HENDERSON LOGGIE
Chartered Accountants

Glasgow Clyde College

Space Management (Business Process Review)

Internal Audit Report No: 2017/04

Draft Issued: 21 February 2017

Final Issued: 27 February 2017

Content

1. Background

As part of the Internal Audit programme at Glasgow Clyde College ('the College') for 2016/17 we facilitated a business process review of the following processes:

- gathering course information (such as units to be taught and the block/period that these are to be taught in) required by the student registry system before students can be attached to courses;
- timetabling of staff to courses and subsequent allocation of courses to rooms;
- the creation and dissemination of timetables to staff and students;
- calculation of room utilisation and analysis of reasons for any areas of low room utilisation;
- calculation of staff utilisation (staff with permanent teaching hours) and undertaking action where actual teaching hours are under contracted teaching hours.

The current process for gathering course information requires a CRS form to be completed. This is generated by MIS (the Management Information Systems department) by rolling forward information from the prior year from the student records system (Unit-E) and emailed to Senior Lecturers to complete. The Senior Lecturer reviews and amends / updates the information on the CRS form with details of the SQA or non-SQA units or subjects to be undertaken. The CRS form also contains a section setting out the timetable when each unit or subject will be taught and who will teach this unit or subject. The completed CRS form is sent by email to Faculty Administrators, who input the course information into Unit-E. They then send the CRS form by email to MIS who input the timetable information into Unit-E to create class registers. When incorrect or incomplete CRS forms are submitted then requests for changes may flow from MIS through Faculty Administrators to Senior Lecturers and back again, which is time consuming and inefficient.

Timetabling is currently completed by Senior Lecturers. Each Senior Lecturer has on average 5 to 10 courses for which they are responsible. Staffing resources are allocated to the Senior Lecturers by their Heads of Curriculum and a group of rooms is centrally allocated to Senior Lecturers for them to utilise for timetabling purposes. Timetables are produced in paper form or are recorded on spreadsheets. The information from these timetables is then manually transferred to the CRS forms. There are often late changes to timetables as the availability of part-time staff, who may have other employment elsewhere, can change at relatively short notice. This requires amendment of staffing and room timetables, which can delay the finalisation of timetables. Timetables for students and staff are generally manually typed up into Word (if using a paper version) or printed out (if from a spreadsheet version).

Estates staff undertake room utilisation surveys twice a year by physically identifying the sessions over the course of a week when rooms have been physically occupied. (There are two sessions a day - morning and afternoon). These surveys have highlighted a relatively high percentage of room availability, and the summary of these is set out in the following table (based on the highest and lowest room utilisation figures from the last 2 surveys completed in February / April 2016 and November 2016):

Campus	Percentage of free rooms (busiest session)	Percentage of free rooms (quietest session)
Anniesland	15% (Wednesday afternoon)	45% (Thursday afternoon)
Cardonald	25% (Tuesday morning)	49% (Friday afternoon)
Langside	20% (Tuesday afternoon)	62% (Friday afternoon)

It should be noted that many of the rooms are specialist in nature (e.g. workshops for all the trades, and areas such as science labs and fashion sewing and cutting areas), and the figures above are only the overall position not excluding specialist rooms which cannot be transferred for use in other curriculum areas.

1. Background (Continued)

Although it appears that there is sufficient room availability it was noted from discussions with staff that when creating timetables, it is often difficult for Senior Lecturers to obtain extra rooms, particularly at the Anniesland campus. Staff identified a number of potential reasons for this, including the belief that some staff members may be retaining rooms which they do not require.

From discussion with a sample of Heads of Curriculum we noted that Senior Lecturers were required to timetable permanent staff first and in a way that fully utilised their contracted teaching hours, and that staff utilisation was reviewed, however we noted there were no central checks done to verify this.

2. Scope and Objectives

The scope of this assignment was to carry out a review of the current processes used by staff for the completion of course unit information, timetabling (courses, staffing and room allocation), dissemination of timetables, and calculation of room and staff utilisation.

The objectives of the assignment were to ensure that:

- the College is aware of how teaching and support space is currently being utilised;
- the time-tabling process takes sufficient cognisance of space utilisation, ensuring efficient use is being made of College teaching rooms;
- there are appropriate monitoring and reporting frameworks in place;
- the anticipated outcomes for all stakeholders from processes are clearly defined;
- the steps in the value chain (processes) are identified;
- steps that do not add value are identified with a view to eliminating them; and
- steps that create value occur in the right sequence.

3. Audit Approach

Through discussions with staff involved with the gathering of course information, timetabling and review of staff and room utilisation we gained an understanding of the current processes in place and obtained a greater understanding of current issues. A facilitated session with staff involved with the gathering of course information, timetabling and review of staff and room utilisation was held and we used a range of business improvement tools to identify stakeholder needs; identify opportunities for removing inefficiency and waste from the current processes used; and to highlight revised processes that could create a flow between value creating steps to improve the processes.

We then completed a prioritisation exercise of the issues in a meeting with College staff and developed an outline action list which we provided to staff to help them drive forward improvements.

4. Summary of Main Findings

The review identified several areas for investigation or improvement and all the identified actions are designed to enhance efficiency and effectiveness. No issues which are subjecting the College to material or significant risk were identified during our review.

The main areas for investigation or improvement noted during the review (from the 28 potential improvement points suggested) were:

- The data from the CRS forms should be input by Senior Lecturers directly into Unit-E or via an input portal, rather than the current approach whereby Senior Lecturers note changes on a spreadsheet and then pass these changes on to a Faculty Administrator for inputting. This would reduce double input and the risk of data input errors however is likely to require some systems development;
- Currently timetables are produced by academic staff who have to carry out the timetable preparation stage on paper or spreadsheets and the College has indicated that this will always be necessary. These timetables are then passed to Faculty Admin staff for inputting to the student registry system (Unit E). The CRS form should be split into two parts with part 1 of the form, containing the key course information, being processed earlier in the cycle and part 2, containing the timetable including the staff involved (which is the area subject to greatest change and sometimes at a late stage in the process), being a second stage part of the process. This will allow for the key course information to be captured at an earlier stage and aid with planning and space management;
- In the longer term, consideration should be given to the implementation of electronic timetabling software. This would not replace the creation of timetables but could assist with the latter stages of the timetabling processes (such as allocation of rooms and facilitation of late timetable changes) and would assist with efficiency;
- Functionality on Unit-E to produce timetables from student register information should be utilised and this should be made available to staff and students on the intranet. However, we noted that the current format of the Unit-E timetables was not considered to be user friendly and therefore solutions to this issue will require to be considered going forward;
- Once Unit-E is being utilised to produce timetables, or the College introduces an electronic timetabling system, then a checking process should be put in place to ensure that the timetable information held on Unit-E includes some accuracy checking, such as identifying any room booked twice for the same time session; and
- Staff and room utilisation reports should be run from the Unit-E timetable system (once there is confidence that this data is accurate) and staff and room under-utilisation should be monitored and followed-up on a timely basis and reviewed by an appropriate management group

5. Acknowledgements

We would like to take this opportunity to thank the staff at the College who helped us during the course of our visit.

6. Summary of Improvement Points Identified from Facilitated Session

On 25 January 2017 Henderson Loggie held a facilitated session with a range of staff members involved with:

- gathering course information (such as units to be taught and the block/period that these are to be taught in) required by the student registry system before students can be attached to courses;
- timetabling of staff to courses and subsequent allocation of courses to rooms;
- the creation and dissemination of timetables to staff and students;
- calculation of room utilisation and analysis of reasons for low room utilisation; and
- calculation of staff utilisation (staff with permanent hours) and undertaking action where teaching hours are under contracted teaching hours.

The aim of the facilitated session was to identify areas of waste within the above areas, and to highlight possible options for improvement. The facilitated session highlighted the seven waste categories that Toyota devised (see below) to give some background for participants on the types of waste that could exist within the College's systems. A range of business process improvement tools were then used to elicit from participants issues with the current systems, consider possible improvements to these, and to highlight some potential issues relating to implementation of possible solutions. All participants were encouraged to provide input and all points raised were noted on flipcharts which were placed on the wall during the session for all participants to see.

The Toyota waste categories, along with some examples, are given below:

Inappropriate processing
Managers doing the work of subordinates
Duplication of data entry
Data being passed multiple times between different staff before processing
Manual creation of timetables when systems can do this

Overproduction
Production of multiple versions of forms
Over servicing of internal customers
Working unnecessary overtime

Transporting
Transporting of forms
Unnecessary movement of staff between locations

Defects
Manual input errors
Incorrect reporting of data

Waiting
In process delays while waiting for staff to process information
Information not processed when staff are away on holiday

Unnecessary inventory (not applicable for this review)
Level of stock and work in progress

Unnecessary motions
Ergonomics of work stations
Significant staff movement to access scanners/photocopiers

6. Summary of Improvement Points Identified from Facilitated Session (Continued)

Following the facilitated session, the improvement points raised were entered into a spreadsheet and classified into one of the following categories: course information; timetabling; staff utilisation; and room utilisation.

On 26 January 2017, a further facilitated session was held with a small group of senior College staff to review and prioritise the improvement points. Each point was reviewed by this group and prioritised based on savings or cost benefit that could be obtained as well as ease of implementation by scoring each improvement point against the following three factors:

- the cost impact of the issue (1 = little impact on costs/savings, 10 = big impact on costs/savings);
- the effort required to fix or change the issue (1 = difficult to change/fix, 10 = easy to change or fix); and
- the strategic importance of the issue (3 = high importance, 2 = medium importance, 1 = low importance).

These scores were multiplied together to identify those items with the potential for making significant savings and those which were not too difficult to change and priorities for implementing change set (high priority, medium priority, low priority). Of the 28 points raised, the scoring from the facilitated session classed 11 as high priority, 3 as medium priority, and 14 as low priority. A small number of points raised in the first facilitated session were removed before coming to the final list of 28 points because either these were already being implemented, were not considered practical to implement, were of a minor nature, or were largely duplicated within another point raised.

After the second facilitated session, the prioritised list of improvement points was provided to senior management for further review and for consideration of how to implement the proposed changes.