



## THE METHODOLOGY OF TEACHING MS EXCEL PROGRAM

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### ABSTRACT

*New method has been widely used for teaching Management Science since the mid of 1990s. The new teaching method is distinguished from traditional method in several aspects. The most distinction of the new method is that Excel based approach is used in order to model and analyze quantitative problems. Due to the introduction of Excel based teaching method model formulation and interpretation is more emphasized than algorithms. By using this new method students are expected to be more interested in Management Science class and easily use several Management Science techniques in real world problems. Though Excel based teaching method has become more prevalent, there exist no empirical research to analyze the effectiveness of Excel based teaching method.*

Excel skills are an essential part of the accounting curriculum, but they're not always the easiest topic to teach. For one thing, given the dense content of accounting courses, it can be difficult to find the time to teach anything outside of technical accounting. For another, students usually have varying levels of experience with the software.

"There will always be a wide range of exposure, experience, and competency on the part of students in using Excel," said Susan Convery, CPA, Ph.D., professor of practice at Michigan State University in East Lansing. "You quickly have to get all the students up to some working knowledge of Excel." Grading can also be a

roadblock: Excel assignments are often time-consuming to grade, especially when faculty assign each student different sets of numbers to use to prevent cheating.

Experienced faculty, however, have come up with many ways to overcome these problems. Here is some of their best advice for teaching Excel:

Have students get up to speed on their own time. Some instructors ask students to gain the Excel skills they need outside of class, either by using YouTube or other online resources, or by using formal programs. Robert Tepper, CPA, J.D., principal lecturer at the University of New Mexico in Albuquerque, suggested using "video examples showing step-by-step



construction,” which faculty can create by themselves or find on YouTube, “so students can follow along and replay.” Here’s an example of one he recently showed his class that shows the [construction of a bond amortization schedule](#). Kimberly Church, Ph.D., assistant professor at the University of Missouri–Kansas City, for example, has students use [SIMnet](#), an online Office training platform from McGraw-Hill, to “get up to the same level before the first project.” The SIMnet platform consists of individualized study modules at a variety of skill levels, so students can choose the ones that correspond to their knowledge of Excel, she said during a presentation at the 2018 Conference on Teaching and Learning in Accounting (CTLA) in Washington, D.C. (SIMnet charges a fee, but many universities subscribe to it.)

Input your own data to make grading easier. One way to make grading Excel assignments go faster, according to Barbara Scofield, CPA, Ph.D., professor of accounting at Washburn University in Topeka, Kan., is to put your own data into the spreadsheets students create for assignments. “You have the solution, so if they’ve done the spreadsheet correctly you’ll know immediately,” she said during a session at the CTLA. Use online resources that do the grading for you. Scofield has students complete Excel practice sets from [CyberText](#), an online publisher of accounting textbooks. The practice sets are algorithmic, so every student works with a unique set of numbers, and CyberText’s software grades students’ work automatically.

Teach Excel shortcuts. Church and her colleagues surveyed employers to see what they expected from students in terms of

Excel skills. They found that employers wanted graduates to have high proficiency in a relatively basic set of skills — notably, keyboard shortcuts. (“Accountants in the field never use the mouse!” Church noted during her talk.) Church said she now asks students to learn at least five or six of the most common shortcuts and provides each class with a copy of the [Excel shortcuts periodic table](#).

Stimulate students’ interest. Convery recommends making “the business scenario that you’re using Excel with very interesting.” Over the semester, Convery’s students in her Principles of Management Accounting class work through a set of five assignments that she and her team call “Analyzing Business Issues With Excel,” or ABI-WEs. These assignments require students to complete various tasks using Excel that simulate the work of an accounting intern at a company.

Convery chooses a business scenario that grabs the attention of students, so her latest set of ABI-WEs used the real-world example of a local furniture maker that uses the wood from dead trees on campus. Here students learn about inventory, overhead, labor, and pricing as they work through various worksheets and employ Excel functions such as VLOOKUP, SUMIF, and TRANSPOSE. (Convery has graciously offered to share the ABI-WEs with interested faculty. Please send an email to her at [convery@broad.msu.edu](mailto:convery@broad.msu.edu) if you would like them.)

Repeat, repeat, and repeat. The “pattern of repeating [certain functions] over and over will reinforce and help them make it a tool,” said Convery. As students work through the ABI-WEs, they use the same Excel functions, but in slightly different contexts. Demonstrate Excel in



class. "Having students seeing you set up problems is just critical," Tepper said. Working problems in class helps students see the practical application of theory and gives them the tools to do the work on their own, he said.

Encourage students to find their own mistakes. Identifying and fixing errors is an important part of Excel proficiency. Maureen Butler, CPA, Ph.D., associate professor at the University of Tampa, speaking during the CTLA, said she reinforces this concept by giving students the correct solution to an Excel spreadsheet containing errors. To complete the assignment, they need to find the errors, fix them, and document the corrections they made. ("No one is going to grade them at work," she observed.)

Suggestions for in-class activities. Here are ideas for in-class activities that faculty members have found useful in teaching Excel skills:

A business simulation: As Convery's students work through the ABI-WEs, they use Excel to answer the kinds of questions management might have. For example, in one assignment, the student receives an inventory listing and prices for those items. From that data, the student calculates the value of the inventory and cost of goods sold, and updates the trial balance and income statement for those items. Through these simulations, students learn to use VLOOKUP, PivotTable, the Goal Seek tool, and functions such as SUMIF and NPV.

Students as the teachers: As described in [this article](#), Veronda Willis, CPA, CGMA, Ph.D., associate professor of accounting and director of the Master of Accountancy program at the University of Texas at Tyler, assigns students to small groups to work on a project that they present to the class.

Each group is assigned an activity such as PivotTable, macros, VLOOKUP and HLOOKUP, or conditional formatting, as well as an Excel function related to accounting or finance.

The groups are required to develop their own data. For example, one group created a car dealership with group members as the sales team and class members as customers. They used VLOOKUP to find car prices in an inventory list, then "sold" the cars by merging student names with the inventory list. Using PivotTable, they showed sales results by sales team member and location. During the presentation, the group also demonstrated how to use VLOOKUP to the class.

Pros of Using Excel. There are many reasons to use Excel with your students. In addition to learning a new program--and one that is arguably here to stay--there are lots of good things your students will get from using Excel. For one thing, Excel can turn raw data into graphs and charts in milliseconds, and these visual representations make it much easier for students to visualize and interpret data. In addition, Excel can take any graph, chart, or data set and turn it into a Web page within seconds. This allows students to share data, take it home, or just learn more about how the Internet works. Finally, as a teacher, you can have students work a chart or graph on Excel 'backwards,' reconstructing the original data from the information given. This is a very valuable tool when it comes to enhancing critical-thinking skills. In short, the possibilities are endless!

Five Ways to Make the Transition to Excel in Your Classroom a Success.

1. Completely copy the exercise into an Excel template.



2. Keep it simple using simple commands.

3. Spend brief periods of class time on how to use Excel.

4. Let Excel take the math out of the exercise,

5. Do not share your Excel solution with your class.

1. Select an Exercise or Problem and Copy Entirely It Into an Excel Worksheet.

This avoids lost time with students inputting data, facilitates focusing on creating a solution, and provides a template for students to learn how to develop a practical approach to solve problems. I use Box cloud storage to save and share files with my students. Be sure to synchronize your Box folders to your computer, so any changes you make to the files are automatically updated in the link you provide your students. Google Docs work, but their version of Excel is cumbersome to use. Also, make sure that you only allow students to download your files to avoid issues with your files being changed or deleted.

2. Second Spend Extra Time in Class With Quick Tips and Techniques for Using Excel. Keep it simple, in my introduction classes my students only have to be able to add, subtract, divide, multiply, copy, paste, save, and use absolute references. My class structure is flipped, so I form groups for students to solve in-class assignments. This allows students to help each other and frees me to walk around and work with groups and individual students. I increase motivation by assigning approximately one point for every in-class assignment. Students transfer their answers to the online homework for automatic grading and posting to my Canvas grade book. This

accounts for a total of approximately 50 points in my 1,000 point class or about a half a letter grade.

3. Spend Brief Periods of Class Time on Time on How to Use Excel in the In-Class Assignments. There are short videos in the Excel help menu for anything you want to do, but I also created a KyleTV video on Essential Excel Skills to help students learn the basics of what they need for my class.

4. Take the Math Out of the Exercise. I set up my in-class activities with the key data already input so students can focus on using Excel to work out the solution and we spend the majority of class time discussing what the answer means. Most often, a student is not required to enter any numbers in the in-class assignment, manipulate data. I start every semester with a simple math test requiring 30 calculations, and after 5 minutes, I stop the test. At most, 20% of the students have an answer, and the rest are still keying numbers into their phones and calculators. My students then download my Excel template and solve the problem in about 20 seconds using two formulas and copy and paste.

5. Do Not Share Your Excel Solutions With Your Class nor Require Them to E-Mail Their Answers for Grading. Students will take your solutions and pass on to the next class, so you have to come up with new in-class assignments every semester.

If you have them turn-in the Excel file, they will “save time - cheat” by copying other students’ files and “change the appearance.” I want my students to collaborate, so they all get the same in-class assignment but the end of the chapter – EOC’s are algorithmic. This promotes students working homework together and



understanding of the results since each student has different numbers.

In conclusion, it is time to toss out that Bag Phone, retire our old ways, and embrace

business practices of today. It is a lot of fun, and your students will appreciate it when they get first internship.

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