

# How are Case Studies Used in Accounting Systems Curricula in Higher Education in Germany and the US?

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## ABSTRACT

Case studies are essential to the pedagogy used in the United States for teaching Accounting Systems courses. The type and style of case studies usually focus on manual Accounting Information Systems (AIS) and computerized AIS. Computerized cases are often geared towards exposure, while manual cases focus on the entire accounting process. Exploring how higher education in Germany addresses these areas could help improve our local courses and allow sharing this information with colleagues who teach AIS programs nationally.

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## 1. INTRODUCTION

The use of case studies in education is prevalent. The type of case study analyzed in this paper is the manual or the computerized “project” case study. Students are given a set of real-world transactions to process either in a manual accounting information system (AIS) or a computerized AIS. The most popular computerized AIS in the United States is QuickBooks. In Germany, the market standard is DATEV, allowing extensible solutions from “pure” bookkeeping up to complete ERP systems. A manual project is popular in AIS courses to ensure students are exposed to all the steps and integration necessary for a fully functioning system. One famous manual case study in the US is the Systems Understanding Aid Case Study from Armond Dalton Publishers. I tried to find examples of a full-blown (15 to 20 hours) manual case study in Germany but was unsuccessful.

How the students used the DATEV case study and its integration with tax software for corporate and individual taxes became the direction that my research took as I spent time with German colleagues. I sought to answer questions like—how long does the project take students? Do they work together or independently? How much of the project is completed during classroom hours/settings with guidance from the instructor? Does the project represent a significant portion of their grade?

## 2. BACKGROUND

This study was conducted during my sabbatical semester in the fall of 2023. My “home base” during this time was Nuremberg, Germany. The following summary describes the differences I observed (think opinion) between US and German higher education.

### 2.1. Focus

The German system is like the US in having state-sponsored and private or for-profit institutions (MS in Germany, 2024). However, in Germany, the overwhelming majority attend state institutions. Germany has universities and technical colleges like the ones in the US. There are state-sponsored fine arts schools as well. German universities are more research-focused than in the US. Our institution (Bemidji State University-BSU) is often identified as a “teaching school,” whereas all of the universities I visited in Germany were “research schools.” Technical colleges in Germany do emphasize teaching. Bachelor’s degrees can be earned in three years in Germany, but the course plan is very structured, with few options for course selections. In the US, the bachelor’s degree usually takes four years.

### 2.2. Cost

It is common knowledge that German state institutions do NOT charge tuition. They have a small fee that varies from place to place and covers only social services and



public transport. They do not typically have dormitories, like those found in the states, but room and board are the responsibility of the students/parents in both countries. Textbooks are less expensive for students in Germany than in the US, based on my interviews with German professors. Even the few required textbooks are less expensive—less than \$50 each. There is a move to low-cost texts in the US, but most books are often \$100 or \$200 plus. Retention rates are lower in Germany, possibly because of the free tuition (Heublein *et al.*, 2020).

### 2.3. Time

German school programs are designed to earn your bachelor's degree in three years and your masters in two years. In contrast to four and two-year universities in the United States, the German university curriculum includes very few liberal education components that are found in the US (MS in Germany, 2024). A higher percentage of students in Germany go on to get their Masters.

### 2.4. Class Size

Using only the data from the professors that I interviewed, I found that the average class size at universities is much bigger than in the US. Specific higher-level accounting courses taught by faculty in Germany that I interviewed held as many as 1,000 students. At BSU, most of our upper-level accounting courses have an enrollment of 30. I often heard different class sizes (such as 250, 200, and 150) for undergraduate programs. Seminars at the master level often included only 10, 15, or 25 students.

### 2.5. Grading

All the faculty I interviewed stated that students in Germany who are in standard lectures with tutorials are graded on their final exams only. However, a small bonus might be offered if correct answers to exercises are submitted on time. Teaching forms like seminars usually combine several aspects, like writing a seminar thesis, presenting and defending the results, and participating in class discussions. Similar grading is often used for workshops. It is worth mentioning that in master studies, the master thesis makes up about 25% of the total grade. German institutions may require students to complete various activities and attend specific programs to sit for the final exam, but only after the grade is received is the student's final exam result.

### 2.6. Mode

All institutions I visited (interviewed faculty) indicated that no online classes are offered. Of course, they were online during the COVID-19 crisis, but they all returned to face-to-face modal offerings. Sometimes, online teaching modules are used in courses every second semester (e.g., summer) when no face-to-face teaching (like in winter) occurs. In some cases, the inverted classroom model is used, i.e., students must acquire basic skills with online modules and applications or face-to-face discussion (Irwin *et al.*, 2021).

## 3. LITERATURE REVIEW

This literature review aims to provide an overview of what other authors have discovered or identified as to using project case studies involving projects or software tools. Milhatan (2020) describe the importance of case studies and software tools in helping accounting students transfer their theoretical knowledge to practical applications. Li (2017) studied and identified the need for project-based instruction to learn accounting concepts and methodologies efficiently. Their positive impact on students' initiative and motivation was also highlighted. Andriole (2023) explores the importance of active or experiential immersive learning in improving students' meeting of learning objectives. The paper discusses how Villanova is exploring the use of case studies and scenarios that are integrated with technology solutions. Charron and Raschke (2014) focus on early work using software tools to enhance or teach students online. In this case, the software focused explicitly on Accounting Information Systems classes, making it attractive for this research project. Students who received enhanced training, e.g., online videos, fared better overall in online environments.

## 4. METHODOLOGY

This study aimed to explore how German accounting programs utilized manual and computerized accounting projects or cases. My first point of contact was Dr. Klaus Henselmann, Chair of Accounting and Taxation at the Frederick Alexander University in Nuremberg, Germany. He provided beneficial suggestions and direction and was my sponsor for the German visa process. He provided me with an extensive list of potential business faculty I could contact. I resided in Nuremberg for four months (August 15–December 15 of 2023). Early in my trip to Germany, I developed an interview document (attached) that was for my use and another that could be emailed to faculty around Germany. I interviewed Dr. Henselmann first and modified the tool accordingly.

I met with eight faculty members in person or via Teams at four institutions in Nuremberg, Bamberg, Munich, and Frankfurt. The interviews usually lasted about 45 to 60 minutes. I emailed the interview document to approximately ten additional faculty members of institutions throughout Germany. The emailed document was unsuccessful, but the face-to-face interviews were fascinating and informative. The facts and takeaways from these interviews were reasonably consistent. My conclusions are based on these discussions. Table I summarizes the interview responses.

## 5. SUMMARY AND CONCLUSION

The following conclusions are based on my conversations with eight business professors in Bavaria.

- 1) Germany's most popular accounting information system software is DATEV, based in Nuremberg.
- 2) Students are exposed to this software in accounting and tax courses.

TABLE I: DISTRIBUTION OF RESPONSES BY TOPIC

Interview topic	Percentage responded	Comments
Information regarding university size, focus, area, and demography served	90%	Responses are generally consistent—see background above
Information regarding enrollment, faculty, degrees offered, emphasis, etc.	90%	See the background above for some details
Do you have online courses?	90%	NO—no one returned to online format after the COVID epidemic
Average class sizes	90%	See background above
Do you use case studies similar to SUA and QuickBooks in your curriculum?	90%	Generally not, although some used DATEV
Impact of case studies on grade	90% of those that used case studies	None in that the final exam is often the entire grade
How much effort and time in class is dedicated to extensive case studies?	90%	These case studies are often worked together as a group, and a week or so is planned into the schedule

- 3) Students are typically asked to enter various transactions and move the process forward, including, in several cases, tax return preparation.
- 4) These computerized AIS projects are worked on in face-to-face seminars. Faculty-led sessions might last three hours at a time to make sure students get started effectively and meet the student learning objectives. Students will often do some of the work outside of the seminar. There can be multiple small seminars or longer sessions for an entire week.
- 5) I have often encountered students who are seriously behind schedule because they experienced software problems at the beginning of these projects. In Germany, these case studies are “kicked off” in a group setting and do not have the same issues with getting started.
- 6) I did not find anyone using an extensive manual AIS project (like the System Understanding Aid I used in my AIS course at BSU).

BSU students or US students could benefit from modifying the course schedule to allow dedicated time to work on these projects together in the classroom. I intend to try to modify my AIS course to work on these projects in the future in class as a group. Most likely, I will change the schedule to work on these projects for an entire week, with the chapter lecture moved to another week. I can compare the results (grades) with the prior two or three years. The results could be analyzed and published.

#### APPENDIX

##### A. Document 1—Interview Topics Deutsch Research into the Use of Case Studies

1. Tell me about your business/accounting program—size, faculty, degrees offered, emphasis offered.
  - a. Estimate of student enrollment \_\_\_\_\_
  - b. Number of faculty \_\_\_\_\_
  - c. Bachelor's degrees Yes \_\_\_\_\_ No \_\_\_\_\_
  - d. Master's degrees Yes \_\_\_\_\_ No \_\_\_\_\_
  - e. Accounting emphasis offered Yes \_\_\_\_\_ No \_\_\_\_\_
2. Do you have any online courses? Yes \_\_\_\_\_ No \_\_\_\_\_

3. What is the average class size?
  - a. Seminars \_\_\_\_\_
  - b. Lecture \_\_\_\_\_
4. Is there a course similar to “Accounting Information Systems?”
  - a. Yes \_\_\_\_\_ No \_\_\_\_\_
5. Do you use any case studies in your curriculum/pedagogy?
  - a. Yes \_\_\_\_\_
  - b. No \_\_\_\_\_
  - c. Give details on your case studies—provide links if possible or attach examples: \_\_\_\_\_
6. Do you have any case studies that require use of software—e.g., Tax preparation, DATEV—give details:
  - a. \_\_\_\_\_
7. How do you grade these case studies?
  - a. Do not grade \_\_\_\_\_
  - b. Use a rubric \_\_\_\_\_
  - c. Not included in overall assessment but required in order to complete course \_\_\_\_\_
8. How significant is the case study towards overall grades?
  - a. Not graded \_\_\_\_\_
  - b. Percentage of total grade \_\_\_\_\_
9. How much effort is involved for students with these case studies?
  - a. 0 to 5 hours \_\_\_\_\_
  - b. 6 to 10 hours \_\_\_\_\_
  - c. Over 10 hours \_\_\_\_\_
10. What are the objectives—we would call them Student Learning Outcomes—for the case study?
  - a. \_\_\_\_\_

Feel free to contact me with any questions.

##### B. Interview Topics Deutsch Research into the Use of Case Studies

1. Tell me about your university—size, focus, area serviced, demographic serviced.
2. Tell me about your program—size, faculty, degrees offered, emphasis offered.
3. Do you have any online courses?

4. What is the acceptance process like for students? Is there also an admission process for the business/accounting programs?
5. Show me the requirements for graduation?
6. Show me all the business/accounting courses offered? Is there anything like Accounting Information Systems?
7. Can you share any of these syllabi?
8. Do you use any case studies in your curriculum/pedagogy?
9. Can you share these case studies?
10. How significant is the case study towards overall grades?
11. How much effort is involved for students with these case studies?
12. What are your retention numbers like?
13. What do the all-in costs look like at this university?

#### CONFLICT OF INTEREST

The authors declare that they do not have any conflict of interest.

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