OCME
Online Coursework Management Evaluation
This report has been commissioned by JISC

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For further acknowledgements, see page 50

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1 Executive Summary

1.1 Brief Description of the Project

The Online Coursework Management Evaluation Project (OCME) provides practical advice and recommendations for institutions who are looking to improve assessment and feedback by introducing an end-to-end technical solution for eSubmission, eMarking and eFeedback.

Using a variety of evaluation techniques, evidence was gathered and analysed and is presented as a toolkit and a set of recommendations for other institutions looking to embark on a similar path to Exeter University who engaged with an Online Coursework Management (OCM) project in 2010.

This (OCM) project aimed to create a complete end-to-end electronic assessment process from setting assignments through submission, marking and feedback by developing the existing University VLE (Moodle), and using Turnitin for plagiarism checking and on-line marking and linking to the SITS student records system.

1.2 Evaluation Objectives and Purpose of the Evaluation

An evaluation framework was produced which defined specific workpackages, each with its own research questions which defined the nature of the individual evaluation techniques. The workpackage evaluation questions were:

- To what extent did the rollout of a single technical solution work across all academic disciplines?
- How were University policies and processes impacted by the introduction of a single technical solution?
- The success (or otherwise) of the technical implementation.
- Did the introduction of a single technical solution have an impact on pedagogy?

1.3 Brief Summary of the Evaluation Methodology

A formative approach was applied to the internal evaluation, adding value to the Exeter OCM project itself by helping to define the second phase of the project tasks.

In seeking responses to the evaluation objectives listed in 1.2, a variety of evaluation methods were used. These included semi-structured interviews, on-line surveys, documentation analysis, focus groups and think-aloud observation.

The evaluation data were collected from various stakeholders; academic and support staff, senior management, students, technical teams and pilot users of the OCM system. In addition document analysis was undertaken.

1.4 Summary of the Conclusions

The overall conclusion drawn was that while focus on the technical solution is important, the project should initially focus on the people and their perceptions and fears. Only when the stakeholders are engaged should the technology be given serious consideration.
However, having said that, if the technology does not work as expected, then even the most enthusiastic stakeholders will quickly lose interest, and word will spread through the institution that the product is not fit for purpose.

1.5 Summary of Recommendations

The evaluation concludes with 11 recommendations to which institutions that are about to embark on a similar project should give careful consideration:

- **Project Approach.** Review user needs and system requirements before selecting a technical solution.
- **User Requirements.** Consult widely and make no assumptions about current practice.
- **User Engagement.** Consider the impact of change on busy staff. Use change management techniques to engage staff.
- **Communication.** Use many different two-way communication techniques to ensure broad coverage.
- **Student Expectations.** Do not assume that all students will embrace on-line systems.
- **Assessment Processes.** Ensure that processes required to be managed by the system are clearly mapped and approved by all stakeholders.
- **Peripheral Benefits.** If replacing an existing system, consider all the functionality that will be required to be replaced, not just that pertaining to assessment practice.
- **System Familiarisation.** Do not assume that all staff are fully trained and familiar with the use and operation of enterprise systems.
- **On-line Marking.** Provide full support to academic staff for marking on-line.
- **Plagiarism Checking.** Is there is a consistent approach to plagiarism checking (by staff and students) across the enterprise. Is the software solution flexible to cope with this?
- **Network Connectivity.** Do all staff have appropriate equipment and connectivity to mark on-line?

The recommendations are supported by a toolkit of resources including a sample business case and project checklist.
2 Background and Context

2.1 Purpose of the evaluation and core evaluation objectives

This evaluation (called OCME, Online Coursework Management Evaluation) was originally designed to measure the impact and effectiveness of Exeter University’s Online Coursework Management (OCM) project.

Assessment and feedback is probably the most important aspect of a student’s learning experience. It is also ‘the single biggest source of student dissatisfaction with the higher education experience’¹.

The evaluation provides practical advice and recommendations for Exeter University and other institutions who are intending to improve assessment and feedback by introducing an end-to-end technical solution for eSubmission, eMarking and eFeedback.

The objectives were to evaluate:

- To what extent did the rollout of a single technical solution work across all academic disciplines? Many other institutions (and indeed Exeter University) have pockets of innovation whereby individual departments use in-house or off-the-shelf products to manage all or part of the online coursework management process. Other than the Open University, there is no evidence of a complete solution working across all academic disciplines.
- How were University policies and processes impacted by the introduction of a single technical solution? Although HE establishments generally have centrally defined processes, most departments have developed their own internal processes. The evaluation sought to measure the impact of the introduction of a single process, and how flexible the process can be within individual departments.
- The success (or otherwise) of the technical implementation. The project involved working in partnership with an external supplier to integrate the solution with Exeter’s enterprise Moodle VLE (locally known as the Exeter Learning Environment or ELE). The evaluation reviews the technical work, whether it was successful and delivered on time. It also reviews the experiences of the local and supplier development teams.
- Did the introduction of a single technical solution have an impact on pedagogy? As part of the project, academic staff were encouraged to use a range of on-line marking tools and students were asked to comment on the benefits or otherwise of receiving feedback electronically. The evaluation reports on the perceived pedagogical impact of the introduction of an on-line solution.

Exeter was in a unique position to provide such an evaluation:

- It was one of the first institutions to deliver an enterprise eAssessment system available to every student and College;
- The OCM project required significant process and policy review which has driven the development effort;

¹ Ferell, G. (2012), A view of the Assessment and Feedback Landscape: baseline analysis of policy and practice from the JISC Assessment & Feedback programme (online) http://www.jisc.ac.uk/whatwedo/programmes/elearning/~/media/A639131E053F49A08EFDDF502CA7AADA.a.shx
• The technical approach of integrating Moodle with Turnitin provided a single solution;
• Exeter used innovative technologies such as surface computers to evaluate the impact on both process and pedagogy;
• Exeter was experienced in the use of innovative evaluation techniques. 

While the objectives above formed the basis of the evaluation and work packages, the value of the final evaluation was provided in the review of the process of introducing an eAssessment system rather than the impact. This was due to the fact that despite intentions to introduce the system across the enterprise, practical considerations and technical limitations meant that the system was introduced as a pilot only. For this reason the evaluation was not able to measure or evidence some aspects, such as the use of surface computers. Small sample sizes precluded evidencing of efficiency or workload savings.

Despite this change in the focus of the evaluation, the conclusions and recommendations have been clearly evidenced and the toolkit provides a useful resource for any institution looking to undertake a similar project.

2.2 Description of the evaluated project and its context

2.2.1 Background
The project being evaluated was the Exeter Online Coursework Management (OCM) project.

This project delivered an end-to-end on-line management system for submission, marking and feedback of essay based submissions. The system was developed in the Exeter Moodle VLE and integrates with Turnitin for plagiarism checking and on-line marking, and with the SITS student records system for transfer of final grades.

The OCM project aimed to provide cost and efficiency savings:

• Reduction in academic time when setting, marking and giving feedback for assessments
• Time and cost saving for Colleges in the handling of assignment submission
• Cost saving on printed materials for students

Although the objectives of the evaluation did not explicitly state an evaluation of the impact on efficiency or workload, this was implied within each objective. Small sample sizes precluded this work.

The table below shows the milestones in the delivery of the Exeter eAssessment solution. Full details of the history of the OCM project are provided in Appendix A.

<table>
<thead>
<tr>
<th>Date</th>
<th>Milestone</th>
<th>Product / Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>SUMS review of eAssessment</td>
<td>No single effective solution available</td>
</tr>
<tr>
<td>2010</td>
<td>Internal assessment review</td>
<td>Integrated Moodle / Turnitin solution would meet Exeter needs</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recommended further work on variations of practice and workflow</td>
</tr>
</tbody>
</table>

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HEA funded audio feedback project used ‘think-aloud’:
http://as.exeter.ac.uk/support/educationenhancementprojects/pastprojects/audiofeedback/
2010 HEFCE modernisation funding approved and OCM project launched
Project included:
- Process mapping and workflow
- Evaluation of Turnitin
- Technical development

2011 Technical development
Basic OCM system launched January 2012

2012 Pilot OCM product released
Pilot ran until August 2012

2.3 Target population for the project and relevant stakeholders for the evaluation

The OCME project was designed to provide useful resources to any HEI which is looking to embark on an enterprise rollout of electronic assessment processes.

The internal stakeholders who have contributed to the project include academic staff, students, College support staff, central quality assurance staff and senior management.

The interim project findings have been widely disseminated internally and externally and have already generated much interest across the sector.

Presentations have been given at national conferences as well as JISC Programme meetings:

HEA-HeLF workshop: Managing an institutional transition from paper-based to online submission, marking and feedback. Friday 8 June 2012, Manchester Metropolitan University and Friday 30 November 2012, University of London.

ALT-C conference: Coursework Management through an Enterprise VLE. Wednesday 12 September 2012. Manchester University

2.4 Related work / studies

Although not directly related to any of the other projects in the JISC Assessment and Feedback programme, other projects have produced findings that contribute to and confirm many of Exeter’s conclusions and recommendations.

- EBEAM evaluated the use of Turnitin and GradeMark for Electronic Assessment Management (EAM) at the University of Huddersfield across large and complex provision. Their use of learning analytics in GradeMark has provided evidence of the pedagogical impact of online marking which complements Exeter’s more process-focussed findings.
- The evaluation of Assessment Diaries and GradeMark at the University of Glamorgan reviewed the impact on the student experience and perceived benefits to staff. Student views on their preference of method of receiving feedback were of particular relevance to Exeter’s findings.
- Evaluating Electronic Voting Systems for Enhancing Student Experience (EEVS) at the University of Hertfordshire evaluated the large-scale introduction and deployment of EVS technology for formative and summative assessment and feedback. Their finding that staff need time to learn how to use a new system resonated with Exeter’s findings about staff training requirements.
- The QTI Delivery Integration project at the University of Glasgow provided a package of software and documentation for transferring the MathAssessEngine rendering engine and software to link it to popular VLEs to institutions in the HE and FE sector. Their use of the open standard LTI
specification has provided a useful pointer for Exeter as we move forward to improve our OCM offering

- Exeter University’s own Collaborate project has also been very interested in the OCME findings on on-line marking and the technical solution developed.
3 Evaluation Approach

3.1 Design of the evaluation

3.1.1 Type and approach
This is an internal evaluation with a formative, stakeholder-oriented and exploratory approach. It was designed and undertaken ‘in-house’, by University of Exeter staff members, while the vast majority of participants come from internal stakeholder groups, such as academic and professional staff, students and senior managers. The only external stakeholder is the software developer and supplier of the OCM system.

The research adopts the philosophy of phenomenology and interpretive paradigm. The reality is socially constructed and it is important to understand feelings, attitudes, values and motivations of humans as social actors. The nature of research is explorative and descriptive, therefore rich in narrative. This study is also process-oriented as it is heavily defined by the assessment and feedback processes of the institution.

The formative approach as defined by JISC applies to this study, as the aim of this research is to assess the feasibility and inform the development of the OCM system. The LTDI Evaluation Cookbook gives an appropriate metaphor to contrast different types of evaluation:

“When the cook tastes the soup, it is formative evaluation; when the dinner guest tastes the soup, it is summative evaluation”.

The team behind this work can easily identify themselves with the cook tasting the soup and applying all their skills to make it perfect for the guests to arrive in the evening. JISC recognises the developmental benefits of formative approaches in its Capital Programme Evaluation Framework.

Apart from the fact that summative evaluation would not have been feasible at the time when this work was done because of the timeline of the OCM project, formative approach was the preferred option as it added value to the OCM project itself. The outcomes of this evaluation are delivered during the second pilot phase of the OCM project, and these outcomes – research findings, conclusions and recommendations and the project checklist - have already informed the development of OCM. Another added value for the OCM project and the institution itself is the stakeholder engagement generated by the evaluation. These stakeholders do not see OCM and OCME as separate projects, and thus the work being done on behalf of one of the two projects adds value to both of them.

The JISC webinar entitled ‘What’s best about your evaluation?’ held in August 2011 suggested different uses of an evaluation. The OCME evaluation has focused on involving stakeholders, informing an ongoing development of an innovation, generating evidence of what works to inform

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3 http://www.jisc.ac.uk/whatwedo/topics/evaluation.aspx  
3 http://www.icbl.hw.ac.uk/ltdi/cookbook/contents.html  
6 http://www.jisc.ac.uk/media/documents/funding/project_management/evaluationframework0906.pdf
the wider sector and providing evidence to support local embedding. The project team has also learnt a lot about evaluation and built capacity and skills.

The OCME Project Plan, which was written in 2011, envisaged this evaluation reviewing the impact of OCM and its benefits to the institution. The approach had to be modified in early 2012 as the OCM project had not been delivered in time for the evaluation to fully review its impact. The new focus of the OCME was the OCM pilot run from January to August 2012. This decision was supported by the JISC. JISC Capital Programme Evaluation Framework also recognises that an evaluation with an impact study approach is normally done 6 – 12 months after project completion when evidence of the benefits is available. The Framework concludes that the real benefits can only be evaluated post-programme.

3.1.2 Baseline Report
Commissioned by JISC, the University of Exeter and seven other institutions undertook a review of current assessment and feedback processes and practice. These baseline reviews informed a JISC report: “A view of the Assessment and Feedback Landscape: baseline analysis of policy and practice from the JISC Assessment & Feedback programme” published in April 2012. The JISC baseline report has been a valuable ‘sounding board’ for this study. It was not published in time to inform the planning of this evaluation; however the project team referred to it frequently during the data collection and analysis phase of the project. Over and over again, the team found that the issues described and evidenced in the baseline report as relevant for the whole sector, paint a true picture of current practices and issues at the University of Exeter identified by the project. The stakeholder engagement issues that JISC report identifies around assessment and feedback practice not reflecting the reality of working life and administrative staff being often left out of the dialogue are some of the examples. Others are the findings that devolved responsibility makes it difficult to achieve parity of learner experience and that timeliness of feedback is an issue.

3.1.3 Sampling techniques and subjects
This research used purposive sampling suitable for stakeholder engagement. The project aimed to engage all stakeholders in the evaluation: academic and professional staff, students, senior management, the Union, the decision-making bodies, the developer of the system. A very important subject pool was the OCM pilot group, with modules which took part in the pilots and their module leaders, markers, administrators and students participating in them. Another important pool of subjects were staff members who attended open meetings about OCM during its awareness-raising campaign in summer 2011.

3.1.4 Ethical Issues
Consideration was given at an early stage to ensure that ethical issues were addressed. The participants were fully informed about the nature, purpose and use of the research and they were asked to sign a consent form. The consent to participate was freely given and the participants were aware that they could withdraw from the research at any point if they wanted to. The anonymity of

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7 Ferell, G. (2012), A view of the Assessment and Feedback Landscape: baseline analysis of policy and practice from the JISC Assessment & Feedback programme (online) http://www.jisc.ac.uk/whatwedo/programmes/elearning/~/media/A639131E053F49A08EFDDF502CA7AADAAshx
participants was assured. At group sessions, participants were asked to protect the confidentiality of information shared and views expressed.

3.1.5 Evaluation Framework and Overview
The evaluation framework outlined below was informed by the Project Plan\(^8\) and the ongoing pilot programme for the OCM project. Some of the evaluation principles identified by the JISC Capital Programme Evaluation Framework were followed.

**Workpackage 2\(^9\): Evaluation** aims to engage staff and students with the project and to identify suitable evaluation techniques to use with each workpackage. While the engagement with staff and students was sought throughout the project, the suitable evaluation techniques were identified early on in consultation with JISC and recorded in the Evaluation Framework (see Appendix B). This was a working document; it was constantly updated and referred to and it proved a very useful tool for monitoring progress, which was regularly reported to Project Sponsor, Project Board and JISC, who in turn provided support and advice.

**Workpackage 3: Enterprise Rollout** looks at different stages involved in planning and delivering an enterprise application which impacts on all academic and administrative staff and students. The key informers in this workpackage were the OCM Project Board Members.

In order to address some of the deeper and wider questions about perceptions of OCM, a wider pool of stakeholders was invited to take part in an online survey. During the summer of 2011, the OCM Project held a series of open meetings with members of staff across all colleges, disciplines, staff profiles and campuses. In early 2012, everyone who attended such a meeting was invited to take part in the survey.

**Workpackage 4: Policy and Processes** looked at the University policies and strategies which were or can be expected to be affected by OCM. Existing policy and strategy documents were collated and analysed for this purpose. Evidence was sought on how Colleges comply with central policies on assignment and feedback. The 2011 National Student Survey (NSS) results relevant to assessment and feedback were studied, as well as the Colleges Action Plans that addressed issues identified by NSS response. Minutes of the meetings of the chief academic decision-making body of the University over the period of the project were analysed, looking at how OCM may have already made a mark on the University governance processes. Past issues of students’ magazine provided details of the students’ reactions to the introduction of OCM.

Semi-structured interviews were held in all Colleges with managers and their representatives with responsibilities for assessment and feedback. These interviews explored different cultures that Colleges have, how OCM can help with their specific challenges, and which new challenges the Colleges can be expected to face when they decide to use OCM more widely. They also documented various administrative processes that exist in Colleges.

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\(^8\) [http://as.exeter.ac.uk/media/level1/academicserviceswebsite/divisions/biss/iws/OCME_Project_Plan_V1.2.pdf](http://as.exeter.ac.uk/media/level1/academicserviceswebsite/divisions/biss/iws/OCME_Project_Plan_V1.2.pdf)

\(^9\) Workpackage 1 defined the project management process for OCME
At the same time, the project interviewed the representatives of the association of academic staff and the Union with the aim of getting an insight into the academic side of the process and challenges that online marking brings to this community.

**Workpackage 5: Technical Evaluation** reviewed the experience of Exeter and the external developers in the implementation of OCM. The new hosted solution needed to adapt the Moodle VLE to work with Turnitin and deliver an end to end management solution. Documentation associated with the technical development was examined: functional specification, test plan, risk log and others. The stakeholders involved in this work were: OCM Project Manager, Exeter IT team and e-learning team, and external developer of OCM.

**Workpackage 6: Pedagogic Impact** looked at user experience and the value that OCM brought to academic staff and students, as well as challenges associated with the change of practice.

This package involved pilot group users. It worked most intensively with module leaders and markers, but it also included students on modules which took part in the pilot, and administrative staff who provided support to these modules. The innovative method of think-aloud was used to explore the issues around online marking.

### 3.2 Data collection and analysis

#### 3.2.1 Methods used and why they were chosen

Data was collected from January to August 2012. Mixed methods were used, with an emphasis on qualitative methods.

Qualitative methods can establish improvements necessary for users of a system (Evaluation Cookbook). Qualitative methods are also appropriate for research done with small size samples, which was the case with this study. Quantitative methods are useful for demonstrating achievements and measuring impact and they were also used in this study.

Guided focus group discussions were chosen to collect rich descriptions and depth of data in order to understand complex issues and how people think of them. The role of the focus group facilitator was minimal. Issues were explored as they emerged. The facilitator led the group through a discussion, or rather a conversation, around the topic.

Semi-structured interviews were conducted in a similar way to focus groups. At some interviews two investigators were asking questions and two participants were responding, which made those interviews very much like a focus group.

Questionnaires and interviews were used to capture subjective information, such as attitudes and perceptions. The questionnaires (see Appendix B) contained both multiple-choice and open questions, and interviews were semi-structured, in order to allow for latitude in the information. At the same time, these types of questions limited the use of statistical analysis of responses.

The action research method was appropriate as the OCME project developed together with the OCM project and as a part of the institution it examined. Regular processes of the University are part of the research and they generate some of the data used. The researcher is part of the organisation.
which is the object of the research and participant observation is used in data collection and analysis.

The think-aloud method is a participant observation technique\(^\text{10}\) which was used with academics undertaking online marking for the first time. This technique is time consuming and because of that it was used with a small number of participants.

### 3.2.2 Instruments and tools used

The evaluation involved a wide range of stakeholders engaged by the following instruments:

- **Online survey** for staff members who attended the open meetings about OCM during summer 2011. A total of 111 people registered their presence at those meetings and in early 2012 they were invited to take part in this survey. The aim of the survey was to explore the perceptions that potential users had about OCM, to capture views across all staff groups, including sceptics. A number of multiple-answer and open questions were asked. The survey was live for two months at the start of the OCM pilot, in January and February 2012. The data collected were rich and provided an insight into the potential users’ expectations and perceptions, benefits they expected the new system to generate, and worries about perceived drawbacks. They also showed a number of misconceptions about OCM and lack of information and understanding of how the system was intended to work and how it would be rolled out.

- **Semi-structured individual interviews** with members of the OCM Project Board. These interviews provided rich data about the background of the project and its strategic fit with the University’s goals and objectives. However, they did not give an insight into how the system would be implemented at the grassroots level and how Colleges would engage with it.

- **Individual semi-structured interviews** with the representatives of the union and the association of academic staff (three people). These interviews focused on the points of view of the academic staff members with regards to the introduction of OCM and on-line marking. They generated rich data about challenges of on-line marking across different disciplines. Research findings of these interviews were very similar to those generated by online survey of users engaged in the OCM pilot. These interviews again proved very useful from the stakeholder engagement point of view, both for the OCM and OCME projects.

- **Semi-structured individual and group interviews** with college managers and their representatives responsible for assessment and feedback processes at college level. A representative of the Academic Policy and Standards Department took part in these interviews to assist the Research Evaluator with their specialist knowledge of the subject area. The interviewees were key informants who provided deep and wide data about the complex and varied practices around assessment and feedback currently undertaken by the Colleges, and an insight into implications that the OCM can be expected to have on these, as well as thorough understanding of the needs of user groups in the Colleges.

These interviews were extremely valuable for deep probing of a variety of issues, and they also proved to be important for informing the stakeholder engagement strategy of the OCM project.

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An added value of these interviews was that they filled a gap that the OCM project left when developing the roll-out strategy for the OCM system.

- **Semi-structured individual interview** with a representative of the development company, focusing on their experience of collaboration with the University of Exeter and the technical development of the OCM system. Even though this interview was conducted via the telephone, it was engaging and reflective. It also gave valuable insight into how the University was perceived to engage in a collaborative developmental project with an external partner, as this was the only stakeholder involved in the evaluation which was external to the institution.

- **Focus group interviews** with Exeter IT and e-learning teams, focusing on the development and implementation of the OCM system in collaboration with the external developers. These interviews shed light onto the complexities and hurdles of working with an external partner on development, testing and implementation of a new, relatively simple system that needed to be integrated with a web of complex systems and processes. They also painted a valuable picture of how the OCM project was managed and communicated internally.

- **Two-phased online survey** for users engaging with OCM for the first time. This included early adopters who volunteered to be part of the OCM pilot in January 2012. Two surveys were designed: one to be used before engagement, to capture expectations, perceptions and behaviour and experience of early adopters prior to engagement. This formed a small-scale baseline-review and the data gathered was validated as it corresponded to the data gathered by other instruments.

  A comparative survey was used throughout the pilot period (March to August 2012) to capture changes of perceptions after engagement and experiences of OCM. This exercise had a limited success because some users had withdrawn from the pilot and it mostly repeated the feedback collected from users by email. As a result, the second survey did not provide enough data for conclusive analysis and comparison with the first survey, and the project was unable to evidence valid conclusions about change of behaviour and evidence benefits generated by the system.

- **Online survey** for students who submitted their assignments and received feedback online. This survey was set up on Moodle via a discussion forum and it aimed at exploring student experience after engagement with OCM. This survey was also used to try to gather feedback on any pedagogic implications of online feedback. Again, the success was limited as some modules withdrew from the pilot. Because of technical issues, some students were not able to submit their assignments online, or received their feedback late. Also, the students did not have the full experience of online submission, as they had to submit their assignments both on paper and online, as part of risk mitigation with the new system and its limited pilot use.

- **Think aloud system use** (observation). Markers were observed for up to 60 minutes per session, while they engaged with OCM and marked assignments online. For most of the users, this was the first encounter with the system. Participants were asked to verbalise their thoughts, in another words to do what they would do anyway, while talking about their experience and explaining what they were doing and why, and how it worked for them. The observer was mostly silent, but occasionally would prompt.
The aim of the exercise was to see what it was exactly that markers did when marking online, and how they interacted with the system. Evidence of change of behaviour was sought. This process was also useful for checking if the OCM’s interpretation of how online marking was done had been correct.

This innovative qualitative method was tested with four users, due to this method being extremely time-consuming. While no generalisation can be made based on a sample of this size, the method gave valuable insight into the way non-users engaged with the system and how they responded to difficulties. The method gave some insight into the intuitiveness (or otherwise) of the system and it was noted that all users tested had similar needs and difficulties related to some functionality of the system.

This exercise can potentially be of particular use when designing training sessions for new users.

Appendix C the evaluation framework gives an overview of all instruments used and relevant research questions, while Figure 1 shows details and numbers of responses to surveys and participants in interviews and focus groups.

3.2.3 Other sources of data
Other data sources included internal documents and reports, emails, meeting notes, training programmes, as well as documents and information in the public domain and available from the University website. These sources were:

- E-learning and e-assessment projects run by the Education Enhancement team;
- Minutes of the meetings of the chief academic decision-making body of the University;
- Assessment & Feedback policy documents available on the University website;
- Assessment & feedback policies of Colleges available on the University website:
- The University’s code of practice and procedures with regards to assessment and feedback;
- College NSS Action Plans
- Articles in the Expose magazine published by the Students’ Guild;
- OCM project documents such as project plan, functional specification, test plan, risk log and other documentation associated with the technical development;
- Feedback from early adopters of OCM, by email and in personal contacts;
- Evidence of other institutions’ approaches to online submission, marking and feedback.
<table>
<thead>
<tr>
<th>Instrument No</th>
<th>Type</th>
<th>Participants</th>
<th>Size of population</th>
<th>Response rate (number of responses)</th>
<th>Staff Type</th>
<th>College**</th>
<th>Business School</th>
<th>Engineering, Mathematics and Physical Sciences</th>
<th>Humanities</th>
<th>Life and Environmental Sciences</th>
<th>Social Sciences and International Studies</th>
<th>Central services</th>
<th>Total no of participants</th>
</tr>
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<tr>
<td>1</td>
<td>Online survey</td>
<td>Academic and support staff who expressed an interest in OCM</td>
<td>111</td>
<td>44% (49)</td>
<td>Academic</td>
<td>1</td>
<td>5</td>
<td>11</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>25</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Support</td>
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<td>3</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>24</td>
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<td>2</td>
<td>Semi-structured interviews</td>
<td>OCM Project Board</td>
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<td>6</td>
<td>Senior</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>3</td>
<td>Semi-structured interviews</td>
<td>UCU and Academic Staff association members</td>
<td>1+12</td>
<td>1+2</td>
<td>Academic</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
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<td>0</td>
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<tr>
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<td>Semi-structured interviews</td>
<td>College Managers</td>
<td>≤5</td>
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<tr>
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<td>Representative of the software development company</td>
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<td>1</td>
<td>Senior</td>
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<td>Exeter IT and eLearning support teams</td>
<td>3+4</td>
<td>3+3</td>
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<td>Pilot group prior to engagement with OCM</td>
<td>≤63</td>
<td>31</td>
<td>Academic</td>
<td>2</td>
<td>2</td>
<td>6</td>
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<td>Pilot group after engagement with OCM</td>
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<td>1</td>
<td>0</td>
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</table>

**Figure 1** Evaluation instruments and respondents.

**11** The Exeter Medical School did not participate in the OCM Project
3.2.4 Approaches to Analysis

The explorative nature of this research meant that grounded theory was adopted in analysis, where data is collected and theory developed as a result of data analysis.

Apart from interviews and surveys, data for this research were also collected through document analysis and participant observations.

Content analysis was widely used in analysis of data collected in interviews, surveys (open questions), focus groups, documents and participant observation. Recurrent instances were noted and grouped together in themes. As some questions were used in multiple methods and with different stakeholders – such as ‘what are perceived benefits and drawbacks of OCM?’ it was possible to form themes across multiple stakeholder groups and from different data sets. At the same time, some questions were analysed only within the context of when and where they were asked – for example the question about collaboration between the University and the supplier of the system was not widely asked, as it was relevant only to people who were part of this process.

Content analysis was undertaken in a systematic fashion, by classification of emerging themes. Transcripts and answers to open questions were read and labels with summaries of themes were applied. Raw data was reduced as chunks of irrelevant text were discarded. Through several readings, the labels were regrouped into themes, and those with most repetitions across different groups and sources of information were given higher importance in interpretation of the data. The analysis of interviews, focus group and surveys started by analysing question by question, looking for themes within questions and then across questions. Results of a qualitative content analysis are often presented as illustrative quotations, which is what was done in this report as well.

Focus groups and interviews were audio recorded and transcribed to safeguard the accuracy of data.

Some parts of the surveys were statistically analysed, while others, such as open-end questions, were not suitable for this kind of analysis and content analysis was used instead.

Triangulation was used to verify data – if the same themes emerged in data collected by different methods, they were given priority.

3.3 Evaluation limitations

House\(^\text{12}\) warns that ‘evaluation is a highly political activity’, that participatory approaches in evaluation can be perceived as having lesser value compared to those conducted by experts, and that with evaluations performed by internal teams we need to be aware of the implications as these evaluators are ‘subject to the internal administrative structure, and the authority relationships inside their own organisations’. This evaluation has all the limitations identified by House’s criticism.

Like many evaluation studies, this one can be seen as narrow. As a rule, evaluations have arbitrary limits, and in this case those were to a great degree set by the size of the pilot OCM project that ran during the academic year 2011/12 in one Higher Education institution. This subject pool was widened to an extent by including in the study participants in the staff awareness-raising sessions

held in summer 2011. Evaluations with limitations such as these run a risk of not addressing some issues that may be crucial (House).

The investigators are part of the socially constructed process and thus needs to distance themselves from the situation and try to understand the world from the point of view of the subjects.

Due to the nature of qualitative data used in this study it cannot be ruled out that the findings were caused by a particular factor and the conclusions cannot be generalised. The inductive approach suggests that generalisation is less important and that the data will not be reproducible. The recommendations and conclusions are context-specific. Emphasis is put on depth of understanding of the meaning and the context, and alternative explanations are allowed.

However, even with the limitations described here, this evaluation has proved still to be generalisable and its generalisation usable for the institution. The evaluation process and its findings proved to be very powerful for institutional learning.

It can also be noted that this evaluation had a limited access to data generated by students. The context of the work done did not allow a wider inclusion of student population, and a separate study would need to be done in order to evaluate the student experience of OCM.
4 Findings

Project findings are structured around the core evaluation questions:

1. To what extent did the rollout of a single technical solution work across all academic disciplines?
2. How were University policies and processes impacted by the introduction of a single technical solution?
3. The success (or otherwise) of the technical implementation.
4. Did the introduction of a single technical solution have an impact on pedagogy?

Most of the findings are based on feedback from participants. Although quantitative evaluation instruments were used, the low response rate did not allow for statistical analysis. Open questions were used to draw valuable qualitative evidence.

4.1 Rollout of a single technical solution

4.1.1 Academic and Support Staff who Expressed an Interest in OCM

The online survey for staff who attended awareness sessions about OCM prior to rollout measured staff perceptions and expectations (n=49).

Staff members from most but not all colleges engaged, although there was a roughly equal spread between science and arts subjects. Across two of the institution’s largest colleges, only one academic responded. Did staff know about the meetings? Or did they choose not to engage? The survey could not answer those questions.

This survey was expected to capture all opinions on OCM, both positive and negative, although the fact that it was returned by staff who attended an open meeting on OCM may indicate a strong feeling in either direction.

Only 3 out of 25 academics who responded said that they were willing to engage.

Neither professional nor academic staff felt that they received adequate communication about the project. Interestingly, the vast majority of both staff types were not interested in participating in further research.

Questions around online marking attracted the most volume and strongest feelings and extreme responses:

‘I won’t use it’

‘Nightmare!’

‘All will benefit, initially it may not appear so, but this is the same with any new process’

‘In a really good system it can allow dialogue and archiving of comments effectively’.

Many academic and professional staff had experience with online assessment, mainly in submission and marking:
Academics generally provided handwritten, verbal or typed feedback to students, with some using email:

The survey revealed a notable difference between how professional and academic staff saw the benefits to their practice. Almost all professional staff saw clear benefits, while only half of the academic staff saw any benefit. Academic staff felt that administrators would be the main beneficiaries with students seeing some benefit. Professional staff, however, saw students as the main beneficiaries:

Analysis of the open questions revealed that most (69%) saw the greatest benefit in terms of process efficiency savings; 24% around pedagogy, and only 5% sustainability savings. In comparison, a survey with the pilot group (see section 4.4.1) saw greater benefits from pedagogy (33%) and less around process (60%):
The largest concern (28%, n=71) was health and safety and usability, mainly around eye strain from working online. In the pilot group survey, only 16% of the early adopters shared this concern. Again, this was the highest scoring concern in this group too.

All professional staff who responded to the survey for staff who attended awareness sessions felt that online submission was very useful and most of them felt that online feedback was very useful. Only half of academic staff who responded thought that online feedback is useful, while the majority of them felt that online submission was useful.

Most were confident with the concept of online submission and feedback; academics were much less confident with marking and the majority felt that it was not useful.

All staff felt that they would require training, time, management support and IT equipment to engage with OCM.

55% of all staff felt they had not received adequate communication and information about OCM. When asked for further details, 28 participants responded: just over 70% of these said they needed more information on OCM and its progress, training, advice and demonstration of how the system works, while just under 30% felt that they were not consulted in any way about the possible concerns and reservations.

‘I have no idea what’s happening with it’.

‘A discussion with academic staff about whether this is something they wanted in the first place. At the moment, it feels like a fait accompli regardless of how we feel about it.’

‘No consultation about needs. This has been imposed on teaching staff as usual without thought to pedagogical impact or health risks’.

‘While there has been an attempt to engage academic staff in the briefing sessions the communication of the key specifications of the OCM has been poor’.

4.1.2 Online Coursework Management Project Board

The senior stakeholders at the University identified internal and national drivers for introducing an end to end electronic process for assessment handling across the enterprise. The overarching themes emerging were:

- Student expectations and demand for online processes, legibility of feedback, and avoiding having to print off assignments and queue to hand them in. In an environment of increased fees,
students will demand more efficient systems and quality feedback which will impact on the institution’s NSS score.

- Process efficiency for administrative workflow, enabling capacity for growth and reducing the time taken for the assignment to reach the marker.
- Support for reduction in turnaround of assessments is a major institutional driver.

While very aware of the drivers for OCM, senior stakeholders were less clear about online assessment practices across the sector.

OCM project board members were asked to identify the key stages in planning and delivering the system. They acknowledged the formal project stages as detailed in section 2, and stressed the need to resource, communicate with and engage staff, as well as fully understand the current processes and importance of securing buy-in from senior management.

Project board members talked about general factors which had an impact on the OCM project. These were around:

- Cultural change: while some academics were concerned that they would be forced to switch to online marking, some administrators may be concerned that the improvement in process may lead to changes in what they do or even make their jobs redundant.
- Variation in assessment process across Colleges. While central processes are based on clear and agreed central guidance manuals and requirements, the University recognises the need for flexibility within Colleges and departments to meet individual pedagogical needs. External to the project was the impact of a major University restructure. This affected all staff involved who were already under the considerable pressure from the restructure.
- The window of opportunity to implement the system and spend the allocated funds was tight, leading to delivery which did not include all the functionality the board hoped for. The University now needs to ensure there is sufficient resource to meet user expectations of this high profile project.
- Extra project support resource was introduced part-way through in recognition of the complexity of the project.
- The project took significantly longer time to deliver than was planned or anticipated.

While many board members thought that the pilots had been well received and well run, others perceived them to be less successful because of the limited functionality of the system.

The Project Board all agreed that communication is critical to the success of a high profile project such as this. The consensus was that communication was managed well, that staff were talked to and their concerns noted. However they also noted the importance of managing student expectations of a pilot project that would not benefit all students.

When asked how they felt staff embraced the system, some felt it was too early to comment. The general consensus however was that academic staff would either love it or hate it, with major concerns being eye strain and other risks linking to health and safety, lack of IT equipment and resistance to marking online.

The two key lessons learnt were:
Senior management teams within Colleges are very important stakeholders who need to engage with the project. Management of a bespoke system development requires high level of supplier management to ensure the end product meets the user needs. The University has limited experience of managing bespoke software development.

4.1.3 Reflection

It is clear that while senior stakeholders concentrated on business drivers for introducing the OCM system, academic staff who would be directly impacted by the system had more concerns about the pedagogic impact and the impact on their marking practice.

Effective communication and user engagement are essential to the success of an enterprise project such as this.

4.2 Policy and Processes

4.2.1 Academic Policy and Standards

In preparation for the OCM project, Colleges and departments assessment processes were documented. Because of the extent of local variation to meet individual college pedagogical needs, a decision was taken early in the project to base the system on the centrally documented and approved process; the Teaching Quality Assurance (TQA) Manual. The TQA Manual is a resource for staff and students containing the processes which underpin the quality of learning and teaching at the University of Exeter. A workflow was developed from the TQA document which provided the basis of the system specification and is provided below:

![Figure 2: Assessment Process Flow](image-url)
The University has a responsibility to ensure that the quality and standards of its degrees are consistently maintained and adhere to the Codes of Practice set out by the Quality Assurance Agency (online). The Quality Assurance Agency undertook an Institutional Review of the University of Exeter in 2012 and in its Report recommended that the Teaching Quality Assurance Manual is applied more consistently across Colleges. In response to this, an action plan is to be developed by Academic Policy and Standards, in consultation with Colleges.

The results from the 2011 National Student Survey revealed that Assessment and Feedback is one of the weaker areas for many schools and disciplines, with the percentage of satisfied students falling year on year. The survey identifies two main areas that would benefit from improvements: promptness and usefulness of feedback. Individual Colleges have developed Action Plans to address the NSS responses, and some disciplines plan urgent actions in this area. The Colleges’ action plans recognise the challenge of improving the scores for assessment and feedback within the institutional environment of relatively low staff/student ratio, expected growth in student numbers, and the drive to embed the 3-week marking turnaround. However they have not realised the potential of OCM to help with achieving those aims.

4.2.2 Union and Academic Staff Association Members

The project consulted with members of an association representing academic interest at the highest academic decision making body of the University and also an academic representative from UCU (Universities and Colleges Union). Again, the interviews covered issues, perceived benefits and advice. The perceived issues that emerged from these consultations were broadly similar to those of the college managers (section 4.2.3), but also included:

- OCM is not suitable for all subjects as it only accepts single essay based assignments. Mathematical and similar non-text based submissions are not accepted.
- Initial concerns that OCM was to be compulsory caused a lot of panic.
- Perceptions of increased workload of marking online in combination with shorter turnaround times caused great concern.
- Those who have limited experience of the VLE felt they needed to learn two new systems at the same time.
- There was a concern that Turnitin would encourage plagiarism with students.
- Lack of IT support and network connectivity
- Previous IT initiatives have overpromised and under-delivered.
- Misconception about the security of data held online in the VLE.
- OCM is seen as yet another imposition on academic staff who are facing increasing demands to be more accountable and business-like.

In particular, online marking was a major concern for academics:

- Extended periods of time spent in front of computer screen.
- Perception that marking may take longer if done electronically.
- Scrolling on screen is difficult.

13 [http://www.qaa.ac.uk/assuringstandardsandquality/code-of-practice/Pages/default.aspx](http://www.qaa.ac.uk/assuringstandardsandquality/code-of-practice/Pages/default.aspx)
- Paper-based marking methodology (such as arranging piles of paper and re-visiting them often; arranging and re-arranging them in order of marks, quickly comparing paper assignments, etc.) cannot be easily emulated online.
- Uploading and downloading electronic assignments may lead to errors and even the possibility of deleting students’ work.
- Many Health & Safety concerns about eyesight, RSI, back problems, etc.
- Use of OCM implies having to use new IT systems such as Turnitin and GradeMark.

The benefits were perceived to be:

- Saving time collating paper-based work
- Ability to easily access a student’s previous assignments for comparison
- Consistency of mark schemes across disciplines
- Students having full visibility of all feedback
- Creating useful banks of comments to be used in marking
- Environmental sustainability from reduced printing
- Huge potential to save money if the system works well.

Below are some indicative quotations taken from interviews with academic staff members:

‘What worried people was that this suddenly came out of nowhere and they did think that it would be compulsory.’

‘It won’t work unless you’ve really got academics behind it and willing to trial it and willing to give it a go.’

‘... successive IT initiatives that promise a lot and then don’t work and then another one comes up and you think oh, I’ve had it.’

4.2.3 College Managers

Assistant College Managers for Education are responsible for overall management of assessment processes within colleges. They were the most knowledgeable about central and college processes and provided valuable feedback on how OCM would impact on their individual colleges. They identified a range of issues which are summarised below.

- The OCM pilot was too small to provide valuable evidence of benefits. The system was not proven or fully functional for use live against such an important part of markers and students process. Previous pilots of similar systems did not go well leading to reduced confidence in the ability of this system to deliver. This was not helped by the very late delivery of the pilot. The colleges felt they could not afford the risk of engaging with such a visible and potentially damaging system. One manager said:

  ‘We are a super tanker. If it goes – if we go wrong, we go wrong big time’.

- Multiple marking and moderation were not included in the first release of the software; this resulted in a very high dropout rate in pilot, as those are essential requirements from the colleges’ perspective (if not central).
They acknowledged the variations of processes within their colleges, even within their buildings. Sometimes there are very good reasons for this, but often not. This group would welcome more consistency but are wary of processes becoming too centralised and not meeting their needs.

Some but not all colleges have a dedicated staff member whose job is to support educational technologies (Educational Technologist). They are expected to support the OCM pilot alongside many other tasks and responsibilities, sometimes across different buildings and even campuses. In most cases these educational technologists were not line managed by managers with responsibility for assessment and feedback, which meant that the managers had no control over their priorities.

Professional staff have significant demands on their time and many new systems being introduced.

Pastoral care was an issue for some colleges who valued the opportunity to make contact with a student when they handed in an assignment.

The existing paper-based submission system (BART) is simple but it supports college processes very well, for example it tracks late submissions and generates useful reports. There were also concerns about the period of handover to OCM and using two parallel systems for assessment and feedback.

Use of student names rather than ID numbers caused issues in departments where duplicate student names are a common occurrence.

On the positive side, they embraced the following perceived benefits:

- automatic transfer of grades to the student record system
- external examiners and personal tutors having direct access to the assignments
- integration with the University VLE
- removal of paper-based processes
- automatic plagiarism checking
- liaison between markers and moderators
- time saved for marking

Advice from the Colleges to improve engagement included:

- better support for academics and administrators
- use of advocates to promote the system within a College
- honesty about system limitations
- focus on simple processes, and build slowly from that
- learn from experience of other Universities
- maintain a high level of engagement between the centre and the Colleges throughout the implementation period

The prevailing feelings and concerns of College Managers are vivid in what they said:

‘We’re very keen to use OCM. There’s a lot of enthusiasm amongst the academic body, ‘cause with a three-week turnaround, OCM provides a lot of benefits for them and the administrative staff. I went to one of the initial presentations about the system and it looked
quite promising and then, sadly, when it was introduced and most of the academics started to use it, they ran into problems with it – it wouldn’t do this or it wouldn’t do that.’

‘They’ve got to get the functionality better before we all engage with it.’

‘There’s no point in trying to roll out something that really isn’t ready.’

‘We need to be very clear what this development has done that relates directly to the practice within the college because otherwise the academics just don’t want to get – well, they don’t see the benefit to them of engaging.’

‘There’s always a bit of resistance to doing things differently as well, isn’t there? I mean, if you’re a very busy person and somebody comes along and suggests you do whatever it is you are doing differently, you’re going to get resistance.’

‘you’re pushing on an open door here, but unfortunately it’s got stuck.’

This project was originally intended to collect evidence about project efficiency and financial savings to the institution. This work was not possible for reasons explained in Section 3, due to the size and nature of the OCM pilot and lack of evidence of the impact of OCM at the time when this evaluation was done.

4.2.4 Reflection
There are clear institutional drivers for reviewing policies and processes. However using a technical solution to drive forward change is not necessarily the best approach to take.

Most of the issues raised by the Colleges and academic staff were about the software not meeting their needs. While there were shortcomings with the software, the underlying reasons for this were more about the diversity of process and misconceptions about OCM which highlighted the need to improve communication, user support and training.

4.3 Technical Evaluation

4.3.1 Technical Documentation
Technical documentation to support the project and monitor progress included a functional specification, test plans and the Board risk register where technical issues were highlighted.

The functional specification while providing a good overview of what the business required did not contain sufficient detail to allow developers to provide a working system. A working prototype would have helped, but it is evident that a detailed technical specification based on the needs of the Colleges would have been very valuable. This would have given the developers a clear unambiguous structure in which to work.

Test plans allowed University staff to follow a process of creating, submitting, marking and providing feedback for assignments. Because of all of the issues detailed above, the testing frequently failed at the start of the process leading to frustration and lack of engagement.
The project risk register was an essential tool to support the technical development. It provided senior stakeholders with a non-technical summary of the development progress and informed strategic decision making.

### 4.3.2 System Developers

The external development team had great confidence in the system and reported that the pilots were ‘very successful’. They noted that timescales were very short, and that they had underestimated the effort required to deliver the system. They also reported that while they had a lot of information about the business processes, they were not given sufficient detail about how that should be presented in an IT system. This led to much misunderstanding about what was actually required, and in hindsight they noted that they should have produced an early prototype to show to the customer.

The developers admitted that they had a ‘huge amount’ of regression issues, so that when they introduced a new feature it broke an existing feature, leading to loss of confidence in the software. Additional pressures were caused by trying to synchronise technology releases with academic cycles. They have since reviewed their working practices and communications and are now confident that the product has a great future and that other universities will be keen to adopt the system.

### 4.3.3 Exeter Technical Teams

The local development team (Exeter IT) were involved in the transfer of data to the student records system only. This team felt that their professional expertise should have been exploited earlier in the project as they had knowledge of the underlying systems and could have provided useful input. In their view, the project timescales were too short and there was insufficient test data made available for thorough testing before the system was released in a live environment. The key communication channels to the team were through the Project Manager and the IT representative on the Project Board.

The local support team (eLearning) identified three perceived obstacles to the successful implementation of OCM:

- Testing had to be repeated many times, because in fixing one issue, others would arise – this was seen as a very inefficient process.
- Integration of OCM with other systems.
- Lack of adherence to centrally agreed processes in Colleges. For reasons previously stated, Colleges regularly requested individualised processes which the system could not manage. This presented challenges to the support team and some difficulties in delivering relevant staff training.

### 4.3.4 Reflection

Despite the different views of the local and supplier technical teams, both agreed that the late delivery and lack of functionality had a major impact on the project.

These were caused by lack of clear system specification causing significant development delays and subsequent lack of time to fully test the system before making it available to users.

### 4.4 Perceived Impact on Pedagogy; Staff and Student Perceptions and Attitudes
This part of the evaluation consisted of on-line surveys, think-aloud observations and review of feedback from pilot users. The evaluation reviewed pre-OCM (baseline) perceptions and post-pilot reviews.

Two similar on-line surveys were designed to evaluate staff perceptions and attitudes. These consisted of the following groups:

- All staff who volunteered to use OCM, prior to actually using the system (n=31)
- All staff who volunteered to use OCM, after using the system (n=10)

Students whose assignments were managed through OCM were also asked to complete an online survey which explored their perceptions of ease of use and quality of feedback (n=42).

4.4.1 Pre-OCM Perceptions

The first survey involved staff across all Colleges who had volunteered to use OCM. It included colleagues with a range of experience of assessment from one to more than ten years.

The main benefits were perceived to be improvement in process quality and pedagogy, while the obstacles were perceived to be resistance to change, perceived lack of access to online marking and health and safety concerns.

Some of the academics who responded had prior experience of electronic assignment. For those who did not, it was mainly due to lack of opportunity. Feedback was customary provided as handwritten notes, verbal in class, typed and printed or emailed. The vast majority found that the overall process, i.e. submission, marking and feedback electronically would be useful to them:

Professional staff had had less experience with electronic assessment than the academics and therefore did not have such strong opinions. However, they agree that submission and feedback would be useful and were largely confident that they could engage.

‘Accelerates turn around times’.

Benefits of eAssessment (n=48)

Usefulness of eAssessment (n=31)
‘Reduce admin time spent on input of marks to SITS’.

‘To have one location for tracking/information where different groups can log in and see this, e.g. admin staff, markers, external examiners.’

4.4.2 Post-pilot Reviews

The same group was asked to return a similar survey after the pilot. This survey received a smaller response rate (n=10) as some early adopters withdrew from the pilot. Administrative staff did not provide significant feedback (n=2) via this survey. Of the academic staff, overall the experience was worse than they had perceived it prior to engaging. It is not possible to generalise because of the small number of responses, but it can be noted that the reaction after engagement was more extreme with staff either being generally very confident and happy or very unhappy with the system.

‘Having more space for comments allowed me to give much better feedback.’

‘Increased time to mark the scripts; Marking was anonymous; Could easily mark from home without the need to carry scripts; No paper used.’

‘Students liked it. The system improved greatly as I got more experience with it and those supporting me got more experience with the way that I worked.’

‘More difficult for teachers to mark works on line - very tiring.’

‘Lots of teething troubles (expected and delivered)’

‘There was one student who had problems submitting her work (apparently through no fault of hers) and this may have caused some stress.’

The students on modules that took part in the pilot were asked to complete a separate survey. This was their first encounter with OCM and for most of them (over 85%) this was the first time they had submitted an assignment and received feedback online. Most of them were positive about the experience, with only 17% rating it as a poor experience. Asked about the quality of feedback, just under half of students said that it was about the same as the paper-based feedback that they received before, while one third of students thought that it was worse.

Many students struggled with technical problems and lack of information about the system. One comment summarised it all as:

‘Good idea, poor implementation’,

while another said:

‘No benefit, concerns about printing are replaced with concerns about internet connection and IT downtime’.

An interesting, unexpected comment came from a student who said that they take value in holding on to printed assignments with the marker’s comments on:

‘This was my best essay all year, but alas I won’t have a hard copy to look over when I am old and grey’.
Think Aloud sessions clearly demonstrated what it was like for an academic to mark assignments online, and tested the user-friendliness of OCM. A small number of early adopters (n=4) took part in this exercise so it is difficult to generalise, but it could be noted that all or most of them experienced the same challenges:

- Lack of confidence or knowledge about accessing the system, saving changes, navigating through the system, re-loading pages, uploading and downloading assignments and similar tasks.
- The system seemed to be very slow for some of the users while they were working online, which caused frustrations about wasted time and interruptions to the pedagogic process. It was not clear if these interruptions were caused by access to the internet or by the hardware and software they were using.
- Markers were from different disciplines and for some of them GradeMark was not suitable for marking online, while others struggled with creating a bank of customised comments. Discipline-specific assignments also require special feedback forms, which were not available at the time of testing. Interestingly, most, if not all of markers failed to find the word count for submitted assignments – this seemed to be the first thing they looked for.
- Some participants were concerned about online feedback being ‘mechanical’, depersonalised, making the marker remote from the student. One academic said that they valued giving a personal touch in final comments and putting their signature at the end of those comments. Conversely, other markers liked the idea of banks of comments being generic and ready-made.
- All participants noted that familiarisation with the system takes a while, but they all agreed that they could get used to online marking and would want to engage further.
- All participants agreed that online submission of assignments was easy for students.
Some of them noted that for various reasons they would like to have paper copies of assignments, with one of them noting that paper copies as back up would mitigate risks brought by inexperienced users and perceived lack of reliability on internet access.

4.4.3 Reflection
The pre- and post-OCM feedback clearly shows that while these staff were willing and eager to engage with eAssessment and in particular on-line marking, the system caused many frustrations which reduced their confidence in the whole process.

While it was expected that all students would be very happy to submit work and receive feedback on-line, this was not the case universally. Unilateral student approval should therefore not be assumed.

4.5 Unexpected Findings

The unexpected findings of this evaluation, which have been mentioned throughout the main section above, can be grouped into the following themes:

- **The reach of the ‘ripple effect’ of a new enterprise.** The impact that a new system has on the established processes and work models at fringes of the assessment and feedback is considerable. While a statement that a new system affects other live systems can reasonably be expected as a finding of a research like this, the wideness of the impact and the number of different satellite administrative processes affected were unexpected. Some of the affected areas are: mitigation, producing analytical reports for examination boards, attendance and submission monitoring, setting up external examiners as users of IT systems, entering students’ marks on the system, different student records using different ways of identifying students (student number, candidate number, anonymous codes) and other.

- **Pastoral care and personal contact.** This evaluation found that, in some schools and disciplines, the submission of assignment by students is also used as a point of personal contact with the student. Staff members value this opportunity to meet the students personally and sometimes at this point judgements about the need of pastoral care are made and acted upon. In addition to this, some academics use the feedback as an opportunity to make personal contact and comments.

- **User engagement achieved through participation in evaluation adds value to the project that is being evaluated and is a useful tool for institutional learning.** The consultations with stakeholders done through this evaluation had multiple positive effects to the OCM project and the institution itself.

- **Staff concerns.** This evaluation found that some administrative staff members were concerned that the introduction of the new system will make their jobs redundant, while some academic colleagues worried that on-line marking will be compulsory.

- **Student enthusiasm for on-line processes.** Again, this evaluation found that not all the students in the pilot group were eager to engage with the on-line assessment, which came as a surprise.
5 Conclusions and Recommendations

The OCME project has proved to be a powerful tool for institutional learning.

The original aim of OCME was to evaluate the work undertaken by the University of Exeter in developing an end-to-end coursework management solution which is completely paper-free and supports administrative processes, academic pedagogy and the student experience. The specific objectives were to evidence the benefits to Exeter and the wider community. In particular, the impact on:

- Teaching and learning excellence,
- Process efficiency,
- Financial savings,
- Impact across the sector, and
- Technology impact.

For reasons explained in Section 2.1, the focus of the evaluation changed slightly, but still met the overall aim and has enabled the evaluation to draw recommendations which are of benefit to Exeter and the wider community who are thinking of engaging in a similar project.

The research found that although senior management were committed to the introduction of online assessment, not all staff shared the same level of enthusiasm or accepted the perceived benefits.

This lead us to the overall conclusion that a project of this complexity has more chance of succeeding if it focuses on people and user experience before considering a technical solution. A successful project will start and finish with the users, and the technical product sits in the middle.

The key recommendations for institutions who are about to embark on a similar project are:

- **Project Approach.** Online coursework management is not a simple technical problem which can be fixed by software alone. Without considerable preparatory work to review user needs and system requirements a purely technical project will fail.

- **User Requirements.** Consult across all academic disciplines and fully understand all the user’s needs before writing the functional specification. Make no assumptions about current practice.

- **User Engagement.** Consider the impact of change on busy staff. Many new IT systems are introduced at the start of the academic year. One more may just ‘break the camel’s back’. Be sensitive to pressures on staff. Do not assume that all staff will welcome the introduction of a new system, some may be very happy with the existing processes. Change management techniques will be required to engage staff.

- **Communication.** Never assume that an email or newsletter is read. Consider using many different communication techniques to ensure broad coverage. Ensure that communication is a two-way process, listen as well as broadcast.

- **Student Expectations.** The assumption is often made that all students will embrace on-line systems. This has not been proven by this evaluation.

- **Assessment Processes.** Ensure that processes required to be managed by the system are clearly mapped and approved by all stakeholders. Where there is diversity of process make an early decision to either make the software flexible enough to cater for all the variations or accept that the system may not meet all user needs. A review may reveal opportunities to standardise
processes, but it is imperative that the project is not constrained by the limitations of the software.

- **Peripheral Benefits.** If replacing an existing system, consider all the functionality that will be required to be replaced, not just that pertaining to assessment practice. For example, the Exeter paper-based submission system was also used as a contact point to monitor student attendance.

- **System Familiarisation.** Do not make assumptions that all staff are fully trained and familiar with the use and operation of enterprise systems. Even if a system has been made available to all staff, this does not necessarily mean that all users are competent with the software. Training will be essential.

- **On-line Marking.** Provide full documentation on the options available to academic staff for marking on-line. Offer a ‘safe environment’ where those who are new to on-line marking can experiment with the different solutions and be supported through their concerns.

- **Plagiarism Checking.** If there is not a consistent approach to plagiarism checking (by staff and students) across the enterprise then ensure that the software solution is flexible enough to meet individual needs.

- **Network Connectivity.** If asking staff to mark on-line (rather than electronically), then consider if they have appropriate IT equipment to connect to a suitable network in the locations where they usually mark assignments.

To support the successful delivery of similar projects, institutions are invited to make use of the toolkit provided by the OCME project. This toolkit consists of a business case template for defining the project and a project checklist to ensure that all the recommendations and lessons learned by the University of Exeter are considered.

While the OCM pilot project was very successful in many ways, the University was disappointed that the pilot did not engage more staff. Moving forward, the OCM project will implement the recommendations given by the OCME project to ensure success!
Appendix A: Exeter eAssessment and Online Coursework Management Project

eAssessment and the Exeter Online Coursework Management (OCM) project has a long history at Exeter, commencing in 2009 with a review of eAssessment by SUMS Consulting\textsuperscript{14}. The overall objective was to ‘review coursework submission and assessment management processes, and outline the case for online electronic processes, and the potential use of available software packages’. The review reached the following conclusions:

- Full support for eAssessment will emerge in the market, SITS (Tribal) is a strong contender and should be considered for the long-term development route
- eSubmission is not worthwhile without eMarking
- BART (see below) is effective in its area
- eFeedback is worth pursuing

SITS is the student records system used by Exeter and BART is an in-house solution which produces cover sheets for assignment submission. Students print a cover sheet for their assignment which they then attach to the front of the paper submission. This is receipted by a bar-code on the cover sheet so that a record of the submission is held by the student and the department.

The BART system is very popular and is widely used across the University and has provided a simple, but effective solution to assignment submission and recording. However students carry the printing burden, they have to queue to submit work which can often take up to one week to then reach the marker. The marked assignment and feedback sheet then have to be photocopied before returning to the student.

Following the SUMS review which found that there is no single effective solution available in the market the University commissioned an internal eAssessment review in March 2010 which undertook a more thorough evaluation of local needs and a comparison of the SITS solution against the local Moodle VLE (which was not considered by SUMS).

The report included a functional specification of the requirements for an end-to-end solution and then compared how well Moodle and SITS met the specification.

The report concluded that an integrated Moodle and Turnitin solution would meet most of the identified needs at a very low cost while there was insufficient detailed information to fully cost the SITS solution and funds would need to be found to draw up a detailed specification against which the provider of SITS could then provide a detailed quote.

The report also recommended that further work was needed to ensure that all variants of practice and workflow were captured and that without this there was a high risk of not meeting needs and alienating users.

In April 2010 an opportunity to bid for HEFCE Modernisation funding arose and a project proposal for development of an eAssessment system was successful.

\textsuperscript{14} www.sums.org.uk/
The project aimed to create a complete end-to-end electronic assessment process from setting assignments through submission, marking to feedback. The proposal aimed to develop the existing University VLE (Moodle), and use Turnitin for plagiarism checking and on-line marking and linking to the SITS student records system.

It was proposed that the solution, built largely on an open-source platform could easily be shared across the sector and would deliver cost and efficiency savings:

- Reduction in academic time when setting, marking and giving feedback for assessments
- Time and cost saving for Colleges in the handling of assignment submission
- Cost saving on printed materials for students

In November 2010 a formal project to develop an eAssessment solution was launched.

**The OCM Project**

The project was sponsored by the Director of Education Enhancement and was governed by the University project management process. A project manager was appointed and a project board with representation from the Colleges (managers and academic staff), eLearning, IT and the student body was assembled.

The project was divided into 8 distinct phases:

1. **Review of SUMS and internal records (Nov 2010)**
   The newly appointed Project Manager collated all the previous work, investigated core University assessment requirements and analysed workflows and staff requirements

2. **Analysis (Dec 2010)**
   A full mapping of assignment handling, marking and feedback processes across all Colleges was undertaken.

3. **Turnitin Evaluation (Dec 2010)**
   A pilot of Turnitin was run in a single college. This served to highlight the usability of Turnitin tools to provide elements of the eAssessment system, and led to the decision to use Turnitin for plagiarism checking and on-line marking only.

4. **Mapping and Documenting Processes (Dec 2010)**
   This phase documented common assignment processes across the University and the Teaching Quality Assurance (TQA) Manual. The TQA Manual is a resource for staff and students containing the processes which underpin the quality of learning and teaching at the University of Exeter and which was used as the basis of the process workflow and hence the system specification.

5. **Technical Specification (Jan 2011)**
   A process workflow was used as the basis of the technical specification for the development work.

   Undertaken by the external developers and included development of the process workflow within Moodle, integration with Turnitin and a two-way interface with SITS data

7. **Evaluation and initial pilot (May 2011)**
   This phase aimed to include user testing, mock submission processes and evaluation of technology to support online marking.
8. Training and awareness raising (Sep 2011)
   Including full documentation and recruitment of academic champions in each College who
   would ensure adoption across the institution.

Phases 1 to 5 ran on schedule and development work commenced in May 2011. Phases 6 to 8
experienced considerable delay due to technical difficulties in phase 6 resulting in a late delivery to
the staff and students.

As part of awareness raising in phase 8, weekly open meetings were held through the summer
where staff could come along and find out more about the system.

Feedback from these meetings led to concerns about on-line marking and system functionality which
were raised at senior management level and gave rise to the decision that use of the system would
not be compulsory, but Colleges would be encouraged to engage if the system met their needs.
Assessments meeting the following criteria were deemed suitable for OCM:

- Both undergraduate and taught postgraduate programmes
- Essay based single file assignments in Word or PDF formats
- Not group work
- Suitable for Turnitin plagiarism checking
- Have single or double-blind marking
- Are graded by a percentage score
- Markers willing to experiment with and evaluate on-line marking

Unfortunately the development work proved to be far more complex than first anticipated,
especially integration with Turnitin and due to lack of clarity of the system specification. The system
development phase was not completed until late November 2011.

The timing of assessment cycles led to a decision to delay rollout until late January 2012 and to use
staff in the eLearning team as the main testing resource. This delay caused a general loss in
confidence and many of the pilot users decided to withdraw.

When the system was released at the end of January it quickly became apparent that while it met all
the central University requirements, department processes varied widely and could not be easily
managed within the system. Again, due to lack of time for staff testing, it also became apparent that
key functionality required by Colleges such as moderation, group marking and submission extensions
had not been included in the original system specification.

For all of these reasons only 60% of the initial volunteer assignments were completely managed in
OCM and College perceptions of the system were not encouraging.

However, those who did successfully complete the pilot were very positive and the OCM end of
project report in April 2012 contained the following summaries of achievements and highlights:
## Project objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Measurement</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online submission functions to meet core requirements of University policy relating to assessment, marking, feedback and quality</td>
<td>Adherence to University policy</td>
<td>While the system was developed to meet TQA guidelines, practice in most Colleges was significantly different. This caused some issues for the pilot users</td>
</tr>
<tr>
<td>Two way link to SITS. This functionality will carry out two tasks. 1) automatically create new assignment submissions in Moodle based on SITS data 2) Pick up student marks and link these to module and student records in SITS</td>
<td>Success of the links</td>
<td>The link from SITS to automatically create new assignment submissions was successful. Transfer of student marks back to SITS is possible only via a manual bulk load process, due to constraints within the SITS system. However, this still offers improvements on current systems which require staff to manually enter individual marks into SITS</td>
</tr>
<tr>
<td>Secure online submission of coursework</td>
<td>Successful secure submission</td>
<td>Delivered</td>
</tr>
<tr>
<td>Secure receipt generation for students. A choice about whether to use Plagiarism checking (via Turnitin)</td>
<td>Successful receipting and integration with Turnitin</td>
<td>Despite many initial technical issues, the Turnitin integration now works well. Students receive email reminders and email receipt following submission</td>
</tr>
<tr>
<td>Electronic marking in a variety of ways, for example including provision of question banks, use of Turnitin GradeMark, or simple mark entry</td>
<td>Marking options available</td>
<td>Although question banks have not been used directly in OCM, GradeMark has proved very successful alongside audio file upload and the use of Word ‘track changes’.</td>
</tr>
<tr>
<td>Online feedback for students via ELE. Need to provide templates (or number of templates) for the entry of feedback</td>
<td>Feedback available to students</td>
<td>Delivered. A questionnaire will be used to gauge student views on OCM</td>
</tr>
<tr>
<td>Anonymous marking, second marking, blind double marking capabilities</td>
<td>All TQA marking options available</td>
<td>Delivered. However, usage has revealed that many Colleges use a moderation process which is not in the TQA manual</td>
</tr>
<tr>
<td>Access to marking and feedback for a range of staff – e.g. admin, personal tutors, academic and external examiners</td>
<td>All relevant users able to access marking and feedback</td>
<td>Delivered. However, the external marker role has not been used yet</td>
</tr>
</tbody>
</table>

### Highlights

- Communication. The project communication plan was overseen by the Project Board. Communications included:
o An active web site containing all information about the Project from Board papers to training dates
o OCM Open Meetings held throughout the summer of 2011 and attended by over 150 College staff
o Regular staff update reports published via the web site and emailed directly to Colleges
o Monthly Project Manager update reports to the Board and published on the web site
o All-staff newsletter articles published at project milestones
o Direct email and personal communication with pilot users
o Leading article in the Expose student newspaper
o FAQs responding to the major concerns and questions raised in the open meetings

- **Training.** A training programme was put into place for academic and administrative staff. Offered in small groups, this provided the opportunity to discuss how the pilot users would engage with the system.
- **Local support.** The eLearning team offered a personalised support service to those staff who were unsure about the system thus ensuring that confidence and levels of engagement were high
- **Further development.** Because not all the project funds were used in the first release, there is now sufficient money to further develop the system using feedback from the pilot users. This will ensure that the system is truly fit-for-purpose at Exeter.
- **Budget.** The developers agreed to deliver the system at a fixed cost. There were therefore no extra demands on the project budget to deliver the system.
- **Given the sensitive nature of the project, the Board offered an excellent level of support at critical times**
Appendix B: Evaluation Instruments and Tools

Instrument 1: Online Coursework Management Staff Survey (for staff members who attended open meetings about OCM)
Instrument 2: Semi-structured interviews with OCM Project Board Members

Q1: About you: Tell me about your role on the OCM Project Board.

Q2: About OCM:
- What were the drivers for introducing OCM?
- What were the stages of introducing OCM?
- What do you think we were trying to achieve?
- What do you think we have achieved?

Q3: Is it working?
- What is good?
- Are the aims realistic?
- Is it properly resourced?
- Is it well received by staff?
- Is it communicated adequately?

What could we be doing better or worse, for all of these?

Q4: What impact has OCM had:
- On you as an individual;
- On your professional role;
- On the University?

Have you identified any unintended or unexpected outcomes, positive or negative?

Q5: Any other lessons learnt?

Q6: Anything else you think is important to say about how this project has been managed and delivered?

**Instrument 3: Semi-structured interviews with academic stakeholder groups**

Q1: What is your experience with OCM?

Q2: Are you aware of any of your colleagues who’ve been involved in the piloting of OCM? What is their experience?

Q3: In your general practice, do you do things that are similar to online marking?

Q4: What do you think about online setting up of assignments, submission, marking and feedback as part of the assessment and feedback process? What are the benefits and drawbacks?

Q5: Do you use Turnitin?

Q6: What do you think of potential pedagogic implications?

Q7: Do you think there will be more people in your department who might be willing to try OCM?

Q8: Are there any other aspects of this that you wanted to mention?

**Instrument 4: Semi-structured interviews with senior managers in Colleges with responsibility for assessment & feedback processes**

Q1: College engagement in the pilot: Has your Colleges engaged with OCM? What was your College’s experience with the pilot?

Q2: Drivers and future plans: what do you think are the drivers for introducing OCM? Does your College has a need for this and were you actively asking for OCM? Do you plan to engage with OCM on a larger scale when it becomes widely available?

Q3: Perceptions: Can you see clear benefits from an online assessment and feedback system? What are the attitudes of academic and professional staff in your College about OCM?

Q4: Process efficiency: What is the impact of OCM on time needed to: accept assignments, enter marks into the system, check marks entered, and distribute assignments to external examiners?
Q5: Challenges: Can you identify any challenges in regards with: disability issues, multiple marking, IT support, use of Turnitin, anonymity of assignments submitted, mitigation and extensions, integration with other systems and any other issues?

Q6: Impact: How do you think OCM will impact on three-week turnaround, internal policies, on-line marking? What are the implications to professional staff and their workload? What with regards to academic staff and shift to on-line marking?

Q7: Change management: How was the change process been managed? Was it successful? Do you have any advice or thoughts about how this could be managed better in future? What kind of engagement strategies do you think would work for your colleagues?

Instrument 5: Semi-structured interview with external supplier of OCM

Q1: Tell me about the history of OCM project and your involvement with it.

Q2: What was your experience with OCM like? Was the development a success? Was it easier or harder than you expected?

Q3: What has your experience of working with the University of Exeter been like?

Q4: What did you learn from all this?

Q5: if you were to do this all over again, what would you change?

Instrument 6: Focus groups with e-learning and IT teams

Q1: Tell me about the history of OCM project and your involvement with it.

Q2: What was your experience with OCM like? Was the development a success? Was it easier or harder than you expected?

Q3: What has your experience of working with the external developer been like?

Q4: What did you learn from all this?

Q5: if you were to do this all over again, what would you change?
Instrument 7: Online Coursework Management Pre-engagement Survey (for early adopters, or the pilot group, before using the system)

**Your Experience**

1. Have you had any previous experience of electronic assessment in any form?
   - **Yes**
     - [ ] Design
     - [ ] Submission
     - [ ] Marking
     - [ ] Feedback
     - [ ] Other (please specify):
   - **No**
     - [ ] Lack of opportunity
     - [ ] Lack of interest
     - [ ] Lack of time
     - [ ] Lack of funding
     - [ ] Other (please specify):

2. Markers only: how do you normally provide feedback to students? (Optional)
   - [ ] Verbal
   - [ ] Written
   - [ ] In-class
   - [ ] Email
   - [ ] Audio
   - [ ] Video
   - [ ] Turnitin
   - [ ] Other (please specify):

**Your Expectations**

3. Please give at least one benefit you would expect from electronic assessment

4. Please give at least one drawback you perceive about electronic assessment

5. How useful do you think the following would be to you?

<table>
<thead>
<tr>
<th></th>
<th>very useful</th>
<th>useful</th>
<th>not very useful</th>
<th>not useful at all</th>
<th>n/a</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Design of assignments</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b. Submission of assignments</td>
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<tr>
<td>c. Marking assignments</td>
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<td></td>
<td></td>
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<tr>
<td>d. Giving feedback online</td>
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</table>

6. How confident would you be with engaging with the following activities online?

<table>
<thead>
<tr>
<th></th>
<th>very confident</th>
<th>confident</th>
<th>less confident</th>
<th>not confident</th>
<th>don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Design of assignments</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>b. Submission of assignments</td>
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<tr>
<td>c. Marking assignments</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. Giving feedback online</td>
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<td></td>
<td></td>
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</table>
Instrument 8: Online Coursework Management Post-engagement Survey (for early adopters, or the pilot group, after using the system)
### About You

**6. Are you:**
- [ ] an academic or researcher
- [ ] a professional member of staff

**7. Select your College or Professional Service**

- Select an answer
- 
  If you are from Professional Services, please state which department (Optional)

**8. Is there any other support which would have improved your experience of ODM (e.g. technical support, training, management support)? (Optional)**

**9. Is there any other technical equipment which would have improved your experience of ODM (e.g. tablet computer)? (Optional)**

**10. Do you have any suggestions for improvements to the ODM software? (Optional)**

**11. Do you have any other comments you would like to raise? (Optional)**
Instrument 9: Online Coursework Management Evaluation for Students (for students on modules involved in the pilot)

**About You**
1. What type of student are you?
   - Undergraduate
   - Postgraduate

2. What College do you belong to?
   - College of Engineering, Maths and Physical Sciences (CEMP)
   - College of Life and Environmental Sciences (CLES)
   - College of Humanities (HUMS)
   - College of Social Science and International Studies (SSIS)
   - The Business School (BUS)

**Your experience of OCM so far...**
3. Is this the first time you have submitted an essay online?
   - Yes
   - No

4. Is this the first time you have received formal feedback online?
   - Yes
   - No

5. Thinking about the online submission process, what is your opinion of this system?
   - I find it a really good option
   - I find it an OK option
   - I don't really have an opinion
   - I think it is a poor option
   - I think it is a dreadful idea

6. In terms of your feedback experience, how would you rate the ease of accessing your feedback online?
   - It was straightforward and easy to use
   - It was a little confusing but I got there
   - I have no opinion
   - I found it quite difficult to access
   - I found it too difficult and confusing

7. Was the feedback available on time?
   - Yes, it was available on time/before the deadline
   - It was only a little late
   - It was quite late
   - It was very late
   - I am still waiting for feedback

8. In terms of the quality of the feedback compared with paper-based feedback, how would you rate the online system?
   - The feedback is much better
   - The feedback is better, but limited
   - The feedback is the same
   - The feedback is not as good and quite limited
   - The feedback is bad/extremely limited

**Your Overall Opinion**
9. Online Coursework Management is a good thing:
   - I strongly agree
   - I agree
   - I neither agree or disagree
   - I disagree
   - I strongly disagree

10. Please leave any other comments you would like to make: (Optional)

Instrument 10: Think-aloud observation with markers

**Prompts:**
What are you doing now?
What is your problem at the moment?
Can you explain more?
## Appendix C: Evaluation Overview

<table>
<thead>
<tr>
<th>Work package</th>
<th>Objective</th>
<th>Participants</th>
<th>Methodology</th>
<th>Research Questions</th>
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</thead>
</table>
| Enterprise Rollout | To address some of the deeper and wider questions about perceptions of OCM | Staff who attended open meetings about OCM        | Online Survey              | What do staff members understand OCM to be?  
How do they feel about it?  
Do they understand the drivers for switching the assessment and feedback from paper-based to online processes?  
Can they recognize potential benefits of an end-to-end online process for assessment and feedback?  
How do they think this innovation would impact on them?  
What, if any, difficulties may arise with engaging with OCM?  
What kind of support do they need in order to engage successfully with OCM? |
|                    |                                                                           |                                                   |                            |                                                                                                                                                                  |
|                    | To look at different stages involved in planning and delivering an enterprise application which impacts on all academic and administrative staff and students. | OCM Project Board members                        | Semi-structured interviews (6 interviews) | What are the stages involved in planning and delivering an enterprise application which impacts on all academic and administrative staff and students?  
What factors should be considered when doing this?  
What were the drivers for introducing the system?  
Was the project well resourced and managed? What were the sources of funding?  
How was the project communicated?  
How was it received by staff?  
What were the lessons learned? |
| Policy and Processes| To look at the University policies and strategies which were affected by the project in order to identify the changes made and the processes that were followed to identify and implement the | Academic Policy and Standards Department          | Documentation review       | What changes have been made to University policies and processes and what impact has OCM had?  
What are the challenges? |
<p>|                    | representations of the association of academic staff and the Union        |                                                   |                            |                                                                                                                                                                  |
|                    | Semi-structured interviews (3 interviews)                                 |                                                   |                            |                                                                                                                                                                  |</p>
<table>
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<tr>
<th>necessary changes</th>
<th>College managers responsible for A&amp;F feedbacks</th>
<th>Do they intend to engage with OCM?</th>
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<tbody>
<tr>
<td></td>
<td>Semi-structured interviews (5 interviews)</td>
<td>Have all Colleges engaged with OCM and do they plan to do that?</td>
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<tr>
<td></td>
<td></td>
<td>Do they recognize the institutional drivers for introducing OCM and do they have their own drivers?</td>
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<tr>
<td></td>
<td></td>
<td>Are they likely to own this initiative?</td>
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<tr>
<td></td>
<td></td>
<td>Can they see clear benefits from an online assessment and feedback system?</td>
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<td>What are the attitudes of academic and professional staff in Colleges about OCM?</td>
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<td></td>
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<td>What is the impact of OCM on time needed to: accept assignments, enter marks into the system, check marks entered, and distribute assignments to external examiners?</td>
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<td></td>
<td></td>
<td>Can they identify any challenges the introduction of OCM might encounter with regards to: disability issues, multiple marking, IT support, use of Turnitin, anonymity of assignments submitted, mitigation and extensions, integration with other systems and any other issues?</td>
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<td></td>
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<td>What the impact of all of this on internal policies in the College can be expected?</td>
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<td></td>
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<td>What are the implications to professional staff and their workload?</td>
</tr>
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<tr>
<th>Technical Evaluation</th>
<th>To review the experience of Exeter and the external developers in the implementation of OCM</th>
<th>OCM Project Manager</th>
<th>Document analysis</th>
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<tr>
<td></td>
<td>External developer</td>
<td>Semi-structured interview (one interview)</td>
<td>Was the development a success?</td>
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<tr>
<td></td>
<td>e-learning team</td>
<td>Focus group</td>
<td>Was it delivered on time and budget?</td>
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<tr>
<td></td>
<td>IT team</td>
<td>Focus group</td>
<td>What were the partners’ experiences of working collaboratively on delivering OCM?</td>
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<td></td>
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<td>Was the project adequately managed, resourced and communicated?</td>
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<td></td>
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<td>Was it challenging technically, were there unforeseen technical issues?</td>
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<td></td>
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<td>Was it easier or more difficult than expected?</td>
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<td>What were the lessons learnt?</td>
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<td></td>
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<td>How do the partners feel about the process? Are they happy with the outcome?</td>
</tr>
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<thead>
<tr>
<th>Pedagogic Impact</th>
<th>To look at user experience and the value that OCM brought to users, as well as challenges</th>
<th>Early adopters (pilot group)</th>
<th>Pre-engagement Online survey</th>
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<tr>
<td></td>
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<td>Baseline before engagement:</td>
<td>Capture expectations, perceptions, current practices, behaviour, experience.</td>
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<tr>
<td></td>
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<td>Snapshot of where users are in terms of OCM.</td>
<td>Do academics have experience of marking online?</td>
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<td></td>
<td></td>
<td>How do they give feedback?</td>
<td></td>
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<tr>
<td>associated with the change of practice</td>
<td>Early adopters (pilot group)</td>
<td>Post-engagement survey</td>
<td>Baseline after engagement: Capture changes after engagement to compare with the 1&lt;sup&gt;st&lt;/sup&gt; survey</td>
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<tr>
<td></td>
<td>Student on modules that took part in pilot</td>
<td>Online survey</td>
<td>What is the students’ experience of submitting an assignment and receiving feedback via OCM? Was the feedback better or worse from what they normally get?</td>
</tr>
<tr>
<td></td>
<td>Markers (4 sessions)</td>
<td>Think-aloud observation</td>
<td>What are the issues linked to the process of marking online using OCM? Did OCM make the user do things differently? Was it better or worse for them? What were the challenges? Were there any immediately noticeable benefits? Is the OCM’s interpretation of how academic mark online correct? Prompts: What are you doing now? What is your problem at the moment? Can you explain more?</td>
</tr>
</tbody>
</table>

Do they use Turnitin? Are the pilot users interested in using innovative technologies such as surface computers and pen devices to assist the marking process? Which user groups are going to benefit most from OCM? What are the drawbacks in using OCM?

Prompts:

What are you doing now?
What is your problem at the moment?
Can you explain more?
## Glossary

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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ALT-C</td>
<td>Association for Learning Technology <a href="http://www.alt.ac.uk/altc">http://www.alt.ac.uk/altc</a></td>
</tr>
<tr>
<td>BART</td>
<td>Paper assignment submission management system used at the University of Exeter</td>
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<tr>
<td>Collaborate</td>
<td>JISC Funded Project at the University of Exeter: working with employers and students to design assessment enhanced by the use of digital technologies</td>
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<tr>
<td>EAM</td>
<td>Electronic Assessment Management</td>
</tr>
<tr>
<td>EBEAM</td>
<td>Evaluating the Benefits of Electronic Assessment Management</td>
</tr>
<tr>
<td>EEVS</td>
<td>Evaluating Electronic Voting Systems</td>
</tr>
<tr>
<td>ELE</td>
<td>Exeter Learning Environment – Moodle implementation used by Exeter</td>
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<tr>
<td>GradeMark</td>
<td>On-line marking tool within Turnitin</td>
</tr>
<tr>
<td>HEA-HeLF</td>
<td>The Higher Education Academy (HEA) and Heads of eLearning Forum (HeLF)</td>
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<tr>
<td>HEFCE</td>
<td>Higher Education Funding Council for England</td>
</tr>
<tr>
<td>HEI</td>
<td>Height Education Institution</td>
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<tr>
<td>LTI</td>
<td>Learning Tools Interoperability</td>
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<tr>
<td>Moodle</td>
<td>Open Source VLE</td>
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<tr>
<td>OCM</td>
<td>Online Coursework Management – Exeter University project to introduce an end-to-end electronic assignment management system</td>
</tr>
<tr>
<td>OCME</td>
<td>Online Coursework Management Evaluation – JISC funded project from Exeter University under the Assessment and Feedback Programme</td>
</tr>
<tr>
<td>QAA</td>
<td>Quality Assurance Agency</td>
</tr>
<tr>
<td>QTI</td>
<td>IMS Question and Test Interoperability specification</td>
</tr>
<tr>
<td>RSI</td>
<td>Repetitive Strain Injury</td>
</tr>
<tr>
<td>SITS</td>
<td>Student records system by Tribal, used at Exeter University</td>
</tr>
<tr>
<td>SUMS</td>
<td>Southern Universities Management Services</td>
</tr>
<tr>
<td>TQA</td>
<td>Teaching Quality Assurance <a href="http://as.exeter.ac.uk/support/admin/staff/qualityassuranceandmonitoring/tqamanual/">http://as.exeter.ac.uk/support/admin/staff/qualityassuranceandmonitoring/tqamanual/</a></td>
</tr>
<tr>
<td>Turnitin</td>
<td>Plagiarism and on-line marking software</td>
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<tr>
<td>UCU</td>
<td>University and Colleges Union</td>
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<tr>
<td>VLE</td>
<td>Virtual Learning Environment</td>
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