CHAPTER 14. IMPLEMENTING CONSTRUCTIVE ALIGNMENT AND ACTIVE LEARNING WHILE LEADING ACCOUNTING SEMINARS

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Introduction

This chapter reports on a teaching innovation based on constructive alignment and active learning methods during an accounting course at the University of Economics in Bratislava. The course is mandatory for all second-year students, regardless of their field of study. In the Autumn 2018 term, I applied the teaching innovation for two seminar groups of students from the Faculty of Commerce. When teaching this course last year, I realised that the students' field of study is an important determinant when designing the classes. Depending on their major, certain students' personal characteristics can be expected. The Faculty of Commerce's students are typically communicative and creative personalities, who tend to think 'big' and are not worried about minute details. Contrariwise, accounting as a discipline requires the focusing on details and exact and numerical thinking. It corresponds with the established learning practice at my department: going through a large number of exercises from the workbook with students one by one telling their solution to that exercise. However, this learning practice did not work for students from the Faculty of Commerce. They appeared disinterested and even bored, their engagement was low and they rarely interacted with each other. Some of them failed the course.

Therefore, I decided to redesign three sessions and adapt to these students' abilities. I expected that the innovation would increase students' engagement during the sessions and improve their assessment results. To evaluate the impact of the innovation, I collected quantitative and qualitative data, which indicate that the innovation achieved its goals. Even though, as I will explain in the concluding section, the innovation could be further improved upon, the results suggest that the innovation is nevertheless worthwhile. Therefore, when I teach the seminars next time, I plan to implement active learning methods in each session.

Context of the innovation

The accounting course consists of weekly lectures followed by seminars. The lectures provide students with theoretical knowledge, while the seminars are designed to help students learn how to apply the theory in practice. The leading of the seminars is strongly influenced by the mandatory assigned literature: workbooks with exercises and calculations. The workbooks are helpful for several reasons: seminar leaders do not need to create their own exercises, the level

and difficulty of the exercises corresponds with the lectures and all students can do the same exercises regardless of whom their seminar leader is. The content, which should be taught during the seminars is given, but there is space for designing the classes in a different way from the other seminar leaders.

The assessment criteria of the course are institutionally determined as well. Three written assessment exercises contribute to the final grade: the first two make up thirty per cent of the final grade and take place during the term. They assess students' practical skills in accounting: compiling a balance sheet, opening accounts, booking accounting cases and closing accounts. They are also a precondition to take the end-of-semester exam: students need to score fifty-one percent or higher on these two assessed exercises before they are allowed to take the final exam. The course concludes with the mentioned final exam, which represents seventy per cent of the final grade. It assesses students' theoretical knowledge and consists of two parts: one includes multiple choice questions and the other open-ended questions. Students need to score above fifty percent in each part of the final exam to pass the course.

Conceptual foundation of the innovation, description of the innovation and expectations

My teaching innovation is rooted in two concepts: constructive alignment and active learning. Constructive alignment is a principle focusing on what and how students are to learn, rather than on the topics that the teacher will teach. In a constructively aligned course, all components – intended learning outcomes, teaching and learning activities and assessment tasks – support each other (Biggs and Tang 2011). Judged through the lens of Biggs' concept of constructive alignment, the learning activities in this course were not aligned with the mid-term assessed exercises: students did something else during the sessions than what they were later assessed on. As I had a relatively free hand in choosing the learning activities, I decided to design activities to directly address what the students were supposed to learn. Rather than asking students to solve all exercises from the workbook related to the topic of the session, I carefully considered what students need to learn to get prepared for their graded assignments.

I based these exercises on active learning methods that promote a deep, conceptual understanding of a topic and occur through discussion and collaboration, critical thinking, problem-solving, and connecting new learning with one's own world (Hahn 2016). Because students have a better chance to pass the course (and get a good grade) if they understand the logic of accounting, I decided to introduce activities that are oriented towards understanding rather than the memorization of facts. I made a selection from those listed by Exley and Dennick (2004): group discussions, post-its, brainstorming, small group and pair work. The foundation for each activity was an exercise from the workbook but I used them differently than in the past: instead of reading pre-formulated accounting cases from the workbook, students now worked on case studies or with real accounting documents. The activities were introduced between the two mid-term as-

sessment exercises.

During the first innovated session that covered measurement in accounting, each student received a Post-it note with a micro case study. Their role was to determine the correct measurement base used in the case and stick the note next to the correct measurement base listed on the blackboard. The second innovated session involved students in group work. While learning the accounting principles, each group received a list of micro case studies. Their task was to identify the correct principle corresponding to each case study. During the third session students learned about accounting documentation through pair work. Students were provided with a set of accounting documents and had to identify which accounting cases arose in relation to the accounting documents. Based on the documents, students were tasked to set the balance sheet to the date of the creation of the accounting entity, open the accounts, book the identified accounting cases and then close the accounts.

Based on the literature presented above, I expected that aligning learning activities with the assessment criteria and introducing active learning methods would result in improved student' interest and a higher than usual level of motivation and engagement, and would help students to better understand and apply the theory, and thus, perform better on the second practice oriented mid-term assessment exercise that followed the innovation.

Research design and methods

To evaluate the outcomes of my teaching innovation I collected both quantitative and qualitative data. I used a student feedback questionnaire to measure students' engagement with the course topics and their personal motivations. In this questionnaire I selected questions from the CLEAP feedback survey, which provides a tool for instructors to explore perceptions of student learning and engagement in the classroom (Savory et al. 2012). I selected five questions – two about student' interests, one each on motivation, engagement and preparations (for the exact questions see table 1 below in the results section). Student responses to each of the five questions were measured on a Likert scale that ranged from strongly disagree (1) to strongly agree (5) with the exception of the last question on preparedness which was measured from significantly less (1) to significantly more (5). The data was collected at the end of the term.

Students' engagement with the course topics and their interactions during the session were also observed by a peer observer. The observer visited both of my seminar groups during the third innovated session on accounting documentation. He was asked to pay particular attention to the level of student engagement during various active learning exercises. The observer commented both on the instructor's and students' activity by completing an observation form provided by the organisers of a teacher development course I attended. I later met with the observer to discuss his feedback. I compared his notes with my own observations regarding student' learning.

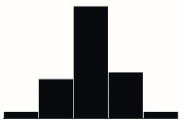
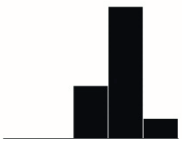
Students' points gained at the two mid-term assessment exercises served as another source of

data to measure the impact of my innovation. The exams assessed student' application of the theory and practical accounting skills. Last year's data served as the benchmark. All other conditions, except for the learning activities during the three innovated class sessions, remained unchanged.

Results

My expectation that the innovation would result in improved student' interest and a higher-than-average level of motivation was not confirmed. The survey served as a basis for these analyses and it was completed by eighty-five per cent of students who indicated that before taking the course their interest in accounting was 'average' with a 3.00 score on the Likert-scale: similarly twenty-nine per cent of students were either interested or not interested in accounting before taking the course and the answers of forty-two per cent of students were neutral (all survey results can be found in table 1).

Table 1. Student' responses to the questionnaire, five-point scales

No.	Question	Distribution of student response	Mean score
1	Before taking this course, my interest in this course subject was very high		3.00
2	After taking this course, my interest in this course subject is very high		3.00
3	I consider myself a motivated student in this course		3.06
4	For class sessions I attended, I typically focused or paid attention		3.84
5	Compared to other courses, the time that I have put into this course was		2.32

Source: questions are from Savory et al. 2012.

The level of interest remained the same after taking the course although the distribution of student opinion shifted somewhat: the percentage of students who were either interested or not interested in accounting after taking the course dropped from twenty-six to nineteen per cent, while the proportion of students who felt neutral toward accounting had increased from forty-two to fifty-three per cent. Student' motivation to study in this course was also common (mean=3.06): twenty-nine per cent of students considered themselves not motivated for this course, 35.5 per cent perceived themselves as neither motivated nor lacking motivation and 35.5 per cent of students saw themselves as motivated. Thus, contrary to what the literature suggests, based on their self-evaluation students' interest did not increase during the course nor did their motivation to study accounting accede average levels. Possibly, this may be due to the fact that the active learning methods were only introduced during three sessions.

To measure engagement, I used the indicator about student attention. A large majority of students said they typically focused or paid attention during the session (seventy-four per cent) and no student disagreed with the statement. Indeed, the mean score for their engagement was 3.84 on the five-point Likert scale, which is above average. My own observation of all course sessions, including those using active learning exercises and the traditional workbook-oriented sessions, was also that engagement during the sessions based on active learning methods was higher. Certain students, who used to be disconnected from what was going on in class, appeared engaged during active learning exercises and actively cooperated with their peers. Interestingly, according to the observer, the level of student engagement during active learning exercises was only medium, which seems to contradict my own and my student's opinions. Since he did not indicate what his baseline of the evaluation was, nor how he thought students normally engage with accounting, his verbal feedback seemed more useful. He found the type of active learning exercise implemented during the observed session to be appropriate because all students were involved in the activity and contributed to the result. What is also important, students did not hesitate to ask questions related to the exercise, which was previously rarely done. However, the observer considered the activity too difficult for the students as they not only needed the entire session to complete it but also struggled to finish on time. The level of student engagement and confidence decreased towards the end of the session, when they were expected to speed up in order to finalise the task. Because completing the exercise took longer than I had expected, we did not have time for explanatory mini-lectures nor debriefing, which could potentially decrease the observation's impact on student learning. While it is possible that the observer's judgement about the level of student engagement was clouded by the design flow, his observations gave valuable information on why the exercise could not be completed. I plan to redesign the exercise in the future by splitting it into two sessions.

There is sufficient evidence to confirm my expectations about an improvement in student' performance during the second mid-term assessment exercise as a result of the innovation. First,

student' results improved compared to 2017 (table 2). On the one hand, in 2017, only sixty-seven per cent did well enough on the mid-term assessment exercises to be able to take the final exam, whereas in 2018 eighty-seven per cent could partake in the final exam. On the other hand, in 2017, on average, students received fifty-nine per cent for the first assessment exercise and 61 per cent for the second. In 2018, the average grade from the first exercise was 64 per cent, whereas the average grade from the second exercise was seventy-six per cent. This shows a five percentage point increase in the first and a fifteen percentage point increase in the second assessment exercise. Since the results in 2018 were better than in 2017 even for the first assessment exercise, which was not affected by the innovation, it is not possible to exclude the possibility that students may have arrived to university more prepared – due to perhaps studying some accounting in high school – in 2018 as compared to 2017. Yet, because the increase in their performance in the second assessed exercise is three times greater than in the first, I am confident to conclude that the innovation had a substantial impact on student performance.

Table 2. Results from the two assessment exercises written during the semester

	Grade categories						**Average**
	0-50%	**51-60%**	**61-70%**	**71-80%**	**81-90%**	**91-100%**	
2018 (n=39)							
Exercise 1	36%	10%	15%	18%	13%	8%	64%
Exercise 2	15%	5%	23%	5%	18%	33%	76%
2017 (n=15)							
Exercise 1	40%	7%	33%	20%	0%	0%	59%
Exercise 2	33%	7%	13%	20%	13%	13%	61%

This conclusion is supported when looking at the changes in grade categories of the second assessed exercise. From 2017 to 2018, the percentage of students with points at the lower limits (0 – 50 and 51 – 60 per cent) has fallen by half, while the percentage of students with the highest score category (91 – 100 per cent) was four times higher.

Based on the answers on the fifth question from the survey about how much time students put into studying for this course compared to other courses show that only nine per cent of students spent more time preparing for the accounting course than for other courses, twenty-five per cent claimed the time put into this course was similar to other courses, while the remaining sixty-six

per cent spent less time on preparing for this course as compared to other courses. Indeed, the mean was below average (2.32). Therefore, I can exclude the possibility that the increase in student' performance on the second exercise in 2018 as compared to 2017 was because students in 2018 were extremely hard-working. Hence, the second aim of the innovation, to improve student performance on the second mid-term assessment exercise was achieved.

Conclusion

The aim of this teaching innovation based on constructive alignment and active learning methods was to stimulate student engagement and to assist students in successfully passing assessments that are written during the semester. I used a series of active learning exercises to that end in an effort to both align classroom activities with the content of the second mid-term assessment exercise and bring the teaching method more into alignment with the creative character of students from the Faculty of Commerce. Results showed that while the innovation impacted student performance greatly and had some impact on their level of engagement, neither student' interest nor motivation was affected. This outcome of this study contradicts the literature that expect that it is increased interest, engagement and motivation that leads students to increase their knowledge retention and, as a result, perform better on exams. In this my finding is very similar to what Tkaczyk's chapter in this book uncovered about students in the Czech Republic (chapter 1).

It is likely that student' interest and motivation – or a perception of these two – could be improved if active learning exercises were introduced not only during three but all sessions. Given the improvement in student performance on the second assessment exercise, I do plan to incorporate active learning in every course session. However, it is important that these should be better structured. First, I should ascertain that the difficulty of the exercise and the allocated time are on par. Second, a session may include students working on exercises, several mini-lectures and a debriefing at the end as well. Such a structure would ensure that students understand the purpose of each activity, that it is sufficiently linked to the theory, and that they understand what they need to take away from the session.

Last but not least, when I evaluate the impact of incorporating active learning exercises into all seminar sessions, it will be possible for me to carry out a more thorough analysis. Firstly, I would have survey information to compare over a time-span of two years, which would allow me to be more confident about the nature and the extent of changes from one year to another and from a limited to a full restructuring of the seminars. Second, in the form of a pre-post study, students should complete surveys before and after the innovation – rather than evaluate their pre- and post-innovation attitudes at the same time. Third, it would be interesting to see whether redesigning the course would help not only those students studying at the Faculty of Commerce but also the more accounting savvy students in grasping the basics of accounting faster and better.

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