, did the Tutor Crib Sheet help you?

Please type your responses here and expand this space as needed.

Many thanks for taking part **and please now return to me at:**

r.crawford@keele.ac.uk

The key benefit is having a list of the most important points that students need to cover in front of you at the time of the session. This meant that I didn't have to leaf through the tutor handbook during the session trying to find key information. This was very important as the material covered was new to me and I was also new to PBL. It was most useful if I had gone through the tutor handbook material to familiarise myself with the case and the relevant key concepts before the session. When I did not have time to go through the tutor handbook however the e-briefing was not as useful as I had no idea where it was coming from even after reading the case. This is a drawback - it does not provide the context that a live briefing provides – going through the case and linking it with the key points. However this might be more relevant to those like me who are new to the cases.

It is faster and standardised. No drawbacks

Benefits are that you can look at the information in your own time. Draw-backs are I found I needed to clarify certain points, particularly when teaching this module for the first time.

Electronic briefings are very useful for 'stand-in' tutors, particularly those not familiar with the Unit. They help orient the tutor to the expected outcomes for a particular case. It is important for electronic briefings and tutor behaviour not to constrain group from following their own agenda.

Benefits – information available to use any time required. Available to you if you were unable to attend a briefing session.
Draw-back – negates the possibility of discussion since tutors are unlikely to "Reply All" with comments or questions.

I feel very positive about using electronic briefing to support PBL tutors on the Unit 3 of Y2 medical course. The Tutor Crib sheet for each case contains a summary with lots of useful information about the case, what's happening the week of Case and the additional resources on the KLE to support the case. All PBL tutors had an e-mail with e-Briefing for the case sent every week which allowed me to read the summary of the case at my convenience. And if needed more information for the case I could always get in touch with Russell and ask.

Benefits are brevity, comprehensive guidance, no need to go to meeting. Draw-backs may be loss of opportunity to discuss cases with colleagues, ask questions

Benefits: As an experienced PBL tutor I usually find that just a brief refresher on what activities students are doing this week, plus reading the tutor handbook for myself, is more than adequate preparation for my PBL teaching. Having an electronic briefing means I don't have to arrange my life to be in a physical room at the same time as other tutors, which is very convenient. Sometimes tutor briefings can be annoying as certain individuals go on about their personal hobbyhorses.
Drawbacks: When I was starting out as a new tutor, or even now when I'm perhaps covering a new or intensely revised unit, being able to ask the unit lead questions in person was/could be valuable to me. Some units have much less comprehensive tutor notes than LSD so more background information could be needed. I value feedback from fellow tutors about how students handled the previous week's teaching, and electronic briefings miss that.

The main benefit to the electronic briefings was the way the information was compiled into an accessible summary sheet. However for tutors new to the cases this seems as difficult to use to understand the case as just reading the tutor notes in the books and in my perception does not provide much of a benefit. Conversely for experienced tutors who have done the cases before or are familiar with the subject the short summary briefings are a useful reminder of what the main points are and eliminate the need to spend time in a live briefing when they are comfortable with the tutor material already.

The tutor crib sheet is very useful. Having one page with all the key points of case highlighted helps tutors who are unfamiliar with the cases to provide appropriate guidance to the students. Less confident tutors may prefer a face to face discussion with the unit lead rather that email correspondence. Also, face to face tutor briefings allow less experienced tutors to seek reassurance from other tutors about how their group is performing. I think it is difficult to obtain feedback on the cases from tutors if there is not a face to face meeting. Tutors may forget to email any comments/suggestions on the cases, therefore this valuable information is not captured.

The advantages of an electronic briefing is that it allows me to do my preparation in my own time and I'm not running around as madly on a Friday which is one of the few days I may be in the building in unit 3. As I'm a split-site worker, I usually try to cram as many other appointments into my day, so having a freer mid-day really helps me maximise my effectiveness when I'm on-site.

I think it can be occasionally useful to hear what other groups had troubles with or points raised from previous cases – but maybe an online forum could be set-up to give opportunities for tutor interactions?

Figure 2 - Question 1: What are your opinions of the potential benefits and/or draw-backs of using an electronic tutor briefing to support tutors during Units?

I understand the role and value of e-briefings and live briefings to be different. If both are done properly I don't see one replacing the other. During live briefings more detail about the important points, hints about probes etc. could be given and tutors have a chance to make comments, ask questions and share expertise. However the risk with live tutor briefings is for the unit lead to give a reading of the case without any useful information.

It can. Why not? I case of unclarities or qs the module manager could be contacted.

Possibly, having the information written down, being able to read it in my own time and refer back to the crib sheet during the session are all positives. When teaching the module for the first time I felt I needed a little more discussion at times – this wasn't problematic as I was still able to do this

Face-to-face discussions between tutors remain the gold standard for feedforward and feedback discussions of student learning in their groups. The electronic briefings allow more time for the EQ of tutor interaction by formalising some of the IQ of that process.

For me, I prefer the electronic method. That may be influenced by my medical qualification so I need rather less explanation. Tutors without a medical degree may benefit more from discussion.

Yes I think that electronic tutor briefings could replace live tutor briefings. Why? I believe that it will save tutor's time. New PBL tutors sometimes feel nervous during live tutor briefings and will not ask questions. Electronic briefings will take away this discomfort for the new tutors. We are marking reflective summaries and SSC reviews electronically so why we cannot have electronic tutor briefing

See above – discussions and questioning can be important, but set against that is the absence of brainless chat!!

On the whole yes. I would like to see at least one live briefing at the start of each unit, but weekly may not really be needed. I think there is a difference here between medical school based tutors and those who do PBL on a sessional basis but are really clinicians, ISTM or PCS people. For me based at the medical school, live tutor briefings are only a minor inconvenience but equally I can make up for the deficits of an e-only briefing by chatting to the unit lead and colleagues informally in the pool office or tea room. For incoming tutors, the live tutor briefing may be more difficult to schedule, but equally they do not readily have access to the rest of the PBL team and might feel excluded if they did not have any live meetings.

I don't think they could replace them as it doesn't cater for the breadth of tutors. As in the previous question inexperienced tutors are unlikely to have enough support from just the electronic sheet. Additionally sending the sheet by email meant that some weeks it got lost in my inbox and I forgot that it had been sent.

For me personally, yes they could. However, I think having some face to face contact between the unit lead and tutors is beneficial in terms of obtaining feedback from the tutors and students (via the tutors) on the cases and various teaching events of that particular week.

Definitely! I have generally never found live tutor briefings to be that useful even when I was in my first year of facilitating. I think the major issue in year 2 is of timing – with the briefing only occurring a couple of hours before the session, I would have already done all my preparation for the session the night beforehand, so largely we are going over much of the same things again. Having an electronic briefing to hand at the time of my preparation for the session a night or two in advance, allows me to make amendments to my own notation of the PBL case at the point where I'm going through the information. This also still gives me time to ask the unit lead about any problems I have rather than trying to grab them at the last moment before the session (when they are usually very busy themselves).

Figure 2 - Question 2: Do you think that electronic tutor briefings could replace live tutor briefings? In either case, why do you think that?

The most useful aspect was having a sheet with the most important points in front of me during the session.

Time. Crib sheet structured my supervision of the session

All the reasons above. The crib sheet has been especially useful and provides a quick reference before and during sessions to see the key points that need covering.

Electronic briefings oriented me to the student material – this was very valuable I never use tutor crib sheets so cannot comment on their helpfulness

Major benefit was being able to browse the information in my time, rather than having to be available at a fixed time for a briefing. Yes, the Crib Sheet is helpful and gives ideas on what to focus on and what is the main intention in learning objectives for the session.

My main argument for electronic tutor briefings is my time which I have to split 50:50 between teaching and research. The Tutor Crib Sheet was great with lots of information summarised and delivered in a very professional way. I like the colours and different fonts used.

Gave time to look up aspects of case ahead of PBL
No meeting to attend

The most useful was the additional flexibility in my week provided by not having to attend a tutor briefing. This was particularly the case when I was providing one-off cover for a colleague and not a regular PBL tutor in the LSD unit.
I appreciate the crib sheets because I can see the structure of the case and key points to cover in discussion at a glance. I have adapted a similar system for summarizing the cases for the tutors in my own unit.

The sheet was a good summary of the information for me. As I had done the cases before it was sufficient to act as a reminder of the main points and meant that I didn't have to attend a live briefing on what is usually a busy day.

I think the aspect of having the major briefing points available ahead of the day of the session is a major plus for. Also have less places to be on a Friday is really useful – as it gives me a bit more time to go over the session notes quietly on my own – which I generally find helpful.

I didn't use the crib sheet – but that's because I will have incorporated anything important into my own annotations on my tutor book. Having a summary sheet available during preparation is helpful for drawing attention to the key details.

Having the extra half hour available for student meetings as Fridays are extremely busy days! As stated above the crib sheets are useful.

Figure 2 - Question 3: What was the most useful aspect(s) to you, of having the tutor briefings conducted electronically? Also, did the Tutor Crib Sheet help you?