

The extent to which the use of Accounting Software and Excel is incorporated in HE Accountancy Courses

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Introduction

The accounting practitioner will almost inevitably use accounting software packages in their working life. The first aim of this project was to review the extent to which such skills are taught as part of HE accounting courses and then propose whether and how such skills should be included in UMS modules as part of the proposed degree in Accountancy in Worcester Business School. The research motivation here was simply to ensure that our curriculum was fit for purpose.

A second aim was to review the use of Excel in teaching accounting courses. As with accounting software, the use of Excel or similar spreadsheets is part and parcel of an accountant's working life. In addition some seminar activities are based in computer labs and depend on a certain level of expertise in using Excel to solve accounting problems. Marriott (2004) discusses some of the pedagogical benefits of using spreadsheets to enable learning of accounting concepts, stressing the role of experiential learning. The research motivation here was twofold; to give some measure of students' expertise in Excel for business use and to investigate whether learning outcomes were compromised by the level of expertise.

Discussion

1 Accounting Software

No reliable analysis of the extent of the use of accounting software has been found. It may be assumed that larger companies and not for profit organisations make use of accounting software to maintain their accounting records, but it is possible of course for smaller organisations to account perfectly well without such an approach. Having said that, one supplier of software aimed at the smaller organisation, Sage, report over 760,000 UK installations. On this basis, it seems likely that the professional accountant will be using an accounting software package as part of their professional role. Incorporation of training in use of an accounting software package would provide some preparation for this role but it would also provide a further means of teaching accounting skills. One could envisage students being set an accounting case study, whereby they have to record transactions, produce accounting information and comment/analyse the same. This might provide a rich learning environment, including both procedural and functioning knowledge, and provide the outputs needed for assessment. This in itself seems a strong enough reason to incorporate use of an accounting package in our syllabus. There might also be the opportunity for inter-modular linkages, for example the transactions used in a financial reporting module being the basis for work in an auditing module.

A further point is that if we are to offer an accounting degree we need to ensure it is relevant and competitive compared to the degrees offered by other Universities. To investigate this, UCAS listings were used to identify Universities that currently offer an accounting degree. The web sites of these Universities were then perused to identify a suitable contact involved with the accounting degree. Initially, it had been hoped that information on the teaching of accounting software might be discerned from modular information, but this did not prove fruitful and so was abandoned. A

total of 62 contacts was harvested and a simple questionnaire administered using Survey Monkey. The two questions relevant here are as follows.

- Q1 Do you use teach the use of specific accounting software in your UG accounting degree programme(s). Response - Y or N.
- Q2 Please enter the software package used. Response - Free text.

Ten responses were received. Seven universities answered yes to Q1 and three answered no. Of the seven who responded, they all reported using Sage software at Q2. In addition, it is known that three Universities known to the author uses Sage software as part of its accounting programme.

The evidence from the survey is that teaching of the use of accounting software is commonplace and that Sage is the product taught. Given the pedagogic considerations outlined above, it seems we should actively investigate incorporating the use of Sage in our accountancy syllabus.

2 Excel

The European Spreadsheet Risks Interest Group (www.eusprig.org) provides information on the use of spreadsheets and attendant problems. The Spreadsheets Productivity Research Interests Group (www.sprig.section.informs.org) serves a similar purpose for the USA. In general, these groups highlight the ubiquitous use of spreadsheets and the problems that may arise, from areas as diverse as the City of London to medical diagnosis. This suggests the need to at least make students aware of some the pitfalls of spreadsheet use and of good practice, even if we do not make time in the curriculum for study this area. Stoner (2009) has also commented on the low level and slow improvement in spreadsheet skills.

To provide some indication of student use of Excel in a business situation, a group of fifteen Year 2 students studying management accounting agreed to respond to a questionnaire and to submit spreadsheets they had prepared as part of a seminar exercise to be reviewed by a one of the lecturers involved with the seminar. The questionnaire and summarised responses are set out below. In addition, the questionnaire used to ascertain teaching of accounting packages included two questions relating to spreadsheets.

From the point of view of spreadsheet good practice, two main points arise. Q9 highlights lack of experience in linking different workbooks, and Q10 where students were essentially “embedding a constant” – the rate of VAT. Both of these areas are noted by the European Spreadsheet Risks Interest Group as being a common source of problems.

The latter point of embedding constants was also observed by lecturer review of spreadsheets produced by students in the seminar session, where 10 out 14 students made this error. One instance was embedding the VAT rate. Another instance was a constant for proportion of cash from sales received over a period of months. The seminar activity required students to model the impact on cash flow if this proportion changed (analogous to a real world situation of customers not paying on time). By embedding this constant, many students ran out of time and could not investigate this, as editing the embedded constant was quite time consuming (and prone to error, if any instance was missed).

The questions and responses to the questionnaire sent to Universities were as follows.

Q1	Do you require students to use spreadsheets in seminars/lectures?
Response	Never = 1, Sometimes = 6, Often = 2. No response = 1
Q2	Do you feel students have spreadsheet skills appropriate to the needs of your course?
Response	Deficient = 2, Adequate = 6, Higher than needed = 1. No response = 1.

These results demonstrate that spreadsheets are used in the teaching of accounting, but the response to the level of skills question is somewhat at odds with the findings of the work with the seminar group.

Conclusion

As regards accounting software, a recognised package, probably Sage, should be included in the curriculum to facilitate student expertise in its use and as a means of learning accounting.

As regards Excel (or spreadsheets in general) we should introduce students to the potential problems of using spreadsheets and help students to prepare for seminar sessions where spreadsheets are used as a tool to increase learning of the accounting issue, rather than the spreadsheet issue.

References

Marriott, Neil. (2004) Using computerized business simulations and spreadsheet models in accounting education: a case study. *Accounting Education*, 13, 55-70.

Stoner, Gregory. (2009) Accounting Students' IT Application Skills over a 10-year Period. *Accounting Education*, 18 (1), 7-31.

Appendix - Questionnaire and Responses

Student responses – 14 respondents

To help us understand students' knowledge of spreadsheet and accounting software for use in accountancy modules, please complete the following:

1 Please list below all the spreadsheet software you have used in the past:

Excel	13	Access	3
Lotus 123	2	Open Office	3
Super calc	1	Word	1
SPSS	1	Powerpoint	1
Sage	1		

5 respondents – the only software mentioned was Excel

1 respondent – did not mention Excel but included SPSS and Access

2 respondents – had used Excel and Open Office spreadsheet software

2 respondents – had used Excel and Lotus

2 Please give an example of a calculation or formulae you have used successfully in the past:

SUM = 11
 AVERAGE = 2
 AVG = 1
 MEAN = 1
 TOTAL = 1
 SQRT = 1

MED = 1
 RAND = 1
 MULT = 1
 AUTO COMPLETION = 1
 MULTIPLY AND EQUALS = 1
 AN EXAMPLE OF ALGEBRA = 1

9 respondents gave one example, 6 of these being SUM

3 When entering text into a spreadsheet, for what purpose has this been?

<p>Fuel economy Personal accounts Tables and graphs Naming cells Notes Variable names Comments Explanations Work hours Lists and tables Titles for tables / headings Data entry Budgeting As part of a question or solution Sorting by number or name Range names</p>	<p>University work Finance lectures: income statements, balance sheets Took business decision making module in first year = 1 assignments</p>
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4 Thinking about the functions used in spreadsheet software, list the ones you have used successfully in the past:

<p>Sq root 2 Aveg = 4 Sum = 4 Mode = 3 Median = 2 Mean = 3 Range = 3 Macros = 2 If = 2 Rand = 2 Lookup = 2 Charts / graphs / chart wizard = 8 absolute cell reference = 2 Standard deviation = 2</p>	<p>Sort data Add subtract Charts Int Equations Calculus Cott Max Min tables</p>
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5 Thinking about the functions used in spreadsheet software, is there anything you would have liked to have achieved, but were unsuccessful? What were you trying to achieve? Have you any suggestions for why this was not successful?

- Locking formula by using \$ - I find this most confusing
- Help pages are no good
- Chart functions – trying to input data to formulate a chart – the chart did not come out how I wanted it to
- Entering the wrong formulae
- If
- Lookup
- Functions are no use to me
- Different chart functions
- Different tools that can explain graph data more effectively
- Nothing
- None – anything I needed to do was explained by tutor
- No – 3
- Don't remember
- I know there are lots of things I'm not aware of
- No, help files and the internet have been invented for that

6 Now consider 'accountancy' – for what purposes have you used a spreadsheet in this context?

- | | |
|--|--------------------------|
| For assignments only | income statements |
| Producing account for different companies | balance sheets |
| Inserting sales data into retail software | Drawing financial ratios |
| To keep track of business sales, cash/credit | Budgets |
| At work – wages, sage, checking invoices | End of financial year |
| Spreadsheets | Financial statements |
| Break even | Data tables |
| | charts |

7 Have you used software to create charts? If yes, please list the types of charts you have created and for what purpose. If no, please indicate the types of charts you have heard of.

- | | |
|---|-------------------|
| Basic charts for assignments - using data provided in brief | Pie |
| Results of card game tournaments | Bar |
| For school, presentations, modules | Line |
| Different diagrams | Stats |
| Diagrams for economics | scatter |
| | Percentage charts |
| | Horizontal charts |
| | Histograms |

8 Have you any experience of 'linking' separate workbooks? If so, what was the purpose and context?

No = 9 Tried unsuccessfully I have attempted to, but it ended in a bit of a mess	We had a master file for data and then other workbooks have accessed this I had data in one workbook and wanted to use that data in another Linking accounts of separate companies
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9 Have any of the modules you have studied at university equipped you to use spreadsheets? What module(s) and in what way?

<p>Business Decision Making = 2</p> <ul style="list-style-type: none"> • Further functions and equations and greater awareness of what Excel is capable of (business decision making) • Forecasting, budgeting • Inputting data of petrol usage • To perform calculations for different sorts of data • Used to aid managers decisions • Trends, patterns, extrapolation • To make assumptions • 	<ul style="list-style-type: none"> • Some spreadsheet training would be good. It always ends up trail and error. <p>No = 2</p> <p>Sports Physiology = 1</p> <ul style="list-style-type: none"> • input data, calculate mean, standard deviation and create graphs <p>Accounting modules</p> <ul style="list-style-type: none"> • Accounting statements • Finance – balance sheets, profit / loss accounts
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10 If your spreadsheet had to allow for VAT, how would you go about incorporating this into a spreadsheet?

By using a separate formula column to calculate VAT and totals
Using formulas and calculations

$Y \times 1.15$
Amount $\times 1.15$ (15% VAT) = total amount

Insert row with calculation eg $B3 \times 0.15$ to give VAT figure of sales price and include this into total cost/price

And finally, what mathematics qualification(s) do you hold?

CSE and O level
GCSE and A level
GCSE (grades C and B where indicated)

Advanced level
Finnish A level
Overseas equivalent of GCSE