



STUDENTS AS
CO-CREATORS

A Curriculum Design Collaboration

***Optimising Student Skills for Microsoft Word,
Excel and PowerPoint***

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Executive Summary

In this particular project as co-creators, we have participated in optimizing student skills for Microsoft Word, Excel, and PowerPoint. Group discussion and collaboration have effectively enabled us to complete each task on time. As students and co-creators, it has enabled and taught that group work was an essential way of retaining more information and to be able to work with diverse perspectives. We divided the most important responsibilities via regular meetings throughout this project into notetaker, summarizer, facilitator, timekeeper, presenter. The technique has made the task easier to understand and work on as a group. We first started to create a poster to grab the attention of the students who will be answering the questionnaire regarding the views and the experiences that students faced when using Microsoft Office products. To engage and to gain as many views of many students as possible we provided the opportunity of winning free £10 amazon vouchers. The created poster included the release date of the questionnaire and the accessibility to the link. Furthermore, to reach out to more students this created poster was shared all over the University page. As a group, the questionnaire was created and was kept as simple as it could, to enable us to gain as many views of students. The questionnaire involved twelve main questions on a Google Form to answer, and they were created by also providing the opportunities to reveal any free text comments that they could have to elaborate their answers. Results from 141 participants have been collated and summarised in this report together with our recommendations for future work.

Background and Aims

Universities request students to complete and submit assessed work most commonly by the use of one or more of Microsoft Word, Microsoft Excel and Microsoft PowerPoint software. Often making assumptions around their skills with the optimal use of these packages. There is variation in skills and this is observed in the presentation of the work, especially science specific aspects. Although in addition to tutorials within the software itself, external resources are available for students to access and use to guide for these packages, time constraints and study load may limit the time available for students to explore these resources and practice using some of the functionality.

The aims of the project were:

- To determine student entry skills in relation to the use of Microsoft Word, Excel and PowerPoint
- To determine skills development through use in the degree programmes
- To determine the most appropriate and suitable mechanisms for student support for the use of Microsoft Word, Excel and PowerPoint.

Methods

The questionnaire has been created in order to collect data regarding the student skills for Microsoft Word, Excel and PowerPoint. It has been published on Blackboard and all students from level 4,5 and 6 had a chance to answer a set of questions about their abilities for a period of one week. To increase the number of responses, the first thirty students to complete the survey were offered a £10 Amazon token. The questionnaire consisted of 12 questions, where one answer could be chosen on a scale 1-5, but the participants also had a chance to leave comments and suggestions of their own. One hundred forty one responses were collected and evaluated in order to determine what areas needed improvement, as well as how University and its staff could help with that. All the answers were anonymous, however the students who were willing to be a part of the giveaway, could leave their details such as a name and university email. The data has been analysed with the use of Google Forms charts.

Results

One hundred and forty one responses from the questionnaire were recorded, with the majority of them being from Level 4 students (37.4%). The second most responsive group were Level 5 students (34.5%). Level 6 students gave 39 responses which equals to 28.1%. 130 participants have declared themselves as home students, which means that only 11 responded were from overseas. Students were also given a chance to leave comments and suggestions of their own. Out of 8 responses, 5 of them suggested there is a need to extend support for Microsoft Excel use. Participants recommend more tutorials and workshops as a way for improvement, as well as short videos that would give instructions and demonstrate the correct use.

3. Please state your age?

139 responses

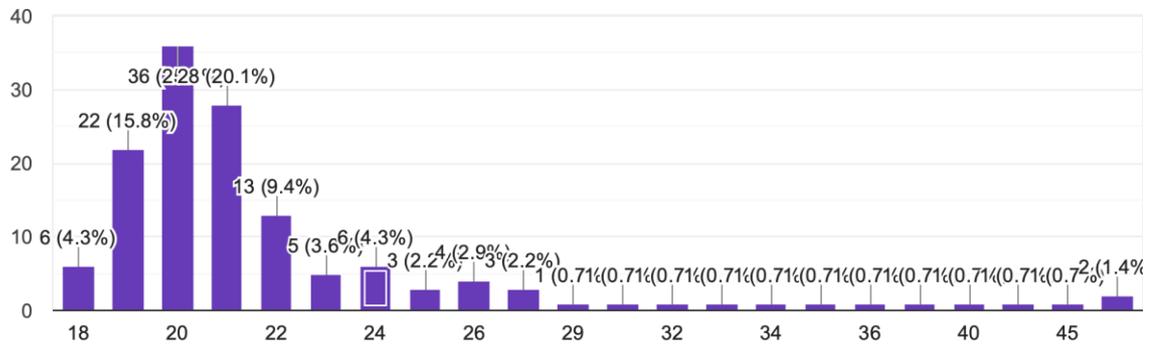


Figure 1. *The age of the participants.* The graph created based on the participants' responses suggests that 20 year olds were the most responsive age group. Majority of students that took part in the survey were younger than 27 (116 responses).

4. On a scale of 1 - 5, what most accurately represents your course entry skills in the use of Microsoft Word? (1 = no ability, 5 = advanced capabilities)

139 responses

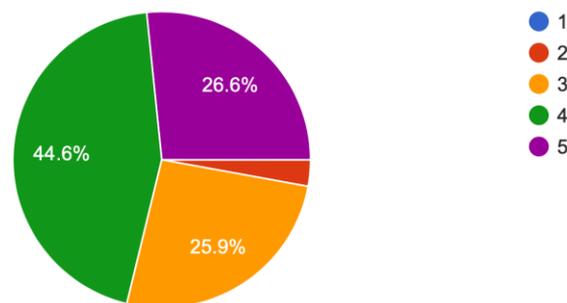


Figure 2. *Entry skills of participants in the use of Microsoft Word.* The graph represents how students would evaluate their skills on a scale 1-5, where 1 means no ability and 5 describes advanced capabilities. 71.2% of the group has chosen the answer 4 or higher. No one has declared that they had no skills prior to starting the course.

5. On a scale of 1 - 5, what most accurately represents your course entry skills in the use of Microsoft Excel? (1 = no ability, 5 = advanced capabilities)

139 responses

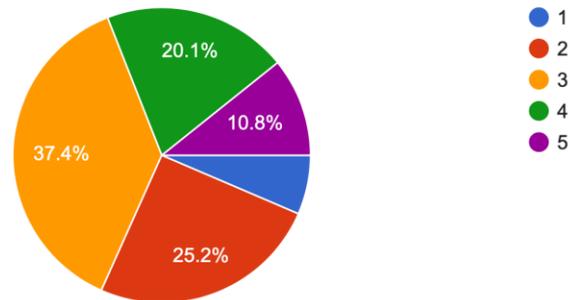


Figure 3. *Entry skills of participants in the use of Microsoft Excel.* The collected data shows that the majority of the participants (69.1%) have chosen the answer 3 or lower. Only 10.8% of the students have chosen 5, which means advanced capabilities. 6.5% of the group had no abilities with the use of excel prior to starting the course.

6. On a scale of 1 - 5, what most accurately represents your course entry skills in the use of Microsoft PowerPoint? (1 = no ability, 5 = advanced capabilities)

137 responses

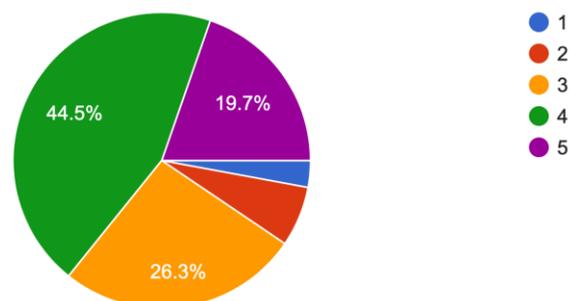


Figure 4. *Entry skills of participants in the use of Microsoft PowerPoint.* The data on the graph, which represents students' responses, shows that majority of the students feel confident about their skills. 35.8% of the participants has chosen the answer 3 or lower, where 4 students had no abilities prior to starting the course.

7. On a scale of 1 - 5, what most accurately represents your current skills in the use of Microsoft Word? (1 = no ability, 5 = advanced capabilities)

138 responses

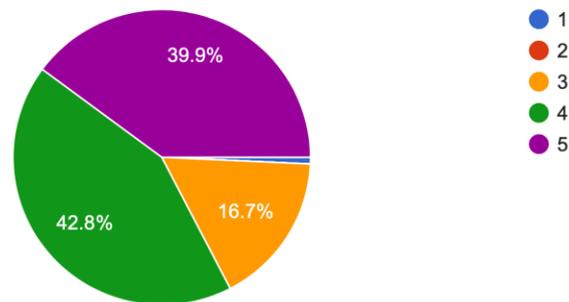


Figure 5. *Current skills in use of Microsoft Word.* 82.7% of the participants has described their skills as 4 or higher on a scale. A group of 23 students has chosen the answer 3 which means limited abilities and one person has currently no abilities in use of Microsoft Word.

8. On a scale of 1 - 5, what most accurately represents your current skills in the use of Microsoft Excel? (1 = no ability, 5 = advanced capabilities)

138 responses

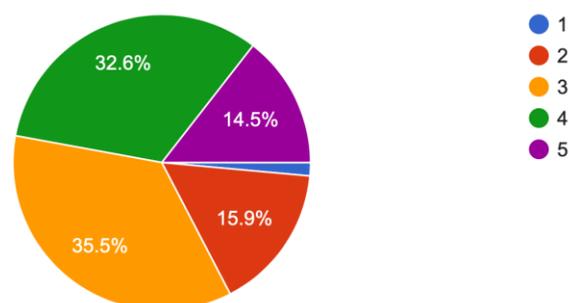


Figure 6. *Current skills in use of Microsoft Excel.* The collected data shows that the majority of students would describe their capabilities as 3 or lower, meaning they do not feel confident using this software. 14.5% described their skills as advanced and 2 participants say they currently do not have any abilities.

9. On a scale of 1 - 5, what most accurately represents your current skills in the use of Microsoft PowerPoint? (1 = no ability, 5 = advanced capabilities)

139 responses

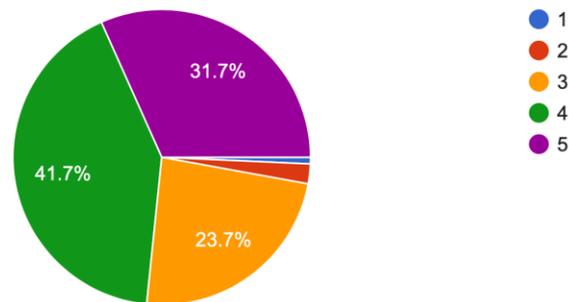


Figure 7. *Current skills in use of Microsoft PowerPoint.* Majority of students (73.4%) responded with answers 4 and 5 meaning they have good or advanced skills with Microsoft PowerPoint software. 33 participants would describe their abilities as limited and one of them says they have none.

10. During your studies, which of the follow have provided support in the use of Microsoft PowerPoint, Word and Excel. Please tick all that apply.

139 responses

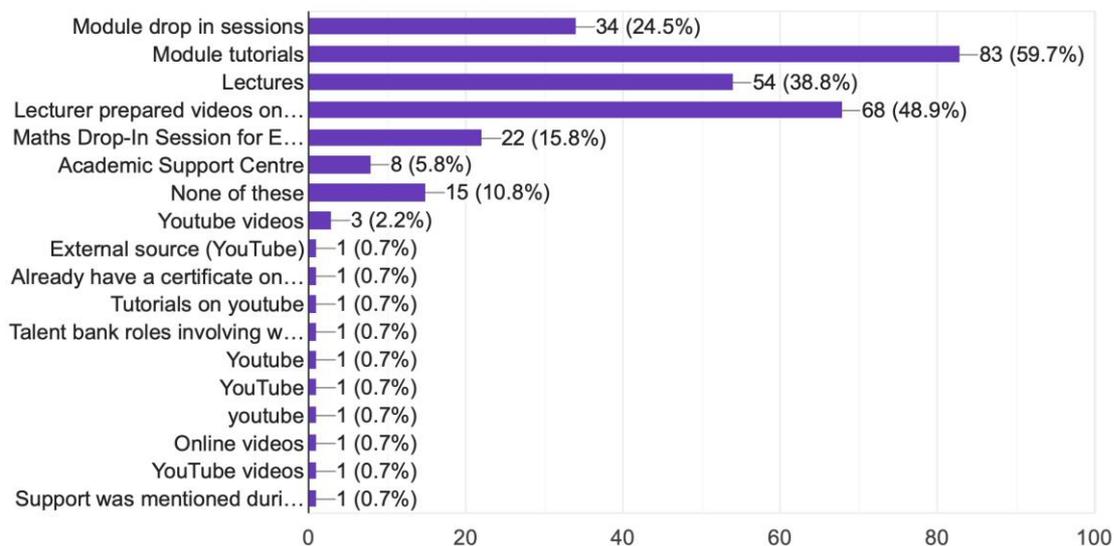


Figure 8. *Support in use of Microsoft Office software.* The majority of participants (59.7%) has pointed out the Module Tutorials provide most support with any issues regarding the use of Microsoft Word. Microsoft Excel and Microsoft PowerPoint.

Module Drop in sessions (34 responses), lectures (54 responses) and lecturer prepared videos (68 responses) are also an important source. 15 responses say that none of the suggestions provided any support. YouTube videos are also being mentioned as an external source that helps students.

11. From your answer on question 10, please rate how useful you find this support during your studies. (1 being least useful and 5 being most useful)

137 responses

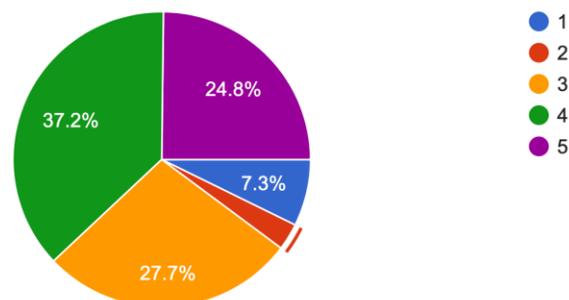


Figure 9. *Evaluation of support in use of Microsoft Office software.* From the answers chosen by participants 62% has chosen the answer 4 or higher on the scale, meaning they find the offered support useful/most useful. 7.3% which equals 10 students has said that they do not find any help in the provided assistance.

12. What additional resources would you have found helpful or would like to see available in the use of these packages? Please tick all that apply.

139 responses

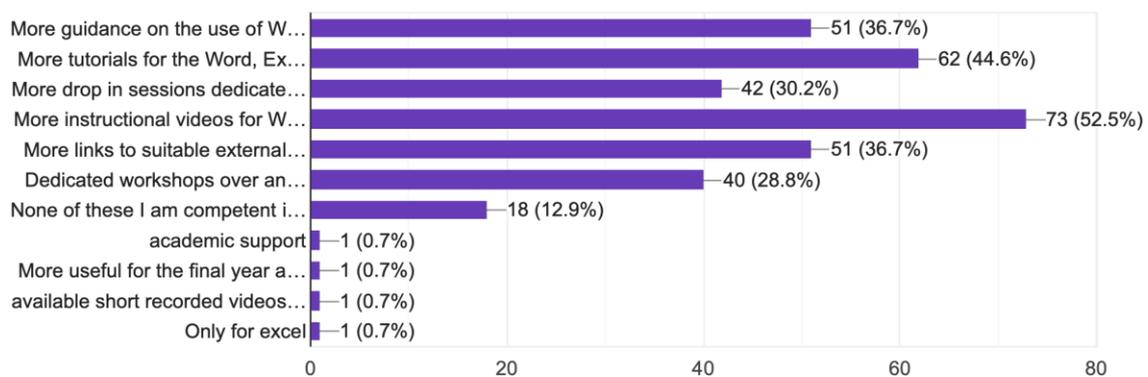


Figure 10. *Additional resources.* The collected data shows that the participants would choose more guidance (51 responses), tutorials (62 responses), drop in sessions (42 responses) and instructional videos (73 responses), dedicated workshops (40

responses) as a way to improve their skills. 36.7% of the students has also suggested that external links for the sources could be a good way of support. 18 participants have described themselves as competent, meaning they do not require any further assistance.

A key theme from the free text comments was the usefulness of locally provided tutorials specifically for the use of Excel, especially guidance for graph drawing. The provision of short videos to assist with coursework was also suggested as was the provision of more formative materials to enable students to practice the use of Excel.

Discussion

The well-known use of the various Microsoft packages is a necessity at an academic level such as in colleges and mainly universities. With this requirement it is essential that individuals are confident when utilizing these software's. In regard to the aims which included to determine whether additional support for students is needed was achieved as the results of the study suggested that in particular, students required necessary support for the optimal use of MS Excel. Population was focussed on years 1,2 and 3. Amongst the 141 answers, the spread was roughly equal with each year group comprising around $\frac{1}{3}$. The vast majority were home students (93.5% or 130 students) rather than overseas (6.5% or 9 students). Would have preferred if the spread was a little more equal as the technological education from different countries may be different compared to what is offered in British schools. Age skewed on the younger side with the majority of answers coming from ages 18-22. However, in the context of university and the focus being on years 1 through 3. This was to be expected.

Results were very interesting. Initially expected most answers to be “advanced capabilities” or “5” in terms of course entry ability however the majority of answers were 3-4. Most people were fairly confident in using Microsoft Word which was to be expected as it has a fairly simple interface. People seemed to be least comfortable with Excel which was expected as it can initially be fairly difficult to navigate. Current skills seemed to have improved in comparison with course entry skills which is pleasing to see.

Students overwhelmingly found module tutorials the most useful when learning Microsoft Office skills followed by lecture prepared videos as well as lectures and drop in sessions. From this, we can deduce that people tend to prefer university delivered resources rather than external sources such as YouTube videos or even links to instructional websites.

To improve, we could've made the difference between 4 and 5 more clearer. It was quite subjective and left to the participants to decide what can be determined as "advanced capabilities"

On analysing the three Software's for course entry skills this project found out that students expressed more advanced capability for Word as compared to Excel which students expressed more of having some capability with 26.6% of students expressing advanced capabilities to a drop of only 10.8% of students selecting advanced capability for Excel. When comparing these results to current course skills a similar trend was observed with 39.9% of students showing more advanced capability for Word and 31.7% for PowerPoint compared to a drop in percentage with only 14.5% of students selecting advanced capability in Excel, although it had improved when compared to course entry skills which could be down to Excel being now more widely used.

The findings of this study correlate with the study by Bashir et al., (2017) where the findings had shown more students reported feeling less confident in using Excel than Microsoft word whereas 91% of their students felt more confident in utilizing so. The results of the study revealed that a high percentage of students needed support with using specialized software such as Excel due to its complexity.

When asked what would be useful in the future, 52.5% of students expressed interest in more instructional videos for Word, Excel and PowerPoint made by staff. More tutorials are vital when undertaking experimental studies and in aiding illustrating the data and writing reports correctly. Reasons why MS Excel may be the software where students expressed little capability is because compared to the other two, Excel is more complex in terms of data analysis, memorizing formulas and use of statistics. Therefore, it is necessary that more support is provided with this software as it is a tool

used in all three levels of study and beyond. The ability to apply mathematical skills is important for students across most of the STEM courses as there is a strong linkage between the sciences and mathematics and this includes analysing data in graphs and statistical analysis (Tariq and Durrani, 2009). Nonetheless, in order to enhance the teaching and resources for students who require more support with using the software's, it is vital that universities should be responsive to students' particular skills and their past educational backgrounds.

Conclusion and Recommendations

The key message of this study was that most of the University of Westminster respondents feel less confident in using Excel than Microsoft Word and demonstrate a stronger opinion in learning the software from university-led classes rather than external sources, due to the time taken to search for adequate courses for specific subjects. However, this possible limitation of using external sources can be tackled if there are premade lists provided by the university that students can access to assist them in increasing their digital literacy. In addition, to this recommendation it is clear that having integrated classes on excel within modules will help guide students' learning and give them a good foundation into the software which can then be further developed during self-learning.

Further research needs to be undertaken to understand the digital literacy gap between international students and home students and what effect this has on their education. This will help the university to target learning and provide students more support during their time. Also, more data needs to be collected on students studying STEM to see if they are able to implement the statistics learnt during their degree into all of their modules where necessary. There is other software that was not taken into consideration such as SPSS and R which are common statistical tools used in STEM.

References

Bashir, A., Bashir, S. and Hilton, A.C. (2017). Are Academics Wrongly Assuming Bioscience Students Have the Transferable Skills and IT Competency They Need to Be Successful Beyond the Degree? *Frontiers in*

Education, 2. Available from <https://doi.org/10.3389/feduc.2017.00026> [Accessed 28 June 2021].

Tariq, V. and Durrani, N. (2009). Every Student Counts: Promoting Numeracy and Enhancing Employability. *MSOR Connections*, 9 (1), 7–11. Available from <https://doi.org/10.11120/msor.2009.09010007> [Accessed 28 June 2021].

Dissemination

The findings of the study will be made available to staff and students in the School of Life Sciences following feedback from the Centre of Education and Teaching Innovation. A booklet containing links to specific external resources will be available to staff and students by September 2021.

Research Team Reflection

We were really pleased with the large number of participants for this project. This was down to the shared ideas when we were planning the work and especially how we would go about maximising participation. Moreover, the individual abilities in team work were greatly improved as everyone helped one another in areas we found difficult in our assigned tasks. It was a positive experience as we successfully produced our questionnaire and poster to go along with it. Having so many responses gives us confidence in our conclusions and recommendations from the work. We have also identified a helpful student resource that can be created later in the year.