

CHAPTER 3. 'DESIGN YOUR OWN FLYING CARPET': HELPING STUDENTS TO MASTER RESEARCH PROPOSAL WRITING

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Introduction

A body of studies documents that students benefit from a student-centred teaching style which pushes them into a more active role in their process of learning (Blumberg 2004; Fink 2003). Although this finding might sound intuitive to many, in higher-educational settings a frontal style of teaching often prevails instead, as embedded in the very idea of a university lecture (Brown and Atkins 1988). In sociology, this trend is perhaps even more prevalent due to the high number of theory-laden classes, which are often information-dense and based on the idea of passing a large body of knowledge down to students. Yet, frontal teaching often puts students in the role of passive consumers of knowledge rather than as active knowledge producers and leaves little space for awakening their interest, creativity and capability.

In this chapter, I offer a critical reflection of a teaching innovation in which the principles of active learning (Faust and Paulson 1998; Mulcare and Shwedel 2016) were used to help students master complex tasks, namely, research proposal writing. The innovation was introduced during one session of the course and the learning objective for students was to learn how to create research proposals. By combining short lectures with follow-up activities and discussions, students were encouraged to work step-by-step on their draft research proposals during the entire session. In this way, they immediately moved towards more complex cognitive learning tasks, including knowledge application, analysis, evaluation and creation.

By drawing on both quantitative and qualitative data coming from the teachers' assessment of the research proposals, a student feedback survey and classroom observation, I answer the following research question: In what ways can students benefit from active learning when they face complex tasks, such as research proposal writing?

Description of a teaching challenge

The course, Social Inclusion: Perspectives, Practices and Challenges within the Visegrad Region was first introduced into the curriculum at the Department of Sociology of Masaryk University in autumn 2016. I designed the course together with a fellow doctoral student, Lenka Kissová, in order to fill a gap in practice-oriented sociology courses at our department. Our initiative also came as a response to the fact that most courses offered at our department were lecture-based. The course was designed in an unconventional way as a block of thematic sessions taught by

invited lecturers, with my colleague and I teaching an introductory theoretical session, a concluding methodology session and organising two field trips. The course sessions lasted 180 minutes each and combined short lectures with classroom discussions and other learning activities. The language of instruction was English, and the course was worth ten ECTS.

In terms of institutional requirements and institutional support, we had a free hand in orchestrating the course according to our vision and perceived needs of our students. This freedom reflects the working style at our department: its general openness towards new ideas and projects, and a significant level of trust amongst all staff members, PhD students included. Because the course was financed mainly from a grant awarded by the International Visegrad Fund, we could, moreover, bypass most of the usual inter-departmental negotiation.

The course was open to both undergraduate and graduate students. In the autumn semester of 2017, during which the innovation described in this chapter was applied, altogether sixteen students signed up for the course, of which thirteen completed it. The group was rather diverse in terms of educational backgrounds, level of academic skills, ethnicity, language and experience with different educational systems. Nine students were in their third year of sociology studies at our department, while the remaining four were visiting students from USA, Greece and Japan and had backgrounds in sociology, social work and global studies.

Nature of the innovation

The concept of *active learning* refers to different techniques which create favourable conditions for the active engagement of learners with knowledge (Mulcare and Shwedel 2016). In a classroom setting, these can include discussions and different individual or co-operative activities (Faust and Paulson 1998). Integral to most active learning techniques is engagement in higher-order thinking, which entails more complex cognitive operations. Such engagement can be designed with the help of the upper levels of Bloom's taxonomy, which is a framework used to define and measure levels of expertise acquired in the process of learning (Krathwohl 2002). The upper levels include application, analysis, evaluation and creation. In a functional active learning setting, the learners become co-producers of knowledge and are able to transfer the information and/or skills learned into different contexts (Tabrizi and Rideout 2017).

This chapter covers a teaching innovation introduced during a single session of the course with the aim of helping students master research proposal (RP) writing by pursuing active learning principles. By engaging students actively, we expected them to stay focused and engaged during the entire session, apply research proposal guidelines in relation to topics of their choice, and comment on the proposals of their colleagues. The overarching expectation was that the active learning environment in the classroom would prepare students well for later individual work on their RPs.

In order to submit a satisfactory RP, students have to become familiar with formal aspects of RP writing (structure and style) and prove their knowledge of the field they want to research (content). Even though structure, style and content are tightly interrelated, the focus of our methodology session was mainly on the first two aspects of RPs – we wanted students to understand the structure of RPs and become familiar with the writing style, so that they will be able to create their own RPs at the end of the course. Students could choose to work on the proposals either individually or in pairs. RPs served as the main course assignment and were worth forty per cent of the mark, with an additional twenty per cent awarded for peer-review.

To meet the session's learning objective, we introduced a compound activity with the playful name, 'Design your own flying carpet'. The reference to a flying carpet was used metaphorically to illustrate that if the RP was carefully 'woven', it would carry students safely through their entire research project. The activity had the structure of an imagined roadmap: first, students were asked to think about a topic for their research, and then follow the activity milestones. Our aim was to guide students step-by-step through a RP preparation by keeping them constantly engaged through tasks and discussions. The activity was thus comprised of several mini-lectures covering the basic elements of RP structure (title, research question, research justification, literature review, etc.), which were immediately followed by individual or small-group tasks requiring students to put theory into practice in the context of their own proposals.

At the beginning of the session, the students got fifteen minutes to think about a course-related topic of interest and to formulate a research problem. We did a short debriefing, inviting students to share their ideas with classmates and offering additional brainstorming for those who needed it. Once the topics were settled, my colleague and I went through the respective stages of RP writing and introduced the basic guidelines. After each stage, we left time for students to enhance their draft proposals individually, in pairs or in larger groups. At more complex stages, such as formulation of a research question, we then introduced additional activities – for instance, asking students to sort out well- and badly-formulated research questions based on the guidelines provided. At the end of the session, the students had a basic structure for their research proposals, which still lacked content-comprehensive parts, such as the literature review, but otherwise held together thematically.

Naturally, students could not prepare their RPs solely during this activity. Nonetheless, our assumption was that focusing on a single research topic throughout the process would help them to translate otherwise abstract guidelines for RP preparation into concrete examples and formulations. Such a 'translation' represents a shift towards active learning – a shift from knowledge acquisition through comprehension towards application, analysis or creative use (Tabrizi and Rideout 2017). The 'Design your own flying carpet' activity thus followed the principles of active learning by eliciting students' immediate responses to the RP guidelines introduced during the methodology session and by leading students towards creation of their own research proposals.

The latter learning objective corresponds to the uppermost stage of Bloom's taxonomy (Tabrizi and Rideout 2017). The partial tasks within the activity, moreover, engaged students in several other cognitive operations: evaluating research questions, justifying research relevance, and comparing and choosing from different research methods, among others.

Data collection and research methods

My research conclusions draw on a quantitative and qualitative analysis of a body of data coming from our assessment of research proposals, a comprehensive online feedback survey answered by our students at the end of the course, and my classroom observations. The analysis thus takes into account both the teachers' and students' perspectives.

The first way my colleague and I determined the learning outcomes of this activity was to assess the quality of the students' RPs. Their proposals were submitted in two rounds, as first drafts at the end of the semester and as final drafts during the examination period. Both versions were subjected to teachers' assessment and peer-review, but only the final drafts were marked. As the peer-review and teachers' comments significantly improved the quality of proposals and served as a learning experience in itself, I will focus specifically on the assessment of first drafts to determine the outcomes of this activity.¹

The first drafts were assessed independently by my colleague and I on a scale of 1 (very unsatisfactory) to 5 (very satisfactory), and I subsequently made a compiled mean of our two sets of scores. For the purposes of this analysis, I focused on five criteria: a) compliance with the required RP structure; b) clarity of research problem formulation; c) clarity and quality of the research question; d) clarity and quality of research justification; and e) coherence of the research problem, question and justification. The quality of the literature review and methodology were not assessed, as they were not elaborated upon in detail during the in-class activity.

The anonymous survey took place online after the end of the course and combined multiple-choice and open-ended questions. While twelve out of thirteen students completed the survey, the response rate to different questions varied and was generally lower for open-ended questions. With respect to classroom observation, I took notes about the classroom dynamics and students' engagement during the session and wrote a more comprehensive reflection immediately after.

¹ This analytical decision, however, might result in a bias of its own. Students were informed that we expected them to submit comprehensive first drafts containing all required sections, yet they also knew the first drafts were not going to be marked and they would have an opportunity to develop them further later on. In some cases, this might have led to a conscious decision not to spend too much time on the first drafts, potentially leading to lower quality submissions.

Findings

Quality of research proposals

All students performed between rather satisfactorily (4) and very satisfactorily (5) overall in their first drafts (table 1). Altogether, ten proposals were assessed by two teachers (N=20), because six out of thirteen students chose to work in pairs. The difference in the overall score between the weakest RP and the two strongest RPs was 0.9 points. Both the weakest and the two strongest RPs were submitted by individuals; pair-work thus did not automatically translate into a better (or worse) output.

With respect to individual categories of the assessment, the least problematic for students was to accurately apply the RP structure (mean score 4.96). The identification of a research topic and the justification for research both proved to be relatively easy for students (mean scores 4.81). What seemed to be more problematic was to formulate a research question (mean score 4.27), even though the guidelines and the activity covering this step were quite comprehensive. A closer look into the data, however, reveals that the score was mainly lowered by the performance of the three visiting students with backgrounds outside of sociology, who, according to their own words, had very limited experience with social science research prior to the class. Taking this into consideration, even their comparatively weaker performance can be understood as educational progress. Finally, the most problematic task for the students was to maintain coherence between their choice of research topic, research question and research justification (mean score 4.08).

Table 1. Mean scores of the ten first drafts of students' RPs for its five components as assessed by the two teachers

	Structure	Topic	Research question	Justification	Coherence	Overall
Compiled means (N=20)	4.96	4.81	4.27	4.81	4.08	4.8
Compiled means – weakest RP overall (N=2)	5	5	3	4.5	3	4.1
Compiled means – strongest RP overall (N=4)	5	5	5	5	5	5

Note: The closer the score to the number '5', the greater the compliance with the criteria of quality and guidelines introduced during the activity.

Student feedback

When asked about the usefulness of the activity for their own learning, almost all the students (ten out of eleven) responded on a 5-point scale that the activity was rather useful (4) or very useful (5). Their opinions about the usefulness of the activity were further elaborated with three open-ended questions asking students to specify what worked well (or not) for them during the activity and what they learned.

When responding to these questions, the majority of students (six out of seven) praised the step-by-step character of the activity ('step-by-step method was really helpful to manage the structure of my research') together with the opportunity to talk to the teachers directly ('I really loved the option to talk to you face to face about [my] research'). One student appreciated written guidelines, which we made available to students after the session. Aside from that, four out of six students appreciated that the activity helped them to understand the RP structure better. Moreover, two students offered answers signalling they might have gone beyond the intended learning outcome of the activity: one of them wrote that the activity enhanced their understanding of academic writing in general ('I've learned [that] structure and form are [a] basic part of [a] good academic text'), while the other reflected on his or her individual learning style ('[I have learned] that it is hard to think about such a big topic when I have so little time').

A variation on the latter statement, written by the same student, appeared as a single answer to the question about what did not work well; the student said s/he felt under pressure and could not think properly in the timeframe offered by the activity. Although this was only one answer, it should not be disregarded as it highlights the diversity of students' learning styles. While 'one activity fits all' is clearly a utopian scenario, classroom activities could also be used to initiate discussion with students about their learning needs and, if necessary, teachers may need to adjust learning activities accordingly.

Classroom observation

Asking students to focus on their own research project during the entire session also proved to be an effective strategy of making them engaged and focused. Students stayed focused throughout the entire three hours-long session and showed genuine interest in their proposals. They appeared to be working hard on the tasks, discussing things enthusiastically with their classmates and posing a lot of relevant questions. Although some students were initially shy about sharing their ideas, with time a relaxed atmosphere developed, which also eased the barriers between students and teachers; students appeared more comfortable approaching me or my colleague and asking for help and clarification.

On the teachers' side, the complexity of this activity demanded reflection-in-action (Rogers 2001): my colleague and I had to closely observe what was going on in the classroom and notice if some of the students were getting lost or needed additional help. For instance, while one ex-

change student demonstrated extensive knowledge and skills in RP writing, the three others, who had their background in the less research-oriented field of social work and global studies, had significant difficulties catching up. To address these diverse needs, we had to flexibly adjust the time spent on respective RP stages. Moreover, while we initially planned to conclude the activity with a mini-conference, which would provide the opportunity for students to present their draft proposals in front of their peers, we had to improvise and leave the last twenty minutes of the session for individual work and small-group discussions instead.

Discussion

These findings have three implications for determining the success of this teaching innovation. First, the principles of active learning, as put into practice through our 'Design your own flying carpet' activity, fulfilled the expectations related to learning processes: the activity awakened students' interest, it kept them focused and engaged, and it created a collaborative working environment.

Secondly, the generally high quality of research proposal first drafts documents that the activity was successful in meeting its main learning goal; students learned how to create their own RPs and thus demonstrated their ability to apply the knowledge and skills acquired in this session. This conclusion is, moreover, supported by the students' favourable evaluations of the activity. The overall impact of the innovation on the students' process of learning can be thus interpreted as positive.

Third, a detailed look into the teachers' assessment of the RPs, however, indicates a need to put a greater emphasis on the synthesis of respective RP parts, the category in which the students scored the lowest. Research proposal writing is a complex task which requires a synthesis of several written sections. While the activity helped students with the individual sections, there was no specific focus on their synthesis or integration. Students might thus benefit from additional support related to this aspect, for instance by an additional in-class activity, a handout with guidelines for self-assessment of RP coherence, or a peer-review – the latter of which we introduced in our course as the second major innovation, and peer-review forms included a section concerning RP coherence.

Conclusion

In this chapter, I assessed a learning activity which followed the principles of active learning and was introduced to help students master the complex task of research proposal writing. My findings document the overwhelmingly positive impact of the activity on the students' learning process, mainly in terms of their ability to fulfil the learning outcome – to master RP writing on a satisfactory level – but also by keeping students focused and engaged.

My findings are most relevant for teachers of undergraduate students in courses of up to twenty students but could be easily adapted for bigger classes. The activity discussed in this chapter was specifically designed to help students acquire the knowledge and skills necessary for RP writing, but its structure and principles can be altered with ease for the active learning of social theories or threshold concepts.

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