



Bachelor students become teachers: Building Professional Confidence and Competence Through Teaching Creativity Techniques to Schoolchildren

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Abstract

Every innovation begins with an idea. But how do you come up with a good idea that can also be implemented economically and thus become a successful innovation? In our technical bachelor's program, the first semester students learn how to use creativity techniques to generate ideas for different use cases. But students should not only learn how to apply creativity techniques, they should also learn how to teach them. To this end, on the last day of the course, the students must teach their newly gained knowledge to 200 schoolchildren who are working on ideas for a so-called Junior Company. The former learners now become teachers. This real-life teaching situation in front of unfamiliar learners is initially a challenge for many students, but one that they must face, and which ultimately gives them enormous self-confidence for their further studies and professional competence. By teaching creativity techniques to the schoolchildren, students not only consolidate their new knowledge, but also learn important key skills, such as recognizing group dynamics and responding to them appropriately. According to the students, this teaching experience gives them more confidence to independently lead creativity workshops in their professional environment in the future. This paper describes the structure of this teaching day to illustrate how successfully the 'learning by teaching' approach works in this context.

Keywords: *Ideas, creativity techniques, learning by teaching, creativity workshops*

1. Introduction

"Tell me and I will forget, show me and I may remember; involve me and I will understand." [1] This ancient Chinese proverb already suggests that practical experience supports the learning process. This approach is also reflected in some learning theories. John Dewey, for example, believes that learning is promoted when learners themselves become active and reflect on their actions [2]. The concept of service learning also follows the same line of thinking. It encourages students to apply the theory they have learned in a practical setting, which in turn promotes their employability [3]. In line with this approach, at FH Campus 2 in Graz, we hold an event called Innoday, where students become teachers and help school pupils from the region come up with creative ideas for a student-run company. This practical teaching experience consolidates and internalises the theoretical knowledge students have previously acquired in the course. They leave the course with a new sense of self-confidence, as they have learned that they can lead creativity workshops. This paper first discusses the context of FH Campus02's Innoday, clarifying the framework in which this practical teaching experience is embedded in the curriculum, before going on to describe the structure of the day and the methods and materials used. Finally, it explains how the so called Innoday contributes to students' skills acquisition.

2. Contextualisation

For 15 years, Innoday has been held at FH Campus 02 [4] in collaboration with the Styrian Economic Society (STVG) [5]. The Department of Innovation Management supports school pupils from Styria in generating ideas for Junior Companies [6]. With the help of creativity techniques, the pupils develop their initial business ideas on this day. Four years ago, the teaching concept was changed and the Innoday was integrated into the creativity techniques course from the first semester of the bachelor's programme. This was done because, on the one hand, more schools wanted to participate in the idea generation day, but the teaching staff did not have the staff availability to supervise such a large group and, on the other hand, because the students should apply the knowledge they have learned in the



course in a practical setting, namely in a real teaching situation and not just among their peers in group work. Finally, one of the learning objectives of the course is to facilitate creativity workshops. The change solved two problems: more pupils could be supervised, and the students were able to gain their first practical teaching experience. The creativity techniques course is held annually as a block course at the end of September and comprises 3 ECTS credits. In this context, this means that students have classes from Monday to Thursday, from 9 a.m. to 5 p.m. Normally, our students study part-time on Fridays and Saturdays, as they work alongside their studies. The course offers a mixture of plenary sessions and practical group work. During the plenary sessions, students are taught various creativity and decision-making techniques [7], which they then apply and consolidate in groups using real-life business issues. They learn how to use a methodical approach to generate ideas for potential innovations. The teaching units take place at FH Campus 02 in Graz and in selected companies in Styria. On average, students have no prior knowledge of the subject area when the course begins, but this is not relevant in the case described. The pupils benefit much more from the diverse professional backgrounds of the students, as this enables them to evaluate the ideas that arise from different perspectives.

Since 2022, the highlight of the course has been the Innoday. On this day, around 200 pupils from various schools in Styria will have the opportunity to develop initial business ideas for a Junior Company. The students will moderate creativity workshops, gaining valuable experience in independently leading groups. During the Innoday, the lecturers will be available to provide support but will deliberately take a back seat to enable the students to learn in a way that is as practical and self-determined as possible.

3. Structure of the Innoday

The day begins at 9 a.m. in the FH Campus 02 auditorium with a welcome session and an introduction to the day's theme. This will be followed by a presentation of the day's schedule and room allocation.



Fig. 1. Welcome session in the auditorium, source: Ewald Hötzl.

The main activities comprise two workshop sessions, which take place in the assigned lecture halls from 9:30 a.m. to 11:00 a.m. and from 11:30 a.m. to 1:00 p.m. The students have been divided into groups beforehand and will moderate these workshops independently. In the course, students previously acquired basic knowledge about facilitating creative workshops. Nevertheless, before Innoday begins, students must independently assign roles within their group, clarifying who will explain which method, who will supervise which group of pupils and who will keep track of time. In each room, five to six students will supervise a class and divide them into an average of five small groups.

In 2025, pupils in 30 groups developed initial business ideas for a Junior Company using selected creativity techniques. The exact procedure of the ideation workshops is explained in Chapter 4. From 1:00 p.m. to 1:30 p.m., the pupils presented their business ideas to another group of students using a poster and answered their questions. The students evaluated the pitches in the categories 'poster design' and 'overall impression (questions)' using a scale from 1 to 6 (where 1 is poor and 6 is excellent). The course lecturers assessed the business viability of the ideas. This assessment not only determines the three best ideas of the day but also encourages pupils to engage more deeply with



their business ideas. Ultimately, the product or service must be commercially successful. The pupils must market it and generate revenue. The assessment categories also determine the feasibility of implementing the idea. The day concludes with a presentation of the best business ideas in the auditorium, in front of the other pupils and their teachers (see figure 2).



Fig. 2. Presentation of the three best ideas in the auditorium, source: Pauline Hess-Utting.

To provide an overview, the sequence of events during the day is shown in the following illustration in the form of a process diagram (see figure 3).

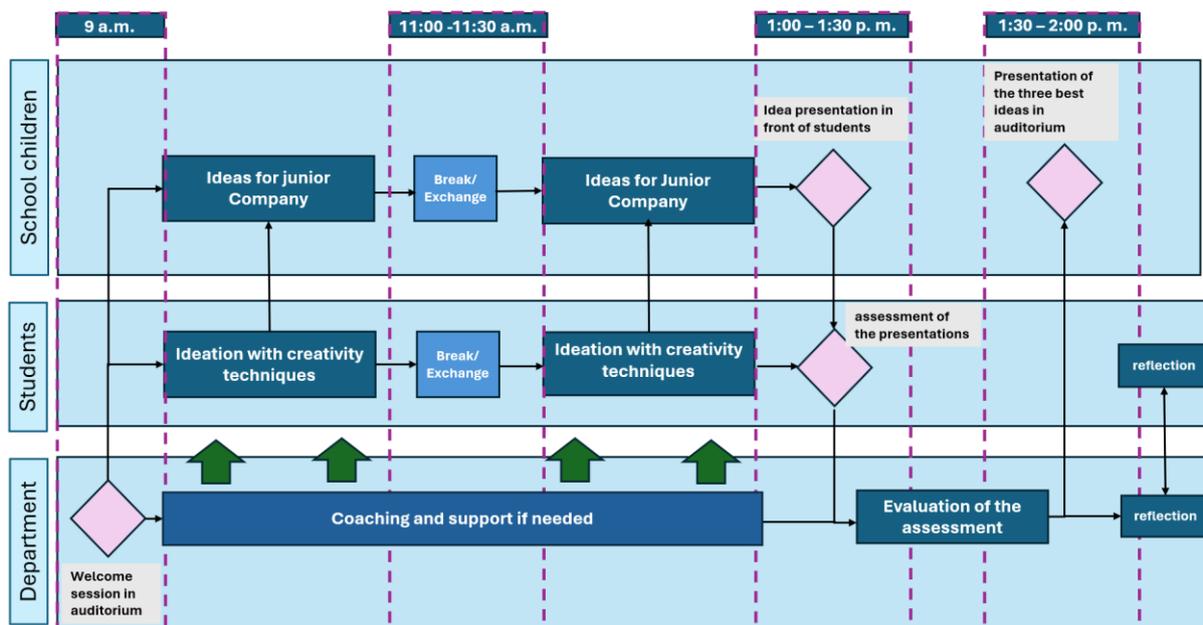


Fig. 3. Innoday schedule

After Innoday officially ends at 2 p.m., students and lectures reflect on the day together.

4. Ideation Workshop: Teaching Methods and Materials used

After dividing the pupils into groups in the respective lecture hall, the students gradually explain the creativity techniques to be used in a plenary session. The students are free to choose both the method of dividing the groups and the form of presentation. They can use the entire infrastructure of the



lecture hall (e.g. projector, PC, flipchart, pinboard) and choose the form of presentation that suits them best. After explaining the technique, they accompany the groups during the workshop and support them in applying the respective creativity technique. In doing so, they ensure that the rules explained beforehand are observed, they keep an eye on the group dynamics and the schedule and intervene in the case of rule violations if necessary.



Fig. 4. Ideation with creativity techniques, source: Ewald Hötzl und Pauline Hess-Utting.

At Innoday, the roles are reversed: students take on the role of teachers and must apply what they have learned in a real-life scenario in front of pupils who have clear expectations of them – after all, the aim is to come up with a convincing initial business idea. Students are given a handout in advance with possible creativity techniques (e.g. brainwalking, 6-3-5 method with point scoring, Osborne checklist, morphological matrix) that they can use in the workshop. However, they are free to use other techniques they have learnt if they consider them to be more useful or effective. In addition, students are required to evaluate the pupils' various ideas. To this end, a points-based evaluation scheme is prepared in advance to ensure fair and transparent assessment of all business ideas. After Innoday has ended, a brief joint reflection session takes place in the lecture hall. After this, the students write a reflection report in their groups, documenting their experiences of the day, the effectiveness of the methods used, and the communication processes within the group. Possible guiding questions for this are:

- a. Which creativity method worked well/poorly and why?
- b. Which method would have been more suitable?
- c. How did the idea assessment work for you?
- d. How did communication with the pupils work?
- e. What behaviours did you observe in the pupils?
- f. How did communication work within your group?
- g. Did you find the Innoday preparation understandable and helpful?
- h. If not, what changes would you suggest for the future?

This reflection is uploaded digitally and serves as the basis for a final assessment (successful participation/unsuccessful participation).

5. Acquired Skills

Innoday gives students the opportunity to apply their theoretical knowledge in a practical environment, thereby helping them to develop professional skills. Specifically, this takes place in the following areas:

- a) Leading workshop groups using discussion and moderation rules: During Innoday, students must actively implement these rules in order to lead the workshops effectively. Successfully applying these rules in a real-life scenario is crucial to the event's success. Here, theoretical knowledge is transformed into practical action, helping students to develop their moderation skills.
- b) Dividing work groups independently: This ability is based on the methods for dividing groups taught during the course. Students must complete this task independently.



- c) Selecting and explaining creativity and decision-making techniques according to the situation: Students are required to explain creativity and decision-making techniques to pupils in a comprehensible manner and, if necessary, to select a different technique according to the situation. The latter requires an analysis of the respective situation in order to identify the most effective method.
- d) Determining the presentation format: Students are given the freedom to independently choose the format of their workshop presentations. This process requires them to analyse the various formats and identify the most suitable one for their group. They must weigh up the pros and cons of the different formats, consider the workshop's requirements and the target audience, and then make a joint decision.
- e) Recognising and solving any difficulties that may arise in the group's creative work: During Innoday, various challenges may arise in the group's creative work process. Students must identify these problems and develop appropriate solutions, which requires a detailed analysis of group dynamics and the issues that have arisen.
- f) Evaluation of workshop results: At the end of the workshop, the students evaluate the business ideas developed by the pupils based on predefined criteria. This evaluation task requires critical judgement and the ability to systematically assess various aspects of the ideas.
- g) Critical reflection on one's own actions: After Innoday, students write a reflection report in which they critically examine their own actions. This reflection promotes the ability to evaluate one's own learning and performance and to draw conclusions for future tasks. Reflecting gives students the opportunity to critically analyse their practical experiences retrospectively. This allows them to recognise what worked well and what could have been improved, and to evaluate whether they have developed the necessary skills to lead a creativity workshop. They consider how they could have acted more effectively in certain situations and pinpoint areas in which they can improve their skills further. In this way, they develop valuable strategies for future leadership roles in creativity workshops, whether during their studies or in their professional careers.

6. Conclusion

Overall, this part of the course strikes a balance between independent study and targeted support. The practical focus and direct application of learning in a real-world environment ensure long-term retention of the course content. This combination of practical relevance, personal responsibility and reflection motivates students in the long term. Announcing Innodays at the beginning of the course motivates students to engage with the content. Students want to meet the high expectations placed on them during Innodays, knowing that this can only be achieved through dedicated participation in the course. Following Innoday, many students are so motivated that they wish to continue running creativity workshops in schools. This has led to the creation of our Innoschool, a self-managed student group that regularly visits schools to deliver ideation workshops on a variety of topics. Many students have told us that Innoday and the subsequent school workshops have inspired them to lead ideation workshops in their own companies. They carry the self-confidence and motivation gained from Innoday into their everyday working lives.

REFERENCES

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[7] for instance: Boos, E., "Das große Buch der Kreativitätstechniken: Fantasie fördern, Ideen strukturieren, Geistesblitze umsetzen, Lösungen finden; kreative Intelligenz trainieren", München, Compact-Verlag, 2014.