

Interim Reporting Template

Project Name	<i>Generation 4 (G4), St George's University of London</i>
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Reporting period	Project start - August 2009

Section One: Summary

G4 started in November 2008 and over the last eight months has progressed in accordance with the project plan. Most significantly, the seeds of curriculum delivery transformation are already starting to bear fruit with staff engaged and committed in the process of adapting, embedding and evaluating VPs as a true replacement for the 'old style' paper cases.

Below is a list of other key developments, deliverables/outputs and achievements over this period of time:

- The project website is live and the Blog is updated regularly
- The training for the Virtual Patient (VP) case adaptors is now complete
- Approximately 50% of the cases required for the project have been adapted and are in the process of being reviewed and edited.
- The tutor notes to support each of the individual cases are being created, and at the same time assessment VP cases are being developed.
- Baseline data has also been gathered, and focus groups have taken place to gather views of staff on the process of case adaption.
- An exemplar case has been made available via the project website <http://www.elu.sgul.ac.uk/g4/example-case/> and there are plans to make the training documents also available over the forthcoming months.

Section Two: Activities and Progress

All G4 activities have been carried out according to the timeline outlined in the project plan. The project is on course to deliver the cases on time and to the agreed quality. There have been no major changes to the project plan.

Activities completed include:

- Finalising the project plan
- Creating the project website and Blog
- Planning and facilitating training workshops for staff and students
- Gathering and analysing baseline data using questionnaires
- Planning and facilitating focus groups about training and adaption of cases with case writers
- Hosting a cluster meeting with other projects
- Arranging and driving regular case review sessions in accordance with the projects quality assurance plan
- Adapting existing cases and enriching them with relevant clinical resources and media
- Quarterly steering group meetings, chaired by the Deputy Principal and monthly project team meetings have been held.
- Successful trials were carried out with students on the 2nd year of the Graduate entry to medicine course using an exemplar module. Results of these are being analysed.

The expectation is that all deliverables will be on time, and of a high quality.

Section Three: Outputs and Deliverables

The anticipated outputs of the entire project are to:

1. Provide training documentation to the wider community in other disciplines
2. Make exemplar cases available via the project website for the wider community
3. Develop 18 interactive tutorial cases and 36 formative assessment cases for SGUL students in the Transition year between campus based learning and full-time clinical attachments
4. The cases to be used beyond the life of the project, as the core learning resource at the heart of the undergraduate medical curriculum.
5. Guidelines and experiences of the integration of Web 2.0 technologies with the case delivery, using for example wikis and use of the eportfolio system at SGUL.
6. The experiences of using adaptive applications to deliver scenario-based learning
7. Comparison trial of the two VP player systems, Open-Labyrinth and vpSim for both PBL case delivery and formative assessment (see appendix A, a flow diagram showing how the cases and additional resources will be accessed by the students).
8. The expectation remains that Second Life will be used to deliver the last case in the year, based on work carried out by the PREVIEW project
9. Within the last 8 months, G4 has produced training documents (these will be available during the second year of the project for the wider community) and has provided an example of an interactive case via the project web site. <http://www.elu.sgul.ac.uk/g4/example-case/>

Shareable outputs

Over the course of the project a number of shareable outputs will be available. During this reporting period the following have been produced:

- Website and blog – www.elu.sgul.ac.uk/g4
- Exemplar case – www.elu.sgul.ac.uk/g4/example-case/
- Flow diagram – in the project reports
- Various presentations – available on project website shortly

Detailed reports on baseline activities will be available in the February report

Outcomes

Within medical education it is increasingly accepted that interactive virtual patients will provide us with the only learning tool to effectively support clinical reasoning. The outcomes of this project will extend beyond the medical and healthcare areas as interactive scenario-based learning becomes recognised as an essential tool for developing competency, in many subject areas. This project will disseminate both that message, and the tools to enable institutions and individual teachers to develop similar resources

Section Four: Outcomes and Lessons Learned

The important issue to be addressed strategically at the start of the project was that staff had made it clear they are exhausted by change. Up until the mid- nineties, the culture in medicine had been typically to keep the same curriculum for long periods, and since then St George's has changed its curriculum every 3-4 years. Many staff had not seen the value of these changes (with some justification) and were primed to resist further change.

It was therefore important to have strategies for 'selling' the new curriculum that went way beyond simply "engaging with the staff", a process which would, with complete certainty, have led to overwhelming opposition. So a relatively novel approach has been our strategy for change management, which has not so much targeted the potential improvements in the curriculum, but instead targeted the advantage the project can bring for each staff sector within the institution. This process had more in common with battlefield strategies than charm offensives. The detailed and successful strategies will be considered fully in the final report.

Staff were then better prepared to enjoy the impact of the new curriculum, and appreciate what it could do for its students. In contrast to all previous curriculum changes, the project objectives have been fully supported in principle by staff in all sectors; there has only been a single instance of opposition.

By contrast, the e-Learning Unit (eLU) experience is that students almost always recognise a learning style which will improve their learning.

Suitability of the original resources/cases

The cases for the T year were selected to fit the curriculum by the institution. However the case review group had only one regular PBL tutor, new to the cases. When eLU (several of whom were tutors) reviewed the cases for the adaption process, it became clear some of the cases were not at a suitable level for that year of the course, even as paper cases. The lessons learned here are in line with previous experiences; that, in curriculum developments such as this, often you need to project-manage tasks way beyond the remit of the project, if learning /teaching quality is to be maintained.

Case writing problems

Some subject matter experts (SMEs) found it challenging to change the case to fit the appropriate level, especially as the original case may have been for 1st year students.

In some cases SMEs found it difficult to write the narrative parts of the case, specifically when exploring the non-ideal pathways, to produce options and consequences. Frequently the difficulty appeared to be that experts had trouble visualising non-ideal solutions even when these were based on evidence of errors or mistakes that had been made – sometimes frequently. Additional support or training did not seem to help; SMEs could either do it, or not. To an extent this did seem to call up an earlier discussion point; that competency development in a practitioner may move from clinical reasoning during early training to a more pattern recognition approach when fully trained; It may be difficult for some senior practitioners to reverse that step.

Outcomes

The establishment of training workshops for staff, and the early trials of the interactive PBL, and the assessment of its value by both students and tutors, have now been published in Medical Teacher. (Round et al, 2009; Poulton et al, 2009) SMEs, tutors and other core institutional staff recognise the benefits of learning in this way and are in favour of using Virtual Patients in the curriculum. A focus group was carried out with SMEs about their thoughts on the process of creating the cases. The transcripts of these are in the process of being created and findings will show us improvements and different approaches which can be applied for future training, A summary will be available for the next report.

Baseline data has been collected to capture student assessment of the value of different teaching resources and styles. Students on the 4 year (graduate) stream valued PBL highly, whereas the 5 year stream valued lectures and clinical skills highly. These findings were not surprising due to the nature of both courses and their different learning styles. Some of these questions will be asked again to see if there is a difference in student perceptions after the interactive case have been delivered.

The main stakeholders in the project are the students themselves, so students who are in their later clinical years have been asked to review the cases. Each student who does so, signs a confidentiality form stating that the content of the cases will not be passed on to other students, as the cases are used over a number of years and disclosure would defeat the purpose of the PBL.

All process and approaches will be documented and available as and when ready to be released via the project website and some through the design studio.

Section Five: Communications and Dissemination Activities

The project has a considerable impact on medical education, and has been publicised widely over the last few months both internally and externally. Below is a list of some of the activities:

- At the start of the project, G4 was presented to members of the institution to inform them of the changes occurring to the delivery of the cases. This included; module leaders, members of academic and administrative staff, as well as other senior members of the staff.
- St George's was visited by the General Medical Council (GMC) to re-validate the MBBS course, the project was outlined to them and they were very supportive of the use of VPs in the curriculum.
- The G4 project was presented at the MedBiquitous International Medical and Healthcare standards annual conference in Baltimore, April 2009:
<http://www.ctsnet.org/abstractsprogram/medbiq/2196?view=displaymedbiqabstract&abstractid=36215>
- The G4 project was outlined in the opening keynote presentation at the 1st international Conference on Virtual Patients, April 2009, Krakow, Poland
- A project handout will be available at the international Association for Medical Education (AMEE) conference in August 2009: www.amee.org, can also be found on the project blog <http://www.elu.sgul.ac.uk/g4/2009/10/>
- G4 is sponsoring and helping to organise a London Virtual patient conference on 26-28th April 2010: www.medbiq.org/icvp
- The project has been included in presentations at a number of other smaller conferences, shortly will be available on the project website.
- In September 2009, G4 will be presented at a keynote presentation at the Alice Springs, Australia.
- In October 2009, it will be presented at a special invited session before the Association of Medical Colleges in Washington DC, USA

Section Six: Evaluation

Evaluation to date has focused on gathering baseline data. This data was collected after student's finished paper-based PBL sessions. At the end of G4, these data will be compared to data collected after students complete VP-based PBL sessions. Data was collected from students, tutors, and SMEs who adapted the paper cases into online VPs.

The table below describes the groups who provided baseline data, the collection method, and the type of questions they were asked.

Group	Collection method	Questions asked
Undergraduate and postgraduate students	Online survey and paper survey	<ul style="list-style-type: none"> • Simple recollection of last week's case (such as patient symptoms) • How challenging students perceived the case to be • How intriguing students perceived the case to be • How actively the group discussed the case • How much time students spent reading about the case • Which parts of the learning week were most helpful
Tutors	Paper survey	<ul style="list-style-type: none"> • How prepared students were to discuss the case • How actively students discussed the case • How much time tutors spent reading about the case
SME	Focus group	<ul style="list-style-type: none"> • What were the strengths and weaknesses of the training you received? • What was easiest and hardest about working on a VP? • What additional support would have been useful?

Copies of the surveys, interview questions, and comprehensive report summaries are included in Appendix B.

Early findings and changes

Tutors and students reported a higher satisfaction with paper PBL than we expected. This is likely due to the fact that both groups only know this method of PBL. From this experience it was decided to collect additional baseline data. After more thought and discussion, it was agreed that baseline data would be gathered that focused more on the strengths of virtual patients, which is to encourage decision-making and exploring the consequences of decisions. Data gathered from SMEs showed they were intrigued with the process of creating VPs but concerned about the amount of time required.

Upcoming key activities

The table below shows the key evaluation activities we will complete in the next six months and the purpose of the activity.

Activity	Purpose
Collect follow-up data on all the baseline survey data previously collected	Complete the process of comparing baseline data to follow-up data
Collect data on long-term retention of decisions, consequences, and important medical concepts related to the cases	Collect data on long-term recollection, which emphasises the benefits of PBL more than surveys
Conduct a follow-up focus group with SMEs to reflect on the entire process of creating a VP	Compare SME comments after they have finished a VP to comments they made earlier, when they were still working on VPs

A more detailed report including the findings from the focus group will be available for the next report.

Section Seven: Issues and Challenges

Fortunately, G4 has not experienced any challenges that the project team couldn't overcome. It was hoped but not expected that the cases would be ready before the start of the year. It is now anticipated that the first six cases, which run from September through to October will be ready before the start of the year. This is still within the original project plan, and on target; the other cases which are delivered later in the year are near complete and should be ready reasonably soon after the first six. This has informed us that a proportion of the SMEs need more time than the estimated time for each case, a few find it takes longer to understand the process in the first instance but subsequently their second case may take less time. As noted before, a few SMEs found it challenging to write the narrative parts of the case.

St George's has a student e-learning committee through which the project has been disseminated to the students, It helped having the Deputy Principal on the Steering Committee and having a new curriculum to work with. A fundamental step was the trial of the online virtual patients for students in the second year of the graduate MBBS course. Positive feedback encouraged the use of these cases, This trial also included a performance test and the results of this are being collated at the moment. This has shown the institution and other stakeholders the benefits this method of learning.

Section Eight: Collaboration and Support

This programme has a number of collaboration and support activities, where information can be obtained. Contact with the programme manager is useful to gather any information needed, and a good point of call for any concerns or queries.

By contrast, the number of support teams and sessions may be now overwhelming, particularly at busy times of the year. On occasion the feedback received has not been helpful for the project; partly because the use of 'cut and paste' in advice sent to the project reduces the value of support and partly because of a lack of close understanding of the project. It leads to confusion as attempts are made to establish whether the feedback is meant to be generic to all projects or is a genuine individual response.

Our recommendation would be to have more of the very useful JISC discussion/training/innovation face-to-face sessions, rather than such support groups, which send out documentation which has limited relevance to the projects.

The concept of a critical friend is very good, having someone else outside of the core programme to give an external perspective and an internal aspect of what is expected of each project.

In previous projects which have involved SGUL, notably the PREVIEW and ReVIP projects, cluster groups have been very useful indeed, and their usefulness has been directly proportional to the contribution that the group can make to the thoughts, views and developments within the individual projects. Outputs included, for example, a useful JISC publication 'Getting Started in Second Life'.

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G4 has built upon collaborations with other JISC projects, some internal such as; eViP, ReVIP, Preview for the second life collaborations, and external projects such as for example, ACETS, and HABITAT. Other collaborations have linked to external projects, notably the European eViP project which is providing the assessment VPs.

eLU has always had very useful and constructive collaborations with the Higher Education Academy, which supported earlier successful projects such as Clinical Skills Online and has accepted several articles in the HEA-01 newsletter. St Georges is also part of the OOER – Organising Open Educational Resources project coordinated by the MEDEV, the subject centre for Medicine, Dentistry and Veterinary Medicine. There has also been strong links with the MedBiquitous collaboration in the United States which works on developing and implementing healthcare standards for virtual patients and learning resources, the eLU is on a number of their working groups.

Transforming Curriculum Delivery through Technology Programme

Section Nine: Financial Statement
G4 is within budget and there have been no major changes. Please see the further information section on the budget.

Total Grant	██████████	Duration of project	2 years
Reporting Period	November 2008 – August 2009		

Budget Headings	Total budget allocated	Expenditure this reporting period	Total expenditure to date	Further information
Staff	██████████	██████████	██████████	This includes all staff working on the project as outlined in the project plan. We are still waiting for some invoices from some SMEs, which is why the staff costs appears under spent.
Travel & Subsistence	██████████	██████████	██████████	This includes all travel costs incurred relating to JISC Programme meetings.
Equipment	██████████			Although no costs have been incurred so far, we plan to use this in the coming months
Dissemination activities	██████████	██████████	██████████	G4 has allocated some funds towards the major dissemination event next year 2010 in London called the 2 nd International Conference on Virtual Patients and MedBiquitous Annual Conference www.medbig.org/icvp . There are also some additional cost of the steering group and project team reception.
Evaluation activities	██████████	██████████	██████████	The only cost incurred so far is in relation to the transcription of a baseline focus group session; once the development phase of the project is complete we expect to incur more cost for evaluation activities.