
# EVALUATION OF THE CSU ONLINE LEARNING MODEL PILOT IMPLEMENTATION

## Abstract

The Online Learning Model (OLM) was piloted in 28 subjects across CSU in 2016. This report presents the results of the evaluation of this pilot from the perspective of staff, including subject coordinators, educational designers, and OLM element specialists, as well as students. The results draw on purposefully collected survey and interview data for this analysis, with data collection tools available in the Appendices which accompany this report.

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# 1 Executive Summary

## 1.1 Background

The CSU Online Learning Model was developed as part of the Distance Education Strategy in 2015 and refined following workshops with over 200 academic and professional staff. Version 1.0 of the Model which was implemented in the pilot consisted of the following seven elements[1], illustrated in Figure 1.

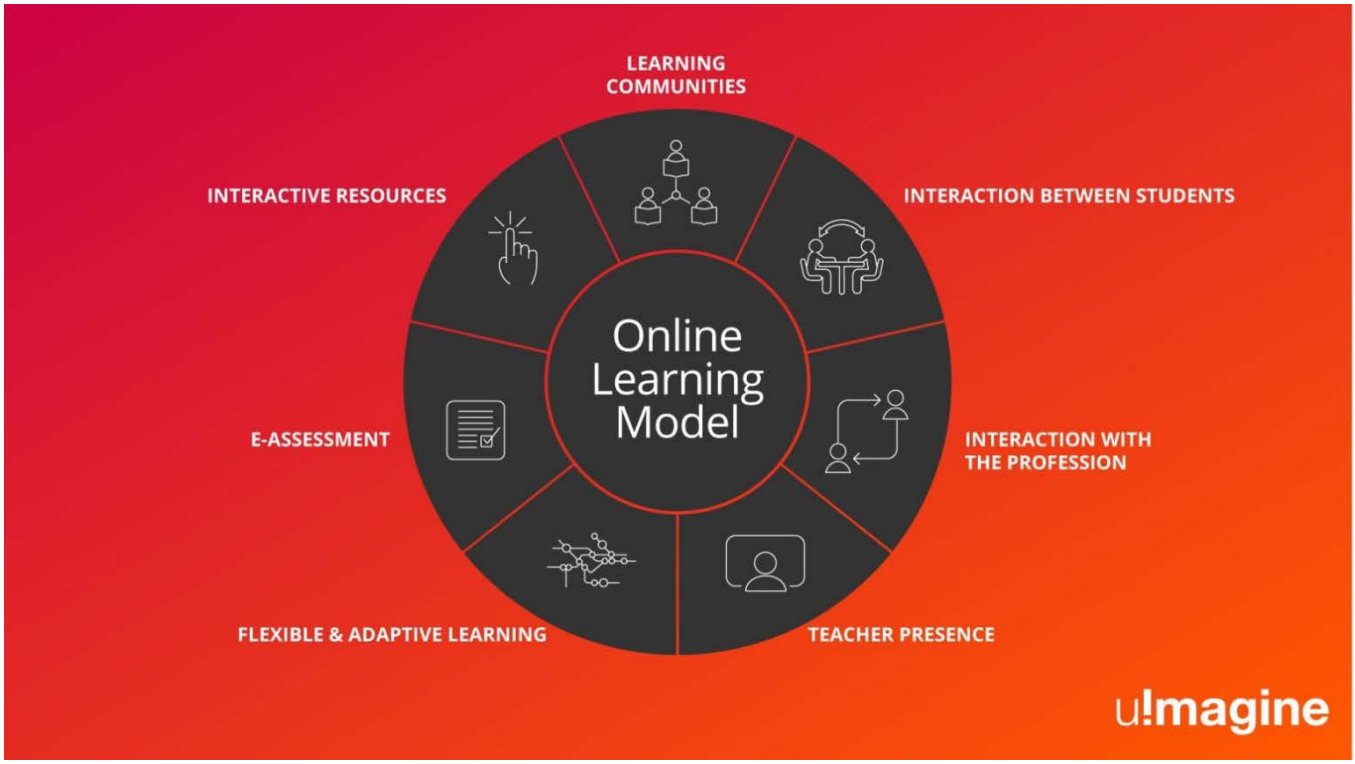


*Figure 1*: Current version of the OLM

The pilot implementation of the model was carried out with the following key objectives:

1. To evaluate student perceptions about the **intended learning experiences** which are the focus of elements of the model
2. To test the model for **impact on student learning processes, engagement, retention, satisfaction and outcomes**
3. To explore **differences in student learning experiences for categories of students**
4. To identify **enablers and/or barriers to implementation** of the model such as the workload and support needs of staff and measure the **implementation cost**

[1] Three of the element names have since been changed, as reflected in Figure 1. In the pilot study, *Learning Communities* was previously labelled 'Small Group Support', *Interaction with the Profession* was previously labelled 'Interaction with Workplaces', and *Flexible and Adaptive Learning* was previously labelled 'Personalised Support'.

5. To explore the adequacy of **technology platforms and tools**
6. To identify any **curriculum related enablers or constraints**
7. To inform the design and development of **professional development frameworks and resources**

The focus of the pilot was on the individual elements of the model, rather than implementing the entire model or multiple elements of the model in each subject. This report presents the evaluation findings of the pilot implementation conducted across 26 subjects in Session 1, 2016. The key findings mapped against each objective are illustrated in Section 1.2.

Subjects from each Faculty were variously identified for inclusion in the pilot[2]. The subjects identified and the associated element of the model and strategies employed in each subject are included in Table 2.3.

Data presented in this report has been collated from surveys, individual interviews and focus groups with students and staff, as outlined in Table 3.1. As a pilot study, the implementation of the elements was dependent on availability of resources and good will of staff involved in managing additional workload amongst their other commitments. Although every effort was made to attract a good response rate from staff and students in relation to the surveys and interviews conducted, we were mindful of the extra added burden of this time commitment and appreciative of the responses received. We would like to thank all students and staff who volunteered their time to respond to our evaluation of the pilot. The results gathered and presented in this report will be utilised to further our understanding of the issues involved in implementing the OLM and to provide additional support and improved guidance and facilitation in the next phase of implementation.

Although detailed findings are included in the report and summarised in Section 1.2, the key take home messages are as follows:

- The OLM elements are overall positively viewed by students and staff and do make a positive impact on student engagement and learning processes, although some elements have been more successfully implemented than others in the pilot
- OLM elements are inter-dependent and do not function in isolation from each other – this has implications for future implementation of the OLM
- The implementation of OLM elements needs to be considered against the context and student profile of the individual subjects (e.g. where does the subject come in the course, what is the student demographic like?)
- The available technology is sufficient to implement and support the OLM elements
- Although the OLM elements are integrated, the pilot data suggest that *Teacher Presence*, *Interactive Resources*, *e-Assessment* strategies, and *Flexible and Adaptive Learning* are priority areas to focus on as they have the greatest correlation with perceptions of overall subject quality
- *Learning Communities* and *Interaction between Students* elements require more professional development and considered implementation

[2] One per element per faculty, based on the faculty structure at the time. The criteria to choose subjects, and allocation of elements to subjects, was not consistent across faculties. This had ramifications for staff engagement with the pilot

- Implementation of the OLM elements works best with a team based subject design and teaching approach incorporating educational designers, OLM element specialists, subject coordinators, ALLaN, Library, DiT, and Learning Resources Unit staff
- Longer lead in times are required in future scale ups with sufficient time and workload allocations provided to enable mastery of the technology in addition to the OLM element understanding
- The provision of paid development time for sessional staff is needed
- Easy access to a number of 'how to' resources for students accessible from the subject site would facilitate student use of technologies used within the subject
- Engagement with the element, *Interaction with the Professions* was weak and the subjects which focused on this element faced a number of challenges. Opportunities to implement this important element requires further investigation and support

## 1.2 Key findings mapped against the pilot objectives

Objective 1. To evaluate *student perceptions* about the **existence and quality of the specific artefacts or intended learning experiences** which are the focus of elements of the model (*Visibility of the mode*l)

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 1.1 To what degree was the presence of the teacher noticeable to students (*Teacher Presence - TP*) | • An intensified TP was observed by students across all pilot subjects even when the focus was on other elements (4.2)<br>• Videos and podcasts by staff were successfully used to broadcast *Teacher Presence* (4.2.2)<br>• There were strong positive correlations between the TP element and *Interactive Resources* and also *e-Assessment* (4.2.1a)<br>• This element was one of the most highly correlated elements with overall subject quality item on the national Student Experience Survey included within the OLM survey (4.2.2) | • Video and podcasts are effective tools to broadcast TP and should be utilised regularly by staff in all online subjects<br>• Staff would benefit from the opportunity to learn how technology can work for them to enhance their TP and reduce workload<br>• TP can be felt and improved through the incorporation of *Interactive Resources* and *e-Assessment* |
| 1.2 To what degree did the assessment strategies build upon the affordances of online learning technologies to support the students' learning? (*e-Assessment*) | • Students responded favourably to interactive quizzes, especially when they were flexible in timing, relevant, and low stakes but not ungraded ( 4.2.1, 4.2.5)<br>• High agreement that this element was present in the pilot subjects (4.2.1)<br>• Findings were mixed with regard to the impact of *e-Assessment* on engagement<br>• Available technology was sufficient to support the *e-Assessment* strategies (70% agreement) (4.2.1)<br>• Positive improvements were found in the CSU SES[3] items relating to Assessment from the *e-Assessment* pilot subjects (4.2.1)<br>• This element was one of the most highly correlated elements with overall subject quality on the national Student Experience Survey included within the OLM survey (4.2.2) | • The definition of *e-Assessment* needs further attention<br>• Interactive online quizzes help to engage learners most when they are low stakes and authentic<br>• Greater awareness and support for the affordances of technology to enhance assessment is required |

[3] Subject Experience Survey

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 1.3 To what degree did students experience *Small Group Support* (now called *Learning Communities*) | • Mixed findings from students. This element had the lowest level of agreement that it was present (4.2.1)<br>• Available technology supported this element (4.2.1)<br>• There was staff and student resistance to the idea of working in small groups (4.2.2; 4.2.5)<br>• The emphasise on the word ' small' in this element skewed expectations (4.2.3; 4.2.5)<br>• Younger students were more likely to perceive this element was present than older students (>33yrs) (4.2.1) | • This element has been renamed '*Learning Communities'* to reinforce the notion of students working together on a common task with a shared output rather than just focusing on the small group work nature alone<br>• Further understanding needs to be generated about what this element encompasses for students and staff<br>• Older students may need more focused attention to enhance the visibility of, and/or engagement with this element |
| 1.4 To what degree did students experience interaction with their peers as part of their learning? (*Interaction between Students*) | • Overall this element was not strongly perceived as present by students in the survey (4.2.1)<br>• This element was the most highly correlated with the National SES (nSES)[4] measure of student engagement (4.2.2)<br>• Online discussion forums worked well with embedded content and facilitated threads (4.2.1) but could be less effective if there was too much unstructured chatter<br>• There was a bias against this element with some students preferring to learn on their own and this element rated as low in importance by more than half of respondents (4.2.1)<br>• The peer-assessment tool for assessment feedback was negatively perceived (4.2.1)<br>• Younger students were more likely to perceive this element was present than older students (>33yrs) (4.2.1) | • Interaction needs sustained and structured support from teaching staff<br>• When it is done well and is visible to students, enhancing the *Interaction between Students* is worth the investment of staff and student time and resources (4.2.2)<br>• Strategies to recognise student bias against this element may need to be developed with a dedicated resource and education for students and staff about the potential value of this element for student learning<br>• Older students may need more focused attention to enhance the visibility of, and/or engagement with this element |
| 1.5 To what degree did students experience personalised learning or support? (Now | • This element showed high levels of student satisfaction within the pilot subjects (78% agreement) with >50% perceived presence (4.2.1) | • This element has now been renamed *Flexible and Adaptive Learning* to more accurately describe the focus |

[4] National Student Experience Survey – items incorporated within the OLM survey

| | | |
|---|---|---|
| called *Flexible and Adaptive Learning*) | | • A system upgrade to *Learn Analytics* is required to facilitate personalised support |
| **Key Questions** | **Findings (and relevant report section)** | **Implications** |
| 1.6 To what degree did the learning resources support the students' experiential engagement with content and ideas? (*Interactive Resources*) | • Students valued the high quality, accessible resources (4.2.5)<br>• This element was one of the most highly correlated elements with overall subject quality (4.2.2)<br>• Online meetings, lecturer videos and discussion board were all identified by students as resources providing important support to their learning.(4.2.5) | • Use of *Interactive Resources* promotes student learning and engagement when it is targeted, relevant, and not too long |
| 1.7. To what degree did students experience connection or interaction with the workplace? (*Interaction with the Profession*) | • This element was narrowly perceived to focus on work sites<br>• Students valued connections with the professional context very highly | • This element has been renamed *Interaction with the Professions* to better reflect the focus<br>• Staff need to consider the integration of professional contexts, perspectives, and practices wherever possible<br>• Greater clarity is needed for this element |

Objective 2. To test the model for **impact on student learning processes, engagement, and satisfaction** *(Impact of the model)*

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 2.1 What was the impact of the elements of the model on *student learning processes*?<br><br>Section 4.2.2 | • In some cases implementing even a single element of the model may impact positively on a wide range of aspects of the student learning experience. For example FIN230 improved student ratings on all items of the CSU SES with a focus on the *Interactive Resources* element. As an example, video content from the professions was successfully integrated with weekly discussion questions and had a strong positive impact on student perceptions of learning outcomes, activities and connections with assessment<br>• Modularisation, as done is ESS440, and self-pacing positively impacted on student perceptions of learning outcomes and activities and in making connections with assessment tasks<br>• The overall impact of the OLM elements was positive, as evidenced by trends in the percentage differences found between the CSU SES ratings from 201530-201630<br>• Survey and interview data from staff suggest an overall positive impact on the student learning experience<br>• There was high congruence between the OLM elements and nSES scales. The presence and visibility of the OLM elements positively impacted on the student learning experience and engagement as measured by the OLM survey and nSES items, especially for *Teacher Presence*, *Interactive Resources*, and *e-Assessment*<br>• *Learning Communities*, *Interaction between Students*, and *Interaction with the Professions* had less impact | • Video content is an effective way to engage students with the professions as well as improve use of *Interactive Resources* when combined with a scaffolded discussion forum<br>• The OLM should continue to be supported although additional support may be needed to effectively implement *Learning Communities*, *Interaction between Students* and *Interaction with the Professions*<br>• Strategies to implement the *Interaction between Students* element need particular attention and support |
| 2.2 What was the impact of the elements of the model on *student engagement*?<br><br>Section 4.2.2 | • *Learning Communities* and *Interaction between Students* had mixed results<br>• There were moderate correlations between the presence of OLM elements and scores on nSES Engagement items and a strong correlation with *Interaction between Students*<br>• Male students were more likely than female students to agree that they experienced | • Students may be unclear about how to interpret survey items relating to the *Learning Communities* and *Interaction between Students* element<br>• Further research is needed in this area to provide a |

| | | |
|---|---|---|
| | engagement with teaching staff and the uni as measured by the nSES Engagement items | clearer understanding of the results |
| **Key Questions** | **Findings (and relevant report section)** | **Implications** |
| 2.3 What was the impact of elements of the model on *student satisfaction*<br><br>Section 4.2.2 | • 71% of students agreed that they were satisfied with the subject in the pilot implementation<br>• *Teacher Presence* correlated highly with overall quality on the nSES<br>• *E-Assessment* correlated highly with overall quality on the nSES | • Strategies aimed at enhancing *Teacher Presence* and *e-Assessment* elements are working and should be disseminated widely to encourage staff take up |

Objective 3: To explore differences in student learning experiences for categories of students

There were insufficient numbers of Aboriginal and Torres Strait Islander student respondents to draw any conclusions (n = 9).

Some gender and age differences were noticeable in the results and these are reported within the remaining objectives.

No significant differences were found in relation to the survey items when compared across socio-economic categories based on student post-code.

Objective 4: To determine curriculum related enablers or constraints on the provision of student learning experiences consistent with the model, including intended learning outcomes, assessment, designed learning activities and the degree of alignment between these elements

| **Key Questions** | **Findings (and relevant report section)** | **Implications** |
|---|---|---|
| 4.1 What *curriculum characteristics* are important in order to ensure successful implementation of each element of the model? | • In general, staff were enthusiastic about *Teacher Presence* and *Interactive Resources* elements which were found to be time consuming but rewarding<br>• The OLM was commented on as a catalyst for change and improved practice<br>• Professional development workshops and working with teaching teams were positively commented on by staff<br>• The integrated nature of the elements and teamwork assisted with implementation<br><br>*See Report Section 4.2.3* | • The positive experiences of staff in the form of anonymised case experiences could be disseminated to foster positive attitudes amongst staff<br>• Attendance at professional development workshops should be encouraged, with the provision for time made available as part of workload allocations<br>• Sessional staff should be encouraged to attend with time for this recognised in timesheets<br>• Teaching teams need to be fostered |

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 4.2 What *barriers* are there to *effective implementation* of the elements of the model? | • Subject coordinators reported that timelines for implementation were too short and compounded by competing demands<br>• Subject coordinators felt that workload allocations were insufficient for implementation<br>• Instability in staff was found to be an issue in some subjects<br>• The course stage and nature of the student cohort had an impact on student readiness for technology<br>• Some students reported limited access due to inadequate bandwidth and/or inability to print or download activities<br>• *Learning Communities* and *Interactions between Students* were difficult to implement<br>*See Report Section 4.2.3* | • Longer lead times are needed in the planning and design of the OLM elements in subjects<br>• Teaching teams are needed to distribute the load and maximise expertise<br>• Workload allocations need review<br>• Timelines for student orientation need to be reviewed based on cohort and course stage<br>• Strategies to download and print modules need to be developed<br>• Further professional development is needed in relation to the *Learning Communities* and *Interaction between Students* elements |
| 4.3 What *changes to the implementation* process for the model are needed to ensure targeted student learning experiences? | • Longer lead times in planning and design<br>• Clearer communication between EDs and academic staff in relation to coordination of resources<br>• Clearer communication between teachers and students regarding tool use<br>• Student support in the use of resources<br>• Enhanced student familiarity with resources<br>• Paid sessional staff professional development<br>*See Report Section 4.2.3* | • Streamline workflow and team based design processes<br>• Revise workload allocations to incorporate lead times for technology upskilling<br>• Enhance understanding of targeted elements |

Objective 5: To identify the constraints and enablers on *sustainability* of the implementation of the model

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 5.1 How sustainable are the subject resources, design changes and changes to teaching approaches implemented beyond the pilot?<br><br>*Section 4.2.6* | • Over 70% of staff reported that the changes were sustainable and they were satisfied with the support provided by EDs and OLM element specialists<br>• Some staff felt anxious about the time involved to increase *Teacher Presence* with a lack of understanding about the technology available to support this<br>• Time taken to upskill with regard to technology was not taken into account in the workload allocations for the project<br>• Some tools such as PebblePad and Peer Assessment were deemed unsustainable due to the heavy time and workload requirements needed to provide support as well as problem solve with access and loss of data inherent in the platforms | • More time and staff support are needed in relation to upskilling with technology |
| 5.2 What academic staff workload is typically needed during the design, preparation and teaching for each element of the model? | • Few subject coordinators (3/10) agreed that workload was sufficient although competing commitments may also have been a factor with some trying to implement changes at the last minute concurrent with teaching<br><br>*Section 4.2.6* | • Information about the requirements needed to implement subject changes surrounding the OLM elements need to be made widely available so that staff do not under-estimate the significant time required for technology upskilling and improvements to resources and assessments. Staff should be encouraged to adopt a team based approach utilising the significant skills of EDs and OLM specialists where possible |
| 5.3 What education design workload is typically needed for each element of the model? | • 4/6 EDs agreed that the time allocations were sufficient during the planning and design as well as teaching phases of the implementation<br><br>*Section 4.2.6* | |

Objective 6: To explore whether the learning technology platforms and tools available within CSU are adequate in supporting the learning experience

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 6.1 What technology platforms and tools are needed for each element of the model<br><br>Section 4.2.4 | • The majority of staff felt that existing technology and tools were sufficient for implementing the model in the subject of focus<br>• Students struggled with a variety of technology issues that in some cases may have hindered their learning and engagement with course material<br>• EDs noted the difficulty in trying to support both staff and students with particular tool use<br>• Sessional staff required earlier access to materials and tools<br>• Student internet access and bandwidth was overall sufficient to support their tool use<br>• Students wanted more of a social media feel to the look of their subjects<br>• Students wanted faster and less complicated access to material and more ' how to' instructions from the subject page | There is a need:<br><br>• To provide ongoing technology skill training and allow time for proficiency to develop<br>• To ensure staff and students have timely skilled support when initiating a new technology and ongoing support during use,<br>• To ensure sessional staff have appropriate, timely access to teaching tools they will be required to use |
| 6.2 What improvements to CSUs existing technologies and tools are needed for effective implementation of the model? | • To accommodate low bandwidth with downloadable and printable content<br>• To continually monitor functionality and useability of tools<br>• To support innovative use of current tools and encourage development of new approaches | |

Objective 7: To inform the design and development of professional development frameworks and resources for future at scale implementation

| Key Questions | Findings (and relevant report section) | Implications |
|---|---|---|
| 7.1 What professional development for academic and ED staff is needed for effective implementation of each element of the model? | • Subject coordinators highly valued the support provided by the element specialists and educational designers, noting their enthusiasm and expertise in providing the necessary support and mentorship in some cases<br>• Technology skill training is needed along with time to explore and master the technology before implementation in subjects<br>• The inclusion of sessional teaching staff in professional development opportunities to learn about and use new technology is important and this could be incorporated as part of the induction process and part of the workload<br>• A dedicated support team is needed providing professional development; mentorship<br>• Just in time training and support is also needed including a model of professional development that is targeted and responsive as well as assistance with problem-solving<br><br>*Section 4.2.3* | • Ensure that all members of subject revisions teams attend workshops on the Online Learning Model and work closely with the specialist Educational Designers |

## 1.3 Summative findings for implementation, technology, and support

This investigation revealed a need to:

a. Continue to support the implementation of the OLM with more dedicated support for the *Interaction between Students*, *Learning Communities, Flexible and Adaptive Learning,* and *Interaction with the Professions* elements
b. Disseminate findings and write up case studies of best practice particularly for elements such as *Teacher Presence*, *Interactive Resources, e-Assessment* and *Flexible and Adaptive Learning* which appear to align most closely with perceptions of overall quality
c. Improve the clarity of questions asked in the student survey to enhance student understanding and evaluation of the experience in relation to their learning needs
d. Develop methods for improving the presence of elements in courses and subjects in an integrated instead of atomised form
e. Ensure improved lines of communication between all levels of teaching support teams
f. Continue to support and develop a balanced integration of the elements across the institution

g. Plan and structure support for the time and skill demands of preparing and teaching online by modifying staffing models, workload allocations and subject revision timelines
h. Involve all stakeholders in selecting subjects for focused attention
i. Develop skilled support teams to collaboratively develop online subjects
j. Students need targeted and ' just in time' support for the use of specific tools such as Adobe Connect
k. More work is needed to support and improve the *Interaction between Students* element as trends in the Pilot showed this had the strongest positive impact on student engagement. It may be that increased flexibility in the way in which interaction with peers occurs will make this element more valuable to students
l. The professional development workshops were favourably received. Attendance needs to be encouraged with time and workload allocations for all staff (including session staff) taken into account.

# Full Report

## 2 Background

CSU has a diverse student population with varying needs, many requiring focused learning support, increased expectations for flexibility and personalised learning, and a need for interactive resources to stimulate learning. There is also rapidly evolving discipline content in some areas. This has created a need to use and develop both pedagogical approaches and technology that is more adaptive, streamlined, and responsive to both student and staff needs in light of these challenges. We also need to maintain our position as Australia's largest university provider of Online Education[5], with 300 courses and 25, 000 online students.

CSU's Digital Learning Innovation Laboratory, u!magine, was established with the dual objective of fostering innovation and steering the university as a whole towards best practice in contemporary online learning. A key first step as part of this work has been the development of a new Distance Education Strategy. As part of the development of this strategy, there was a broad consensus that increased student engagement needed to be a core element in order to increase retention, satisfaction with teaching quality, and ultimately student enrolments. To this end the CSU Online Learning Model (OLM)[6] was developed with a focus on increased engagement at its core.

### 2.1 The Online Learning Model (OLM)

The Online Learning Model extends and develops Moore's notions of interaction to reflect the changing nature of distance and online education as well as the specific context of the university. Firstly, the Online Learning Model adopts Moore's (1989) original three types of interaction, Learner-Teacher (changed from Instructor), Learner-Learner and Learner-Content, then in an acknowledgement of the importance of CSU's focus on preparing professionals for the workplace, the dimension of Learner-Community engagement has been developed. As a further recognition of the importance of the student's overall connected experience a key additional element of Learner-Institution engagement has also been added.

This then leads to five key planks within this broad notion of student engagement:

- Learner-Teacher Engagement;
- Learner-Learner Engagement;
- Learner-Content Engagement;
- Learner-Community-Workplace Engagement; and
- Learner-Institution Engagement.

This focus on the various aspects of student engagement was then elaborated upon within a series of seven elements in the Online Learning and Teaching Model. Table 2.1 indicates the aspects of student engagement addressed by each element. The CSU Online Learning Exchange provides a detailed review of the literature underpinning the model along with a repository of strategies which can be utilised to address each element and can be found here https://uimagine.edu.au/csulx/

[5] http://www.highereducationstatistics.deewr.gov.au
[6] http://www.uimagine.edu.au/csulx

Table 2.1
Dimensions of engagement in each element of the initial CSU Online Learning Model

| **Enhanced Student Engagement Dimension** | **Online Learning and Teaching Model Element** |
|---|---|
| Learner-Learner Engagement | *Interaction between Students* |
| | Small Group Support (now changed to *Learning Communities*) |
| Learner-Teacher Engagement | *Learning Communities* |
| | *Teacher Presence* |
| Learner-Content Engagement | Personalised Support (now changed to *Flexible and Adaptive Learning*) |
| | *E-Assessment* |
| Learner-Community Engagement | *Teacher Presence* |
| | Interaction with Workplaces(now changed to *Interaction with the Professions*) |
| Learner-Institution Engagement | *Flexible and Adaptive Learning* |

## 2.2 The OLM pilot implementation

In 2015 the faculties of CSU (4 at that time) selected 7 subjects each to target the enhancement of one of the elements of the OLM. These 28 subjects were supported by a team of 5 u!magine OLM Element specialists, the Media Resources Unit, and Faculty Education Designers. With time release and skill support, teams of educators prepared subjects for presentation and evaluation in 201630. The list of subjects by Faculty and element of focus is provided in Table 2.3. Two subjects were subsequently withdrawn from the pilot leaving 26 subjects included in this evaluation.

Following an initial evaluation, the model was then revised prior to scaling it up into 8 larger courses across CSU, session 2 of 2016. The pilot implementation of OLM elements was specifically facilitated by:

- 72 hours additional workload allocation to subject coordinators
- Specialist educational designers expert in the OLM element being piloted – allocated 0.333 FTE per element per subject (~3 hrs per week per subject)
- Educational designer support within the school
- Professional development opportunities/workshops
- Teaching teams incorporating the Learning Resources Unit
- Collaboration with library and ALLaN

## 2.3 The OLM pilot subjects

Table 2.3

Pilot subjects strategies used to implement each element within faculties[7]

| Element | Science | Arts | Education | Business |
|---|---|---|---|---|
| **Teaching Presence** | SCI 103<br>Regular and innovative use of online meetings | SWK 414<br>Personalisation and videos | EMR 441<br>Vodcasts, podcasts, screencasts, blogs | FIN 523<br>Topic vodcasts, task support videos, online meetings |
| ***e-Assessment*** | BIO 100<br>*Lab archives* software to prep for res school<br>HIP 202<br>Online authentic assessment (scenario based) | Withdrawn | Withdrawn | ITI 581<br>e-exam with *Proctor U* |
| ***Learning Communities*** | CLS 410<br>Group assessment using Adobe Connect to prepare a simulated disaster response | PPP 100<br>Embedded videos and structured discussion forums | IKC 101<br>Small group facilitation using Adobe Connect and adaptive release | MGT 100<br>Student mentor program; Study Buddy groups; team teaching |
| ***Interaction between Students*** | NRS 311<br>Peer-Peer feedback tool | THL 501<br>Stages 'Research Check-In' via Adobe Connect | EMH 441<br>F2F across campus collaboration via common synchronous lectures | ACC 100<br>Collaborative online learning groups via Adobe Connect to complete a formative assessment task |

[7] A complete description of the specific innovations used in each subject is available in Appendix A

| Element | Science | Arts | Education | Business |
|---|---|---|---|---|
| ***Flexible and Adaptive Learning*** | PSC 102<br>Formative assessment and interactive learning resources using Smart Sparrow | JRN 205<br>Apprentice journalists forming editorial teams using Adobe Connect and discussion forums | ESS 440<br>Modularisation; self-pacing; subject re-design for non-linear navigation | ITC 105<br>Reflective journal re-design with learning analytics and timely feedback |
| ***Interactive Resources*** | VIT 211<br>Adaptive learning resource completion prior to a weighted quiz | WEL 409<br>E-simulation authentic assessment task to write case plan and assist reflection | INF 404<br>*VoiceThread* to respond to lecturer and peers; Google Maps for geographic connections and a collaborative pin board to respond to share perspectives | FIN 230<br>Video content from the professions with linkages to weekly discussion questions |
| ***Interaction with the Professions*** | MID 443<br>*PebblePad* to view learner interaction and provide feedback in context; recorded evidence of competency | GER 401<br>Discussion board activities focused on authentic tasks | EML 436<br>Create an artefact to use in a future workplace; use of multimodal text and CSU Replay to share resources | HRM 528<br>Role play narrative, discussion forum activities using *Padlet Pinboard*, workplace case studies and inclusion of a critical friend |

# 3 Evaluation methods

In 2015 The CSU Human Research Ethics Committee approved the implementation of data collection for the pilot evaluation (protocol 2015/293).

The objectives of the evaluation have been outlined in Section 1.1. A mixed methods approach was used to evaluate this pilot, primarily with self-report surveys and interviews.

Two surveys were used for students: the first one was to alert the students to the project and gain consent for the use of teaching artefacts and interview approaches. The second was a purposefully constructed survey to evaluate the visibility and perceptions of the OLM elements (referred to as the OLM survey). This incorporated items from the national Student Experience Survey (nSES), in particular, those relating to learner engagement, teacher quality and overall satisfaction. This survey can be found in Appendix B.

Educational Design staff, Subject Co-ordinators, and OLM element specialists were surveyed separately using a purposively designed survey to evaluate the experience and perceptions of the pilot implementation. These surveys are also included in Appendix B.

Semi-structured interviews were conducted with students, subject coordinators, educational designers (EDs), and OLM element specialists. The interview pro forma is included in Appendix C. Response rates to the various methods of data collection are shown in Table 3.1.

Table 3.1

Respondent numbers for the pilot evaluation

| **Data collection method** | **Students**[8] | **Subject co-ordinators** | **Educational Designers and OLM element specialists** |
|---|---|---|---|
| **Survey (OLM)** | 210 | 10 | 6 subject EDs<br>5 specialist EDs[9]<br>All EDs and OLM element specialists completed a survey for each of the subjects they were involved with 32 surveys in total |
| *Specific elements:* | | | |
| *Teacher Presence* | 9 | | |
| *e-Assessment* | 21 | | |
| *Learning Communities* | 41 | | |
| *Interaction between Students* | 46 | | |
| *Flexible and Adaptive Learning* | 49 | | |
| *Interactive Resources* | 7 | | |
| *Interaction with the Profession* | 37 | | |
| **Individual interview** | 10 | 10[10] | 0 |
| **Focus group** | 4[11] | 0 | 1 |

[8] Respondent numbers vary for each element depending on the pilot subject used, as described in Table 2.3
[9] Each specialist ED completed a survey for each subject they were involved in. This resulted in 26 surveys submitted by 5 OLM element specialists and 6 surveys for the subject EDs
[10] Based on staff feedback in interviews, these were different to the staff who responded to the survey
[11] Numbers varied from 2-30

## 3.1 Data collection

Survey and interviews with students and staff were the primary methods of data collection. The student survey (referred to as the OLM survey) comprised items related to learner engagement, teaching quality and overall satisfaction from the national Student Experience Survey (nSES) in addition to items curated specifically for the OLM pilot evaluation. A survey was also constructed separately for subject coordinators, OLM element specialists, and educational designers (EDs). All data collection instruments and interview questions can be found in Appendix B.

### 3.1.1 Online Learning Model Student Survey (OLM survey)

The OLM survey was created by the u!magine project team using the key objectives and online learning literature as a basis from which to form questions. Educational designers, OLM element specialists, and subject coordinators were also consulted with regard to subject specific questions. The final draft survey was adaptive, with branching sections depending on the subject students were evaluating. The base survey comprised 80 items, which varied depending on the individual pilot subject[12]. Items were incorporated from the Teaching Quality, Learner Resource Use, and Learner Engagement scales of the 2015 national University Experience Survey (now referred to nationally as the Student Experience Survey[13]), as well as items from the 2015 CSU Student Experience Survey. To assist with the distinction between the two instruments whose items we incorporated, nSES will be used to refer to items from the national instrument, and CSU SES will be used to refer to items typically used to survey students at the conclusion of a subject. Items from these instruments were included within the OLM survey to internally validate the OLM specific questions and to correlate our OLM elements with nationally valid and reliable measures of student engagement and satisfaction.

The draft survey was piloted with 50 students from one of the OLM pilot subjects. A seven-point Likert scale (1 = Very Strongly Disagree to 7 = Very Strongly Agree) was used for all scaled responses except for three question areas relating to the nSES which used a 5-point scale. Following revision (only minor modifications were made to the wording of some questions), the final survey (included in Appendix B) was administered via Survey Monkey® with items across four main sections:

- Demographic and workload questions (12 items)
- OLM element questions (5 for each element + 3 general questions) (38 total items)
- nSES questions (20 items)
- Technology and study habits questions (10 items)

Questions in the individual subject section related specifically to the OLM element being focused on and included both open-ended and scaled responses. Specific questions were asked about the learning activities and technologies being piloted when applicable.

The final survey section, on technology and study habits, asked students about their access to and proficiency with technology as well as the importance of and time spent on generic study activities, for example reading and doing assessments. Lastly, the students were asked open-ended questions

[12] At times, extra questions were added to the *Interaction with the Professions* element to specifically evaluate the e-portfolio or other specific resources created for the pilot and so the total number of survey items expanded up to 95 items for one subject

[13] https://www.qilt.edu.au/about-this-site/student-experience

about the best and worst aspects of the subject in addition to questions about the learning technologies, activities and assessment.

Once the design of the survey had been finalised, the link from Survey Monkey® was sent to the subject coordinators of the OLM pilot projects. The subject coordinators then used the announcements on Interact2 to distribute the surveys. Educational designers were also involved in sending out reminder announcements on Interact2. In addition to the original survey link, three reminders were given to students to complete the survey and there was a student incentive for survey completion comprising of the opportunity to win a $100 retail voucher.

Statistical survey responses were exported from Survey Monkey® into Excel and cleaned before importing into SPSS 20 for statistical analysis. Throughout the results presented in Section 4, Likert scale responses have been collated so that Very Strongly Disagree, Strongly Disagree, and Disagree are represented as 'Disagree' and Very Strongly Agree, Strongly Agree, and Agree are represented as 'Agree'.

### 3.1.2 OLM staff survey

U!magine staff involved in the OLM Pilot designed the initial surveys for subject coordinators, OLM element specialists, and EDs based on their understanding of the key objectives. These were piloted and revised based on feedback.

All staff surveys addressed issues of both implementation and perceptions of the impact of implementation on staff and students. Each staff survey also comprised a mix of Likert Scale and open-ended comment items.

The final design of the subject coordinator survey contained 15 individual items; the final design of the OLM element specialist survey contained 12 individual items; and the final design of the subject educational designer surveys contained 13 items. All surveys are included in Appendix B.

Once the design of the survey had been finalised, the link from Survey Monkey® was sent to the Subject Coordinators, OLM element specialists, and EDs of the OLM pilot projects.

### 3.1.3 Interviews

Ten subject coordinators were interviewed, as well as 10 students across the pilot subjects, and four student focus groups, comprising 37 students. Students were recruited to interview by responding to a Survey Monkey® Survey early in the session where they could indicate their willingness and availability to be approached by u!magine for an interview by completing the consent form in Survey Monkey®. Interviews were conducted by u!magine staff using both telephone and Adobe Connect meetings. A copy of the various interview proformas used is included in Appendix C. At times the voice quality on Adobe Connect varied in quality, impacting to a small degree the quality of the recording. Interview data was transcribed for analysis verbatim through a transcription service.

## 3.2 Data analysis

### 3.2.1 Statistical survey data

For the student survey, descriptive statistics were analysed to explore trends in the data across common questions between subjects and for all elements of the OLM. Overall scores were calculated for the nSES scales of teaching, resources and engagement. This was done by averaging the individual

items that made up each measure. Individual items comprising each scale are included as part of Appendix B. The relationship between the nSES measures and student experiences of OLM elements was examined through bivariate correlation analysis to determine if there was a significant relationship between the nSES measures and the OLM elements. Independent samples t-tests were also conducted to examine any age or gender related differences in the results[14]. In addition, using the CSU SES data, the overall differences in percentage agreement of students in the 2015 cohort was compared with students from the pilot subjects in the 2016 cohorts.

FIN523 and VIT211 were excluded from CSU SES data analysis due to missing or incomplete data from 201630.

The 201630 version of the CSU SES survey contained 4 additional questions compared to the 201530 version. A direct comparison between the questions was carried out in order to match the 201530 and 201630 survey items. Apart from some additional clarifying information in the 201530 survey items, the matching questions were exactly the same in each survey. The survey items and their corresponding question numbers in the 201530 and 201630 surveys are shown in the Appendix D. The extra questions in the 201630 data were then removed in the analysis to allow for a direct comparison.

Postcode analysis of the respondents was also conducted to determine if there were any differences between students based on their postcodes in regards to the common survey items on the OLM elements, UES, engagement and access to digital technology. In particular, the postcodes were matched to Australian Bureau of Statistics data on socio-economic disadvantage and split into quartiles: the first quartile represented students with the greatest socio-economic disadvantage according to the Australian Bureau of Statistics data and so on with the fourth quartile representing students with the least socio-economic disadvantage. SPSS was then used to run one-way ANOVA tests to determine any significant differences between the students based on socio-economic status.

For the subject coordinator survey, only descriptive statistics were calculated due to the small number involved.

### 3.2.2 Interview data and open-ended survey comments

The interview and short answer responses were coded using a constant comparative method (Charmaz, 2005). Through several readings a range of constructs emerged to inform and focus the development of initial themes used to interrogate the data further through discussion within the research team. This discussion informed the development of further codes through a grounded constructivist approach which privileged the voices and lived experiences of the participants providing a context for interpretation of the statistical data.

Through the presentation of results in Section 4, and in the Appendices, the anonymised participant voices are identified after each quote with a code. Subject coordinators (SC) have an identifying number. Student (ST) voices from survey responses are numbered to indicate the response number in the survey. Speakers in focus groups with EDs and students are numbered within exchanges identifying different speakers but not necessarily identifying individuals, so a given student or ED number throughout the text may not always indicate the same speaker. In this report, the qualitative data has been integrated within the Results and is specified as such.

[14] Median age was 32. Age group data was subsequently coded into two categories for further analysis (Younger students: 18-32, and Older students: 33-73).

# 4 Results

There are many facets to the results reported here on the basis of incorporating findings from the different surveys, sections within surveys, CSU SES data, and qualitative information. Following an analysis of respondent characteristics (4.1), the results are organised according to the key findings in relation to the objectives of the pilot, as illustrated in section 1.2. This presentation of the results in relation to key findings (4.2) will integrate both survey and interview responses from students and staff. More detailed results and quotes from the qualitative data are included in the Appendices and attention is drawn to the relevant Appendix where necessary.

## 4.1 Respondent characteristics

Overall, 210 students responded to the OLM Student survey on Survey Monkey® (~ 8% response rate according to student numbers in the pilot subjects from CSU SES data). This OLM survey data is accompanied by the CSU Student Experience Survey data in this report which gathered a median 26% response rate from students enrolled in the pilot subjects. The typical OLM survey respondent was female (79%), aged 18-35 (57%), studying two subjects in semester 201630, working 25-40 hours per week in paid employment (54%), with a medium likelihood of having dependents (43%). Nine students identified as being of Aboriginal or Torres Strait Islander origin and no further analysis was done specifically with those respondents.

Results showed that just over half of respondents (55.7%) could be categorised as most (18.6%) to second most (37%) socio-economically disadvantaged based on the post-code provided in the survey. Further analysis however found no significant differences in overall survey scores from nSES items based on socio-economic status and so no further statistical analysis based on this demography characteristic was completed.

There was an almost even spread of student respondents (18-23%) across the *Learning Communities*, *Interaction between Students*, *Interaction with the Professions*, and *Flexible and Adaptive Learning* elements. Respondents for the *Teacher Presence*, *Interactive Resources*, and *e-Assessment* elements were less well represented.

No demographic data was collected for the 10 subject coordinators who responded to the OLM Staff Survey.

A total of 5 Element Specialists from the OLM pilot projects responded to the survey for each subject they were involved with, resulting in multiple responses from each of them. As such, there were 26 responses to the OLM element specialist survey. Compared with the other elements, *Interaction between Students*, and *e-Assessment* elements were under represented in the data collection with only one response each. Additionally, there were 6 subject ED responses (100%).

## 4.2 Key findings in relation to pilot objectives

### 4.2.1 Student perceptions of OLM elements in subjects (visibility of the model)

To frame this evaluation and interpretation of responses it is important to first address the extent to which students were aware of the model and the particular element being focused on in their subject. There was no overt introduction to the OLM or the individual element being focused on in the subject, so the students came to the survey without any prior knowledge of the element or OLM. As outlined in Table 2.3, elements of the model were implemented in a variety of subjects spanning first year

through to post graduate study in some courses, but were predominantly introduced in level one or level four subjects. The level of course may predispose students to be more or less aware of particular changes to the online learning and teaching strategy implemented. In accordance with this, students were explicitly asked about their perceptions of the existence of elements of the OLM in the subject they studied. Overall data about visibility of the elements of the OLM from 210 student responses is illustrated in Figure 4.2

The results illustrated in Figure 4.2 show that *Teacher Presence*, *Interactive Resources*, and *e-Assessment* were the most visible elements of the OLM across the pilot subjects, with almost three quarters of survey respondents agreeing that these elements were present in their subject. The *Learning Communities* element (labelled Small Group Support in Figure 4.2) is noticeably different in the spread of agreement however, with almost one third of students in each category of agreement, neutral, or disagreement. This suggests that perhaps this element was either difficult to evaluate, was implemented disparately across pilot subjects, or the wording of the item caused confusion.

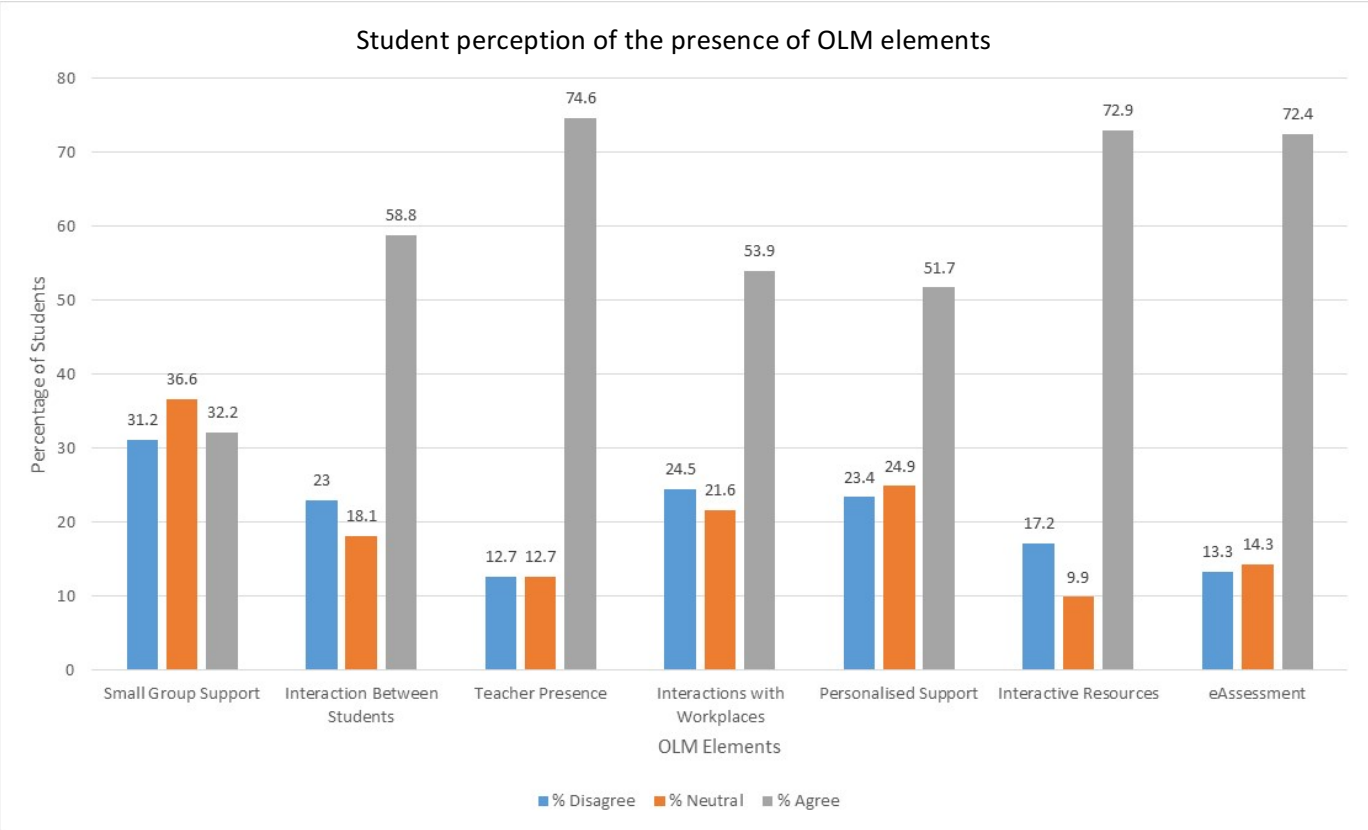


*Figure 4.2*: Student perceptions of OLM elements[15] across <u>all</u> pilot subjects (as measured by the OLM survey)

In many pilot subjects, a number of elements of the model were visible to students, possibly due to their existence in the residual design of the subject or possibly due to improvement work being undertaken beyond the element of focus, and sometimes, the element of focus within the pilot was less visible to students than other elements. This was the case for *Interaction between Students*, and

[15] Students were asked "To what degree were each of the following elements of the online learning model evident in the subject?" See Q85 in Appendix B

*e-Assessment elements* (mean score of 4.1 and 4.7 in the pilot subjects compared with 4.5 and 5 in other subjects respectively[16]). Further, in the OLM survey, more than half of all respondents agreed that all elements of the model were present in their subject, with the exception of *Learning Communities*. This is a positive finding in relation to the degree to which the elements of the model are already reflected in the design of CSU subjects. This is discussed further in section 4.2.3 (Implementation processes).

When the presence of OLM elements was examined by age, there was a statistically significant difference in agreement between younger and older students[17] ($t = 2.86$, $p < .05$) with younger students showing greater agreement for the presence of *Learning Communities* and *Interaction between Students* (4.19 and 4.74 respectively) than the older students (3.61 and 4.18 respectively). This suggests that older students may perhaps need more targeted attention with regard to enhancing the visibility and/or engagement with these elements.

To provide more context for the results, student survey responses were further analysed separately *within* the element of focus.

*Element 1: Teacher Presence (SCI103, SWK441, EMR41, and FIN523[18])*

Only nine OLM survey responses were gathered from students involved in the pilot subjects which focused on this element and so no further analyses was conducted on this data from the OLM survey. However, from the CSU SES survey, the first four items were directly comparable and specifically dedicated to student perceptions about the teaching staff: being helpful and approachable (Q1), motivating students to learn (Q2), explaining things in a way that made sense (Q3), and overall teaching quality helping students to learn (Q4).

Item differences between 201530 and 201630 in the pilot subjects, as measured by the CSU SES, are illustrated in Appendix E. In examining the item differences in the pilot subjects for questions aligning with the *Teacher Presence* elements (questions 1-4), only SCI 103 and EMR441 had sufficient data to look at due to low response rates. Within these two subjects, positive differences were found in relation to explanations provided by teachers, but only EMR441 showed an improved rating for the quality of teaching. No differences were found between cohorts for the teaching staff being helpful and motivating in EMR441, and there were negative differences found for motivating, helpfulness and overall teaching quality in SCI103.

In alignment with the OLM survey findings, improvements in student ratings for items associated with teacher quality were found in other subjects in which *Teacher Presence* was not the focus. This was especially true for FIN230 where positive differences ranged from 38-61% for items 1-4 in the CSU SES, and also for IKC101, ICT105, MGT100, and MID443 which all showed positive differences for all four items.

*Element 2: e-Assessment (BIO100, ITI581)*

Of the 21 students responding to this element, 66% agreed that the *e-Assessment* element was present in their subject to the extent that assessment strategies used online technologies to support learning in the subject. Overall opinion regarding the extent to which the *e-Assessment* strategies enhanced engagement with the subjects was mixed however, with 40% agreeing, 30% neutral, and 30% disagreeing with this statement. This suggests that the question may have been difficult to answer

[16] A graph depicting this trend can be seen in Figure 4.2a in Appendix A
[17] Younger = 18-32, Older = 33-73
[18] FIN523 was later removed due to missing and incomplete data

and 'engagement with the subject' is quite subjective and could refer to the entire experience, engagement with content, engagement via online participation or in residential schools. The majority of students (70%) agreed that the available technologies were sufficient to support *e-Assessment* strategies, although several improvements were noted. Comments from half of those respondents suggest that navigation through tasks and information was overly complicated, with two students requesting that provision for forward and backward navigation through topics was needed for example.

17 of the 21 students commented on the best features of the subject and their responses could be categorised as relating to resources (4), the assessment tasks (4), *Teacher Presence* (4), flexibility (3), and interaction with others (2). Aligning well with earlier presented data, *Teacher Presence*, and *e-Assessment* remain the two key features of a subject favoured by students when done well.

Satisfaction with the overall quality of the subject for the 21 students was moderate, with just over half agreeing that they were satisfied (52%). Access to the internet, and technological skill were high for the respondents (80% and 85% agreement respectively) and as such, proficiency with, and access to technology, can be excluded as reasons for the results.

With regard to the CSU SES comparison of item differences for the pilot subjects, HIP202 was removed from the analysis due to a small student response (n=5). The items corresponding to this element of the OLM were questions 9, 11 and 12 which focused on the goals of the assessment task being clear, the assessment tasks being helpful for learning, and receiving timely feedback on assessment tasks respectively. As shown by the Table in Appendix E, all three items showed positive differences in the pilot subject cohorts between 201530 and 201630, especially with regard to feedback received in BIO100 (22% difference), and helpfulness of the assessment task in ITI581 (20%).

*Element 3: Learning Communities (CLS410, PPP100, IKC101, MGT100)* [Previously called 'Small Group Support']

This pilot subject was one of the first subjects for some of the 41 students responding to the OLM survey in relation to this element of the pilot. As might be expected, there was a mixed response to whether or not working with groups of learners from within the larger cohort enhanced student engagement with the subject (42% agree, 40% neutral). Most students did however agree that the available technologies were sufficient to support engagement with small groups (75%), and 92% of respondents were satisfied with the quality of the subject overall, so the pilot certainly did no harm in this respect.

From the CSU SES, there was only one clear item which corresponded to the *Learning Communities* element, this referred to the extent to which "learning activities in this subject created opportunities for me to learn from my peers". The percentage difference between cohorts across the four subjects varied from -27.78 (CLS410) to 19.69% (IKC101) with an average response rate of 29.33%. No comparison data was available for PPP100. Based on the strategies outlined in Table 2.3, it appears that using a group based assessment task via Adobe Connect was negatively perceived to aid learning from peers whilst using the same software to run small group tutorials with 20 students was more positively received.

*Element 4: Interaction between Students (NRS311, THL501, EMH441, ACC100)*

There were 46 responses from students involved in the pilot subjects of this element. Referring back to Table 2.3, it can be seen that students experiencing this element ranged from first year in Accounting, to Masters level in Theology. Within this element, 45% of students agreed that interacting

with other students enhanced their engagement in the subject, with the remaining results split between neutral and disagreeing with this statement. Ten comments were made about the way the subject used interactions with other students and these were mostly negative, especially with regard to the peer assessment tool used for feedback. Students within these pilot subjects were also split in terms of satisfaction with the quality of the subject, with 47% agreeing they were satisfied, 35% disagreeing with this statement, and 17% being neutral. These results are further contextualised by the finding that only 25% of the respondents from this element preferred to study with other students and 56% rated this element as low in importance for them.

There was some overlap with this element and the corresponding items on the CSU SES, with only one item corresponding most clearly (item 7), *the learning activities created opportunities for me to learn from my peers*. Only ACC100 reported any positive difference in student ratings with a 30% response rate. Ratings on this item for NRS311 and EMH441 were quite negative (-29.18% and -33.16% respectively) with a 37% and 25% response rate respectively. These ratings align with the findings from the OLM survey data where students commented negatively on the peer to peer feedback tool in NRS311 and where there was a preference for learning on one's own.

*Element 5: Flexible and Adaptive Learning (PSC102, JRN205, ESS440, ITC105)* [Previously called 'Personalised Support']

There was strong support for this element, with 78% of the 46 respondents from these pilot subjects agreeing that personalised support enhanced their engagement with the subject, and 80% agreeing that the technologies available were sufficient for this purpose. Interestingly, despite these positive findings, slightly fewer students (63%) agreed that this element was evident in their subject, with the remainder being neutral (23.9%) or disagree (13%). Overall satisfaction with these pilot subjects was high, at 87%.

There were three items from the CSU SES which corresponded with the intentions of the personalised support element: items 13, 15, and 17 (see Appendix D). These items asked students to rate the extent to which feedback received helped them to learn effectively, whether the learning activities enabled them to judge the quality of their work, and whether the use of CSUs online environment helped them to learn effectively. Percentage differences between the 2015 and 2016 cohorts showed little change in PSC102, no data was available for JRN205, but large differences in the learning activities assisting with self-evaluation, and 20% difference in the usefulness of the online learning environment for helping to learn effectively. This suggests that the strategies used in ESS440 to improve *Flexible and Adaptive Learning* (e.g. modularisation, self-pacing) were moderately successful.

*Element 6: Interactive Resources (VIT211, WEL409, INF404, FIN230)*

Only seven responses were gathered from students specifically involved in the pilot subjects which focused on this element and so no further analyses was conducted on this data. There were also no corresponding items on the CSU SES to draw on with respect to this element. Conclusions about the visibility and impact of this element remain unclear due to the lack of data available.

*Element 7: Interaction with the Professions (MID443, GER401, EML436, HRM528)* [Previously called 'People and Practices of the Professional Workplace']

Of the 37 respondents to this element on the OLM survey, 66% agreed that they had experienced *Interaction with the Professions*, and 62% agreed that this type of interaction enhanced their engagement with the subject. Changes which would help improve this element included more relevant case studies, printable materials, and guided discussions on the forum. Clarity of what was

meant by the element name was also needed and may have impacted negatively on survey responses, as has been alluded to previously. For example, one student commented:

> *What exactly do you mean by 'people and practices of the professional workplace?'*

There were no corresponding questions on the CSU SES which aligned with this element.

### *4.2.1a Statistical evidence visibility*

Student perceptions of the elements was varied when descriptive statistical analysis was used. It was also apparent that some elements had high visibility outside of the specific pilot subjects in which they were focused[19]. To further explore this finding, and to provide more of an overview regarding the strength of the elements in relation to each other, Pearson correlations were calculated between the OLM elements and the item addressing the presence or visibility of the element. These results are included in Table 4.2.1a.

Table 4.2.1a

Pearson correlations between OLM elements

| **Presence of OLM Element[20]** | **OLM Elements** | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Learning Communities* Item | *Interaction between Students* Item | *Teacher Presence* Item | *Interaction with the Professions* Item | Flexible & Adaptive Learning Item | *Interactive Resources* Item | *e-Assessment* Item |
| *Learning Communities* item | 1 | .401** | .467** | .309** | .600** | .426** | .406** |
| *Interaction between Students* item | .401** | 1 | .360** | .540** | .325** | .353** | .253** |
| *Teacher Presence* item | .467** | .360** | 1 | .340** | .803** | .703** | .634** |
| *Interaction with the Professions* item | .309** | .540** | .340** | 1 | .315** | .373** | .172* |
| *Flexible & Adaptive Learning* Item | .600** | .325** | .803** | .315** | 1 | .710** | .715** |
| *Interactive Resources* item | .426** | .353** | .703** | .373** | .710** | 1 | .726** |
| *e-Assessment* item | .406** | .253** | .634** | .172* | .715** | .726** | 1 |
| ** Correlation is significant at the 0.01 level (2-tailed).<br>* Correlation is significant at the 0.05 level (2-tailed). | | | | | | | |

[19] For example, see also Figure 4.2a in Appendix A

[20] Item in the survey reads: To what degree were each of the following elements of the online learning model evident in the subject? See question 85 in Appendix B

The results in Table 4.2.1a indicate that there were significant correlations between all the OLM elements, especially with regard to the very strong association[21] between *Flexible and Adaptive Learning* and *Teacher Presence* (0.803).

Furthermore, there were strong correlations between the following elements:

- *Flexible and Adaptive Learning* and *Learning Communities* (0.600)
- *Flexible and Adaptive Learning* and *Interactive Resources* (0.710)
- *Flexible and Adaptive Learning* and *e-Assessment* Item (0.715)
- *Interactive Resources* and *e-Assessment* (0.726)
- *Teacher Presence* and *Interactive Resources* (0.703)
- *Teacher Presence* and *e-Assessment* (0.634)

The strong correlations between *Teacher Presence* and *Interactive Resources*, and between *Teacher Presence* and *e-Assessment* suggests that *Teacher Presence* can be felt through the use of *Interactive Resources* and well-designed *e-Assessment*, not just through discussion forums, Adobe Connect meetings, and emails alone. This finding has key implications in supporting staff to improve this element in their subjects and suggests it does not always have to be an onerous commitment as long as tasks and resources are well designed for the purpose.

### 4.2.2 Impact of the model on student learning, satisfaction and engagement

To triangulate the data and evaluate data quality, items measuring the OLM elements on the student survey were correlated with the items from the nSES. There was good congruence between all items, with statistical significance reached at the .001 level for all OLM items when correlated with the nSES. For example, the OLM element of *Teacher Presence* was correlated at .7 or higher with four out of five items of the nSES Teaching scale, as represented in Table 4.2.2a. This suggests that we can have some degree of confidence in utilising the nSES items as a measure of student satisfaction and engagement.

[21] Strength of the correlation is based on Evans (1996) guide for the absolute value of r: .00-.19 = “very weak”, .20-.39 = “weak”, .40-.59 = “moderate”, .60-.79 = “strong”, and .80-1.0 = “very strong” [http://www.statstutor.ac.uk/resources/uploaded/pearsons.pdf]

Table 4.2.2a

Pearson correlations between OLM elements and nSES items within the OLM survey

| **OLM Elements** | **nSES Measures** | | | |
|---|---|---|---|---|
| | *Overall quality* | *UES Teaching* | *UES Resources* | *UES Engagement* |
| *Learning Communities* item | .388** | .445** | .384** | .462** |
| *Interaction between Students* item | .292** | .430** | .350** | .660** |
| *Teacher Presence* item | .712** | .796** | .681** | .374** |
| *Interaction with the Professions* item | .267** | .299** | .301** | .393** |
| *Flexible & Adaptive Learning* Item | .696** | .716** | .662** | .413** |
| *Interactive Resources* item | .709** | .683** | .732** | .410** |
| *e-Assessment* item | .715** | .710** | .730** | .353** |
| ** Correlation is significant at the 0.01 level (2-tailed).<br>* Correlation is significant at the 0.05 level (2-tailed). | | | | |

As shown in Table 4.2.2a, all correlations between the OLM elements and overall nSES measures were statistically significant. There were positive and statistically significant associations between student agreement that an element was present, with measures of teaching quality, resource use, and learner engagement. This suggests that the presence and visibility of these elements had a positive impact on the student learning experience and engagement, and also helps to provide face validity for the OLM survey items. This is also supported by the results in Table 4.2.2a which show strong positive correlations between the *Teacher Presence* item and the nSES Teaching scale (0.796) and between *Interactive Resources* and *e-Assessment* with the nSES Resources scale (0.732 and 0.730 respectively).

Correlations between the students' perceptions of the *Learning Communities* (0.388), *Interaction between Students* (0.292), and *Interaction with the Professions* (0.267) elements of the OLM and the students' perceptions of the overall quality of the course were weaker however. This suggests that these elements may have had less of an impact on student perceptions of subject quality, or were poorly implemented and the questions were hard to interpret.

*Learning processes*:

The impact of the model on the student learning process can most clearly be examined through an analysis of the CSU SES data for the pilot subjects, specifically for items 5, 10, 14, and 16 – as shown in Table 4.2.2b. The full CSU SES instrument where these questions were gathered from is included in Appendix B.

Table 4.2.2b

Impact of the OLM on Student Learning as measured by the % difference in CSU SES scores between 201530 and 201630

| **Pilot subject (element)** | Item 5: **Learning outcomes** were made clear | Item 10: The **learning activities** in this subject prepared me to complete my assessment tasks | Item 14: I could see a clear **connection between the learning outcomes, learning activities and the assessment** tasks in this subject | Item 16: I was able to make clear **connections between this subject and other subjects** in my course |
|---|---|---|---|---|
| SCI103 (TP)* | -11.14% | 5.75% | -4.47% | -2.14% |
| BIO100 (eA)*,# | -8.24% | -1.47% | -8.24% | 22.06% |
| CLS410 (LC) | -16.67% | -11.11% | -11.11% | -5.56% |
| IKC101 (LC) | -1.95% | -11.26% | 6.93% | -2.81% |
| MGT100 (LC)** | 0.07% | -0.07% | 8.47% | -1.05% |
| NRS311 (IbS) | -25.53% | -9.74% | -7.45% | -17.30% |
| EMH441 (IbS) | -14.09% | -20.54% | -15.28% | -12.70% |
| ACC100 (IbS)* | 3.51% | 9.90% | 3.38% | -6.52% |
| PSC102 (FAL) | -6.67% | -10.00% | 3.33% | 6.67% |
| ESS440 (FAL) | 9.73% | 14.32% | 22.43% | 9.73% |
| ITC105 (FAL)* | 17.83% | 26.32% | 10.78% | -0.68% |
| INF404 (IR) | 5.68% | 9.12% | -0.86% | 4.31% |
| FIN230 (IR)* | 46.15% | 53.85% | 46.15% | 38.46% |
| GER401 (IP) | -7.70% | -1.80% | 14.02% | -26.70% |
| EML436 (IP) | -10.54% | -4.09% | -30.32% | -10.53% |
| HRM528 (IP)* | -16.00% | 24.00% | -4.00% | 12.00% |

* SWK414 (TP), EMR441 (TP), ITI581 (eA), HIP202 (eA), THL501 (IbS), JRN205 (FAL), WEL409 (IR), and MID443 (IP) were excluded due to small respondent numbers (<10 respondents in one or both cohorts); FIN523 (TP) and VIT211 (IR) were excluded due to inadequate response numbers

# Two other subjects were withdrawn from the *e-Assessment* element pilot due to lack of facilitation

** PPP100 (LC) was a new subject for which no comparison data was available

*TP (Teacher Presence), eA (e-Assessment), LC (Learning Communities), IbS (Interaction between Students), FAL (Flexible & Adaptive Learning), IR (Interactive Resources), IP (Interaction with the Professions)*

The results in Table 4.2.2b show that data was available for 16 of the 28 pilot subjects originally chosen. Response rates to the CSU SES varied from 17% and up to 47%, still less than half of the total number of students enrolled in a subject. The results in Table 4.2.2b must therefore be interpreted with caution.

Through an examination of the subjects where the largest positive impact (greater than 20% difference and illustrated by the red circles in Table 4.2.2b) and largest negative impact (great than -20% difference and illustrated by green rectangles in Table 4.2.2b) can be seen on changes in the CSU SES we can surmise that the following activities and approaches assisted student learning:

- FIN230 consistently improved their ratings on every item in this area, and in Appendix E it is shown that FIN230 improved student ratings on all CSU SES items. The team assisting with the *Interactive Resources* element in the pilot successfully used video content from the professions to link in with weekly discussion questions on the forum. This was a strategy that was utilised well and had a strong positive impact on student learning
- BIO100 successfully utilised Lab Archives software as a tool to assist with student preparation with residential school. Although this did not positively seem to impact on student learning experiences activities, it did generate an improved response in helping students to make connections with their other subjects
- The modularisation and self-paced activities employed in ESS440 showed a clear positive trend in improved student ratings on learning outcomes and activities, but had the biggest impact on helping students make connections between the learning outcomes, activities and assessment tasks. It appears that the modularised organisation of the subject assisted with overall curriculum alignment to the students' advantage
- The reflective journal re-design with learning analytics and timely feedback used in ITC105 showed a similar trend with improved student ratings on questions directly related to the learning process with the clearest impact seen in the item relating to the learning activities helping to prepare for assessment tasks.
- Efforts to improve *Flexible and Adaptive Learning* seem to assist with issues relating to curriculum alignment and student understanding of the relationship between course content, assessment, and overall subjects
- There are fewer green rectangles than red squares, suggesting that on the whole, despite the various trends, the overall impact of the elements is more positive than negative
- The strategy employed in EML436, creating an artefact to use in a future workplace, and using CSU replay to share resources, was the least successful strategy over all of the elements, and negatively impacted on student's ability to see connections between the learning outcomes, activities, and assessment tasks
- Peer to peer feedback was less successfully utilised with NRS311 students to enhance interaction and negatively impacted on student clarity of learning outcomes. From the qualitative data it seems that the implementation of this element could have been improved by clearer communication between staff and students and perhaps by more dedicated preparation of students on how to use the tool

Overall, the results in Table 4.2.2b show some trends in how the elements impacted in various ways on student learning processes and provide an avenue for further investigation of specific strategies utilised, which, with better response rates and more dedicated support for implementation may result in improved student ratings. Any change introduced is difficult to evaluate the impact of after a single

iteration, and the results shown here provide some clues as to which areas to focus more attention on.

From a staffing perspective, survey and interview responses show that the majority of subject coordinators, OLM element specialists and subject educational designers agreed (60-80%) that the OLM had a positive impact on the student experience, learner-teacher and learner content engagement.

There is also evidence that some subject coordinators were so pleased with the impact of the changes they made to their pilot subjects they simultaneously implemented them in other subjects. For example:

> *I think they've been fabulous [….] We've been so happy with them that we're actually taking these ideas and implementing them further into some of the other subjects that have been a little bit problematic with students engaging, understanding the links to their own professional practice. So this was actually a really worthwhile thing. We've actually really enjoyed being part of the u!magine project (004.)*

Staff perspectives on the success of implementing various elements of the model were generally positive in both the survey and interviews, especially in relation to two elements: *Teacher Presence* and *Interactive Resources*. Interview data show that Subject Coordinators were enthusiastic about improving *Teacher Presence* and found it an accessible, manageable concept which was time consuming, but also rewarding. For example:

> *Nobody actually explained to me or I didn't read anywhere that sending weekly announcements…, asking how they were and what we were planning to do that week […] I didn't know that was a form of Teacher Presence. I just did it because it felt right to do it. […] I have the feeling that with Teacher Presence you have all the technologies you need and whatever you need to do it's not rocket science. It's kind of really basic simple things that you do (SC, 002).*

The pilot provided an opportunity to reflect on practice and provided strategies and support for addressing perceived weakness. Most staff participants expressed an intention to pursue the model further in future subjects:

> *Looking at some of the other subjects that have nothing in them. It's… you can always keep improving things but I think … look what I would do is I would do more of the same in the subject. I'd like to capture some more audio interviews with people (SC,006).*

Overall, the staff perspective from survey and interview data suggests that the OLM is perceived as something to keep working towards and is valuable as a catalyst for change and improved practice that will continue to lead to improved student learning outcomes.

*Satisfaction*:

Overall, the survey data show that some elements of the OLM positively impacted on student satisfaction with learning activities, assessment feedback and use of the online learning environment. Student satisfaction with the pilot subjects was measured by a single question on the OLM: *Overall, I was satisfied with the quality of this subject*, with 71% of respondents agreeing with this statement.

When individual elements were examined, *Teacher Presence* and *e-Assessment* were the two elements most highly correlated with overall quality on the CSU SES (0.712 and 0.715 respectively).

*Engagement*:

Engagement with the subject content, and the student experience of learning activities and tasks, were both positively impacted by the changes introduced as part of the OLM. Qualitatively, when done well, the active use of the discussion board, connections made with the professions, and active *Teacher Presence* through video and podcasts as examples, all enhanced student satisfaction and engagement.

Some elements, such as *Learning Communities*, and *Interaction between Students*, were more difficult to evaluate the impact of due to contrasting opinions by students. There were mixed results reported in relation to these elements by both students and staff, with technology issues and time management the two primary challenges.

In relation to the nSES, the results in Table 4.2.2a show that correlations between OLM items and nSES Engagement measures were moderate with the exception of *Interaction between Students* – the only element with a strong association (0.660). This suggests that when it is done well and is visible to students, enhancing the *Interaction between Students* is worth the investment of staff and student time and resources. In particular, participation in online or face-to-face discussions, working with other students as part of their study, and interacting with students who were very different from them showed high correlations with this element of the model. Some of the other aspects of engagement unlikely to be impacted on by the existence of the individual elements of the model, such as preparedness for study and sense of belonging to the university correlated with the perception of the existence of most elements of the model, suggesting that the model as a whole may impact to a degree on overall preparedness for study and overall institutional engagement.

To further explore the impact of the model on student engagement, student agreement with the presence of each element was correlated with each of the six engagement items on the nSES Engagement scale within the OLM survey. These results are shown in Table 4.2.2c. Students were asked to respond to these items on a five point Likert scale, from 1(Not at all) to 5 (Very much).

Table 4.2.2c

Pearson correlations between student agreement with OLM element presence and items from the nSES Engagement scale within the OLM survey[22]

| OLM Element | Overall Engagement | Item 1: Prepared for study | Item 2: Sense of belonging to university | Item 3: Participation F2F or online discussions | Item 4: Worked with other students | Item 5: Interaction with students outside of study | Item 6: Interacted with students different from you |
|---|---|---|---|---|---|---|---|
| *Learning Communities* | .462** | .351** | .413** | .292** | .327** | .221** | .362** |
| *Interaction between Students* | .660** | .299** | .458** | .565** | .557** | .372** | .515** |
| *Teacher Presence* | .374** | .534** | .547** | .337** | 0.13 | 0.011 | 0.118 |
| *Interaction with the Professions* | .393** | .237** | .313** | .339** | .278** | .229** | .266** |
| *Flexible & Adaptive Learning* | .413** | .535** | .586** | .329** | .147* | 0.059 | .176* |
| *Interactive Resources* | .410** | .553** | .516** | .325** | .165* | 0.077 | .184** |
| *e-Assessment* | .353** | .566** | .567** | .295** | 0.096 | -0.02 | 0.096 |

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Although the results in Table 4.2.2c show significant positive correlations between most of the elements and measures of student engagement, these were weak to moderate at best.

The strongest statistically significant association between an OLM element and measure of engagement was 0.586 for the presence of *Flexible and Adaptive Learning* and Item 2 – a sense of belonging to the University. The weakest statistically significant association was between the presence of *Flexible and Adaptive Learning* and item 4 – Working with other students outside of study.

[22] The exact question and item response scale is included in Appendix B

If the results in Table 4.2.2c were to be used as the basis of decision making regarding resource allocation of OLM elements to improve student engagement of online learners by focusing on measures which helped students to prepare for study, then *e-Assessment* would be the element of choice (0.566, p <0.01). If the intent is to improve study participation in discussions, than the strategies employed by pilot subjects in the *Interaction between Students* element (e.g. collaborative group learning using Adobe Connect to complete a formative assessment task, ACC100) may be focused on (0.565, p <.01).

Interestingly, despite finding mixed results from the OLM survey with regard to the *Interaction between Students* element, and despite qualitative data from staff suggesting that this element was a difficult one to implement, the results in Table 4.2.2c show that the *Interaction between Students* element had the highest association with overall engagement as measured by the results on this survey (0.660, p <.01), suggesting that strategies associated with implementing this element perhaps need more attention and support.

Some elements of the model did not correlate with items 4-6 of the Engagement scale. These were *Teacher Presence*, *Flexible and Adaptive Learning*, *Interactive Resources*, and *e-Assessment*. *Teacher Presence* and *e-Assessment* were not significantly associated with any measure of interacting with other students on this scale, whilst *Flexible and Adaptive Learning* and *Interactive Resources* showed no significant association with *Interaction between Students* outside of study (item 5 only), this is as might be expected.

When engagement was further investigated in relation to age, there were significant differences, these are shown in table 4.2.2d.

Table 4.2.2d

Statistically significant differences in measures of engagement by age group

| **Item** | **Younger students (18-32)** | **Older students (33-73)** | **t** | **p** |
|---|---|---|---|---|
| Overall Engagement | 2.98 | 2.55 | 3.90 | <.001 |
| Engagement item 3 (Discussion participation) | 3.20 | 2.80 | 2.62 | <.01 |
| Engagement item 4 (other students) | 2.85 | 2.00 | 5.38 | <.001 |
| Engagement item 5 (other students outside study) | 2.41 | 1.79 | 3.76 | <.001 |
| Engagement item 6 (students different) | 2.71 | 2.03 | 4.02 | <.001 |

In terms of the specific survey items, nEngagement Item 4 had the biggest significant difference between the two groups with a mean difference of 0.85. This means that it appears that younger students were more likely to perceive that they interacted with other students as part of their study compared to older students. A number of the significant differences could be argued to represent an

important difference in attitude between the two groups. That is, the mean score for younger students was closer to *neutral* as compared to the scores of older students which were closer to *disagree*, except for item 3.

Some gender differences were also apparent when engagement was further examined, with male students statistically more likely to agree than female students that they experienced engagement with teaching staff ($\bar{x}$ = 5.43 v $\bar{x}$ = 4.83, p<.05 respectively) and the university ($\bar{x}$ = 4.70 v $\bar{x}$ = 4.15, p<.05 respectively).

This investigation of the impact of the model on student learning processes, satisfaction, and engagement revealed a need to:

- Provide continued support to implement the OLM, especially in relation to the *Teacher Presence*, *e-Assessment*, and *Interactive Resources* elements
- Review the implementation and support strategies for the *Interaction between Students*, *Learning Communities*, and *Interaction with the Professions* elements – investigate what staff find most difficult about these elements, why students are resistant to aspects of the element and how we can improve the uptake and utilisation of strategies to facilitate the presence and impact of these elements
- Invest in staff time and ability to modularise subject content and facilitate self-pacing of students through the material
- Investigate student understanding and interpretation of the questions relating to all elements
- Improve the response rate to surveys to increase the evidence base on which to make decisions about staff development and resource allocation
- Focus on strategies to support and improve the *Interaction between Students* element as there is a trend for this element to positively impact on student engagement

### 4.2.3 Implementation processes

The objective of this part of the evaluation was to investigate the affordances and constraints for staff in implementing elements of the model to ensure future feasibility and sustainability. We were especially interested in exploring the workload and support needs of academic and educational design staff, and possible refinements we could make to the model in moving forward.

The OLM pilot implementation was accompanied by workshops and presentations to every faculty across all campuses. Engagement with these activities was patchy and commitment to the pilot varied. Subject coordinators who chose to work on the pilot in isolation were less positive about their experience, but those who attended professional development, or who worked closely with the support teams associated with the project, reported very positive experiences and an intention to pursue the model further.

Survey data show that although 4/6 EDs agreed that time allocations were sufficient during planning and design as well as teaching phases of the implementation, few subject coordinators (3/10) agreed that the extra hours of workload allocation were sufficient for implementation. Despite this, 70% of staff reported that the changes were sustainable and they were satisfied with the support provided by EDs.

*Enablers for implementation*:

Qualitative analysis of survey and interview data show that teamwork, the provision of and access to dedicated support provided by educational designers and element specialists, professional

development opportunities and the integrated nature of the elements all facilitated the implementation of the OLM. The most productive projects established design and teaching teams who expected to work collaboratively, and by combining their different strengths the teams were able to go beyond their individual capabilities. For example[23]:

> *The success of the Pilot was down to the fact that I had that team of people who knew the right stuff and who were just always willing to help on call, like just-in-time assistance. […] to have someone who you know is your dedicated crew member who is just going to help as soon as they can when you've got a question or a problem. And that's exactly what I had, and it was fantastic (SC,012).*

> *We're really lucky, we've got great ED's at CSU and they're really creative and fabulous people who are so generous with their time […] just increase and engage with my energy and enthusiasm […]. The library staff were amazing, the Allan staff were amazing, so I think that team approach to teaching was really valuable and so I think that was probably the one thing that I'm taking away the most really is that you know, that connection, that team approach, how you can actually come up with so many more creative and valuable ways of teaching and technologies in teaching strategies. If only you start looking outside of your own little area of content expertise and thinking about what other professionals there are there available to us […] it was useful for me (SC,004)*

The evaluation revealed important information about teaching and educational design staff perceptions about the value of different elements of the model along with the feasibility of implementing the elements. Understanding these perspectives is important if we are to ensure that future support and professional development processes are well aligned to the needs of the staff involved.

*Barriers to implementation*:

Time pressures were the primary barrier to the success of the OLM element implementation. Subject coordinators reported that timelines for implementation were too short, and when compounded by competing demands (e.g. admin responsibility, illness, promotion, research, leave, subject reviews), insufficient workload, and instability in staffing, it subsequently became overwhelming for some. For example, some staff were unable to buy out their other work commitments, some subjects were taught using contract or sessional staff who had no workload allocation provided to become familiar with the tools used, and due to the short timelines, there was lack of time to explore and master new technology in some subjects. Quotes to support these findings are included in Appendix G.

The integrated nature of the elements also proved a challenge for the implementation in the pilot subjects. The intended focus on one of seven elements in each pilot subject proved particularly challenging for the staff as it became clear early on in the implementation that the elements did not function in isolation but interacted with each other and required a range of contexts to be addressed simultaneously to impact positively on the student experience. It has become apparent that the elements of the OLM were inter-dependent and could not be successfully considered in isolation. For example:

[23] Further quotes in support of these points are provided in Appendix F

> *You've got a whole range of things … we do a number of those things at once its not just... you just can't split them up! (SC,011).*

The pilot projects did not always target the element that was nominated, but the time and energy spent attending to the question of engagement often led to the enhancement of other elements. In a project focusing on the development of *Learning Communities* for example, the lecturer was not comfortable to foster the use of groups at all but *Teacher Presence* was considerably enhanced instead. It was also apparent that focusing on *Learning Communities* always enhanced the *Interaction between Students* element. Element specialists were particularly aware of this interactive nature of the elements:

> *I think it absolutely was the right call to move to considering the model in its entirety when analysing a subject as has occurred now in the scale up (ES2)*

This was also clearly the case for students as well, as shown by the results in Figure 4.2.

An emphasis on different elements in response to the context of the subject was also considered fruitful:

> *So overall your design cannot be focussed on just one thing. So not focus only on Teacher Presence because that might not fit the student's expectations. You actually have to kind of touch bits and pieces from all those tools in the Online Learning Model and I guess the most important thing is, because you know what you want to teach so well, so kind of link that with what's your student diversity. Do you have more mature students? Are your students just enrolled in one degree? (SC, 002)*

Course stage and student cohort also impacted on student readiness for the technology and the strategies applied:

> *I'll draw attention to the fact that both of mine were level 400 subjects, so the students that were in them had probably engaged with some of the technologies and were familiar with i2 and things like that, or knew how to contact a coordinator if they had problems (ED5).*

The interview data revealed that two elements of the model were perceived by staff as more difficult to implement successfully. *Learning Communities*, and *Interaction between Students* were perceived by both subject coordinators and educational designers as difficult to implement, with some coordinators doubting the value of small group work in the *Learning Communities* element. There was also a perceived need for enhanced and ongoing communication between subject coordinators and educational designers, and with students on tool use in particular. The student survey responses in Figure 4.2 echo this qualitative data from staff and further quotes from staff which illustrate their experiences of implementing the OLM are provided in Appendices F and G.

*Changes to implementation needed to ensure a positive impact:*

Through staff interviews and focus groups a number of practical suggestions were made to enhance future implementations of the OLM. Namely, the need for longer lead times in the planning and design process, the use of teaching teams wherever possible to distribute the load. Whenever teaching teams were used, with the extra support of library, ALLan, DiT and EDs the experience was reported as a positive one for all concerned.

Educational design staff reported specifically on the need for clear instruction and communication between themselves and the subject coordinators with regard to coordination of resources, and also between the subject coordinators and students with regard to tool use.

The need for adequate workload allocations for staff involved in online learning and teaching is paramount to alleviate many of the barriers. Student support in the use of resources and familiarity with the technology and tools available is also important to ensure the success of the OLM elements and this will in part be driven at times by internet access and bandwidth availability and requirements.

From the student perspective, qualitative data show that students valued:

- A clearly planned structure and presentation
- High resource quality
- Academic literacy skill development support
- *Teacher Presence*
- Thoughtful use of technology, and
- High quality assessment

For example:

> *[I valued the] Online modules which had a great flow from each one, week by week and were simple - great reading links – excellent resources to improve academic reading and writing skills - encouraging lecturer - great youtube videos to explain assessment tasks (ST,17.)*

It was very important to students that all communication was clear, well organised and coherent in its flow throughout the subject. The clear communication of material was supported by skilful presentation that was well organised. For example[24]:

> *I thought this subject was delivered fantastically for a distance education subject and believe many lecturers could benefit from the approach used. At the start our lecturer had modules which guided us on how to structure and write an essay which none of my other subjects ever did in my four years of uni and i found it incredibly encouraging (ST,1).*

The recognition of high quality assessment by students was readily apparent in many interviews and focus groups, with students valuing authentic, multi-modal tasks and readily identifying the poorer features of assessment as those which had convoluted instructions, changing due dates, and lacking in relevance or depth. For example:

> *[…] I also appreciated the smaller assessment tasks as a way of achieving a good understanding of the subject matter without being bogged down in a huge assignment (ST,89).*
>
> *The assessment tasks or activities were over complicated, making it harder to understand what was required. A simpler approach could have been more effective in conveying the necessary outcomes (ST,13)*

[24] Further examples of student quotes to support these perspectives are included in Appendix H

**Key findings relating to the implementation process:**

The investigation of the implementation of the OLM Pilot identified a need:

a. to review and revise the elements,
b. to continue to support and develop the use of elements across the institution,
c. to plan and structure support for the time and skill demands of preparing and teaching online by modifying staffing models, workload policies and subject revision timelines,
d. to develop methods for improving the presence of elements in courses and subjects in an integrated instead of atomised form,
e. to ensure improved lines of communication between all levels of teaching support teams and students,
f. to review methods for selecting subjects for focused attention and communicating with all stakeholders and
g. to develop skilled support teams to collaboratively develop and enhance online subjects.
h. to focus staff professional development activities on developing high quality assessment

### 4.2.4 Technology platforms and tools

The pressure to use innovative strategies in a very short timeline put great strain on staff and students. There was no opportunity for adequate professional development to develop proficiency or confidence, so staff on the frontline were often working under duress. For some, the perceived benefit of the new tools did not warrant the workload involved in mastering them.

In their open-ended comments on the survey, students too expressed frustration and confusion with regard to:

- Platform use (Firefox v Chrome v Internet Explorer)
- Group assignments and the tools used to support this
- The use of Adobe Connect – difficulties with access, depending on the platform, difficulties with audio, high bandwidth required
- Printability and downloadability of material (or lack of)
- Access to PebblePad in the workplace
- Multiple log ins required to access material
- Accessible support (students were uncertain about whether to contact DIT, DSL, an ED or the Subject coordinator)

This was also the case in student interviews, when online subjects are being designed it is a challenge at times to balance the time and effort needed for the learning of the discipline skills and the learning of technology skill. Some students were overwhelmed by the technology:

> *The group assignment was extremely difficult to do because it was so fiddley with online technology. Therefore making it hard to produce your best work because the technology was so hard to use!! (ST5)*

When the strategies applied in a first year, first session subject required a high degree of skill and confidence this issue was magnified:

> *It just didn't work, because I think the combination of being, first year DE students, first session, and then Adobe Connect, and then talking to people within that class. Of course, not having the headsets, not doing the thing,*

> *[preparatory procedures] even though we told them lots of times, that's why it didn't work. (ED4)*

As the architecture of technology support for online learning at CSU has evolved it has become increasingly complex. Both staff and students struggled at times to cope with this complexity. From a staffing perspective, technological limitations were encountered as a result of the transition from Sakai to Blackboard, the availability of ED time to support both staff and students, the need for timely support and the need for early access to materials and tools by sessional staff. Further comments from staff and students in relation to access are included in Appendix I.

The majority of subject coordinators (66.6%), OLM element specialists (53.9%), and subject EDs (83%) felt that the existing technologies were sufficient for implementing the model in the subject of focus. In practice however, students struggled with a variety of technology issues that in some cases that may have hindered their learning and engagement with course material.

Technology support for both staff and students must be very agile and flexible responding to an extraordinarily wide range of needs and it is not always clear where support should be sought.

In addition to findings about the adequacy of technologies a number of findings emerged about the ways in which technologies are chosen, supported or about the professional development required for use. Staff and students had many suggestions on improving the online learning experience. Many students wanted their subjects to look and feel more like familiar social media, they wanted faster, less complicated access to material and 'how to' guidance :

> *Make it more straightforward. Having instructions on how to do everything, especially submitting appraisals (ST,3).*

Subject Convenors wanted more functionality and capacity:

> *Better provisions for the screencapture of hand-worked examples, e.g. through document camera or graphics tablet (perhaps some could be done in simple screencast of excel instead) (SC,007).*

Element specialists wanted more streamlined functionality

> *An ability to merge cohorts, so the academic only has to make changes to one site but still retains the ability to communicate with just the internal or the external cohort, would be helpful (ES18).*

Interact2 was not fully bedded down before the OLM Pilot began. Some users found it excitingly fresh and helpful while others were irritated at having to adapt to a change. Although participants have provided some general suggestions for improving the technology support of their subjects most advice is associated with specific tools such as Interact2, FaceBook, PebblePad, Peer assessment, CSU Replay etc. These suggestions have been incorporated into Appendix J.

Overall, the findings in relation to technology platforms and tools suggest that there is a need to:

a. provide technology skill training and allow time for proficiency to develop,
b. ensure staff and students have timely skilled support when initiating a new technology and ongoing support during use,
c. accommodate low bandwidth with downloadable and printable content,
d. ensure sessional staff have appropriate, timely access to teaching tools they will be required to use,

e. continually monitor functionality and useability of tools and
f. support innovative use of current tools and encourage development of new approaches

### 4.2.5 Curriculum design issues

A number of general curriculum design recommendations emerged from the analysis of the open ended survey responses and the interviews and focus groups. The analysis of this data focused specifically on curriculum enablers or constraints related to the student learning experiences with the OLM. These include the need to:

a. ensure all instructions and communications are clear and well organised ensuring 'flow' of modules
b. develop assessment that aligns to subject outcomes ensures relevance, accessibility and appropriate timeframes
c. exploit functionality of adaptive resources (e.g. interactive online quizzes)
d. be sensitive and strategic in planning, structuring and supporting group tasks
e. ensure high quality teaching resources

The following points in Table 4.2.5a were further extracted from both student and staff interview data[25].

Table 4.2.5a

Summary of curriculum related enablers and constraints for student learning using the OLM

| **Enablers** | **Constraints** |
|---|---|
| Online meetings and access to recordings | Scheduling of online meetings and overcoming technical barriers (e.g. use of microphones, insufficient bandwidth) |
| Residential school and opportunities to build relationships | Staff resistance to facilitating interactions between students |
| Engaged and accessible teaching staff | Lack of lecturer involvement |
| Scaffolded discussion board activities with peer to peer interaction and topic review questions, adding images | Staff resistance to facilitating interactions between students ; Small groups and interactions between students - diverse attitudes about value |
| Workplace experiences and professional contextualisation of subject content | Workplace firewalls and technology constraints |
| Timely feedback on assessment items | Ungraded quizzes |
| Academic literacy skill development support | Workload and time constraints |

[25] Quotes to support this summary are included in Appendix H.

| | |
|---|---|
| Presentation of materials visually pleasing and easy to navigate | Too much reading and no variety of information delivery |
| Use of multimedia (e.g. YouTube, podcasts) | Videos too long |
| Clarity of information | Disjointed delivery; contradictory communication from different staff; Changing subject outlines and assessment tasks |
| High quality assessment | Ambiguous assessment tasks which lack relevance or depth; |

### 4.2.6 Sustainability

Subject Coordinators, OLM element specialists and subject EDs were asked whether they thought that the changes made to the subjects were sustainable. In particular, the sustainability of subject resources, design changes, and changes to the teaching approaches implemented beyond the pilot. A strong majority of Subject Coordinators (70%), OLM element specialists (73.1%), and subject EDs (83.3%) reported positively that the changes were sustainable beyond the pilot.

Qualitative data indicate that the main enablers of this sustainability were the provision of more time and staff support for implementation. On the whole, there was little information reported with regard to barriers. This aligns well with the survey data where the majority of all staff reported positively on the sustainability of the OLM. The central barriers which were mentioned related to individual lecturers time availability and the need to improve the functionality of tools such as PebblePad and Peer Assessment, whose use was deemed unsustainable by some due to difficulties inherent in the platform with access and loss of data. Some educational designers also mentioned the need to provide ongoing continuing personalised support needed by academics was unsustainable.

### 4.2.7 Professional development

The OLM Pilot implementation was preceded by workshops and presentations offered to every faculty across all campuses. However, attendance was low and variable (e.g. four staff from one faculty at one campus to 20 plus staff at another campus). Engagement with these activities was patchy and consequently there were some pilot subject coordinators who had not attended a workshop. Additionally, some subject coordinators chose to work on the pilot somewhat in isolation rather than in close collaboration with the OLM element specialist. In general subject coordinators who attended professional development or who worked closely with the support teams associated with the project, reported very positive experiences and an intention to pursue the model further.

A key change which we have put in place in the Phase 1 implementation of the model that has followed the pilot, is to ensure that all members of subject revisions teams attend workshops on the OLM and work closely with the OLM element specialists.

Most subject coordinators who participated in the evaluation highly valued the support provided by the OLM element specialists and educational designers, noting their enthusiasm and expertise in providing the necessary support and mentorship in some cases. One subject coordinator likened this support to having an academic personal trainer.

# 5 Recommendations and conclusion

## 5.1 For students

Students had an overall positive response to the elements of the OLM and an overall positive impact on student learning and engagement was found. Students especially favoured the elements which focused on *Teacher Presence* and *e-Assessment* and reviewed online interactive quizzes, online meetings, lecturer videos and discussion boards favourably. Modularisation of content within subjects, and connecting with the professional context was also highly valued. There was some resistance to working in small groups.

In the pilot implementation of the OLM there was no introduction to students about the model, or the individual element being focused on in the subject. This may have impacted on their responses to the OLM survey and their understanding of the language used in the item stems.

Specific recommendations based on student responses:

- Interactive quizzes should be incorporated in more subjects and should be flexible, low stakes (but still count towards a grade), and authentic.
- Video content combined with scaffolded discussion should be used in subjects, especially video content from the professions
- Students need targeted and ' just in time' support for the use of specific tools such as Adobe Connect
- Low bandwidth, downloadable and printable content should be made available wherever possible
- More work is needed to support and improve the *Interaction between Students* element as trends in the Pilot showed this had the strongest positive impact on student engagement. It may be that increased flexibility in the way in which interaction with peers occurs will make this element more valuable to students
- High quality accessible teaching resources, characterised by clear communication and high teacher presence, should be provided

## 5.2 For staff

Staff expressed overall enthusiasm for the OLM in the survey and interview responses and perceived that the OLM had a positive impact on student learning. *Teacher Presence* and *Interactive Resources* were especially commented on favourably and this perhaps aligns well with the student perceptions too. There was some confusion however about the *Learning Communities* element and what this encompasses. Although the short timelines for design and implementation were a struggle for some, staff felt well supported by educational designers and element specialists and responded that the changes were sustainable, despite feeling the workload allocation was insufficient.

Based on staff responses, the following recommendations are made:

- Greater staff awareness is needed about strategies to enhance *Teacher Presence* through the use of technology to reduce workload. This could be the focus of professional development within Faculties and Schools
- The *Interaction between Students* element requires sustained and structured support from the staff for successful implementation

- *Interaction with the Professions* is highly regarded by students and ways to integrate professional contexts, perspectives and practices within subjects need to be taken advantage of and disseminated
- *Teacher Presence* and *e-Assessment* elements were highly regarded by students and had a positive impact on learning, they were also well implemented – strategies to enhance these two elements need to be disseminated widely for staff take up
- The professional development workshops were favourably received. Attendance needs to be encouraged with time and workload allocations for all staff (including session staff) taken into account. Targeted professional development should be provided to focus on the *Learning Communities* and *Interaction with Students* elements
- Teaching teams may need to be implemented to distribute the load in some subjects
- Workload allocations need to include the provision of time to upskill with regard to new technology
- Information about the requirements needed to implement subject changes surrounding the OLM elements need to be made widely available, especially to session staff, so that staff do not under-estimate the significant time required for technology upskilling and improvements to resources and assessments.

## 5.3 For future implementation and evaluation

There was specific feedback provided about the implementation of the OLM and some clear lessons to be learned. Some elements for example required greater clarity and more definition to assist with student and staff responses to specific questions. There was also an overall low student response rate and an over-representation of female students. The following recommendations are made to assist with future evaluations:

- Incorporate one sentence definitions of OLM elements within future surveys
- Further investigate student understanding of the element description used in the survey through focus groups or interviews
- Improve the timing of survey distribution and reminders. Perhaps increase the incentive value or number of incentives – one per faculty for example
- Develop methods for improving presence of elements in courses and subjects in an integrated instead of atomised form
- Ensure improved lines of communication between all levels of teaching support teams
- Continue to support and develop a balanced integration of the elements across the institution
- Plan and structure support for the time and skill demands of preparing and teaching online by modifying staffing models, workload policies and subject revision timelines
- Involve all stakeholders in selecting subjects for focused attention.
- Develop skilled support teams to collaboratively develop online subjects

## 5.4 For learning technology platforms

The overall response from both staff and students was that the learning technology and platforms were sufficient to implement and support the OLM. Some tools were difficult to engage with however and these need reconsideration (e.g. PebblePad and Peer Assessment). From an ED perspective, it was sometimes difficult to support both students and staff with particular tool use. Students expressed a

desire for more of a social media feel to subjects, with faster and less complicated access to material and more 'how to' instructions from subject pages.

Recommendations:

- Staff training focused on how technology can enhance their *Teacher Presence* and reduce workload (e.g. through *Interactive Resources* and *e-Assessment*)
- More time and staff support for upskilling with technology
- There is a need to continually monitor the functionality and useability of tools
- Technology skill training is needed before implementation, with at least a 4-week lead time
- A dedicated support team to provide just in time training is needed in addition to EDs

### 5.5 For the OLM

The OLM as a whole had a positive impact on student learning and engagement and staff also viewed the OLM positively as a catalyst for change and improved practice. The OLM is perceived by staff as something to keep working towards and the positive correlations between individual elements suggest that they are inter-dependent. Students perceived a moderate to high level of agreement on the presence of elements and visibility in subjects for *Teacher Presence*, *e-Assessment*, *Flexible and Adaptive Learning*, and *Interactive Resources*. However further work is needed to improve the understanding and visibility of *Learning Communities*, *Interaction between Students*, and *Interaction with the Profession* elements.

Recommendations:

- Continue with the large scale implementation
- Improve the support of *Teacher Presence* through *Interactive Resources* and *e-Assessment*
- Exploit the affordance of technology to enhance the authenticity of design and the uptake of *e-Assessment* and establish stronger linkages and *Interactions with the Professions*
- Improve the elaboration of and support for *Learning Communities*, *Interaction between Students*, and *Interaction with the Professions* elements and investigate any misunderstandings further.
- Continue to support the implementation of the OLM with more dedicated support for the *Interaction between Students*, *Learning Communities, Flexible and Adaptive Learning,* and *Interaction with the Professions* elements

## 6 Conclusion

This pilot evaluation of the OLM has shown that it was well received overall by students and staff and was well supported by EDs and OLM element specialists. The OLM should continue to be supported, with the elements of *Teacher Presence*, *Interactive Resources*, *e-Assessment*, and *Flexible and Adaptive Learning* showing particularly positive correlations with perceptions of overall subject quality. The *Learning Communities*, *Interaction between Students*, and *Interaction with the Professions* elements were also well received but require further refinement and understanding for successful implementation.

The OLM has had a positive impact on student learning and engagement to date and further targeted staff and student support in at scale iterations, combined with improved survey response rates to better utilise data to inform practice, should see larger and more wide ranging impacts on student learning and engagement. Additionally, it is expected that greater impact will be observed

where multiple elements of the model are implemented in each subject. The evaluation of the Phase 1 implementation will further inform planning into the future.

# 7 References

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