



PROJECT

Methodology

Part 1: Teaching Transferable Skills

Part 2: Methods and Procedures in our international Meetings

Part 1: Teaching Transferable Skills

1. Different Approaches

According to the results of our survey, the following skills are valuable to companies and are often missed in students:

- team player
- problem solver
- communication skills
- taking initiative
- flexibility
- organization
- self organization
- self reflection
- taking over responsibility
- comprehension
- precision
- resilience
- patience

In the course of our project our students have developed in-class and online activities that might help students to learn about and improve their transferable skills.

There are a number of **approaches** that are particularly designed to improve these skills:

At school:

- **cooperative learning methods**
- **project work**
- **student company/school company**

At the company:

- **junior company** (a company within a bigger company that is completely managed by trainees from different departments)

Since project work and cooperative learning techniques are most likely to be implemented at schools, we are going to focus on these two aspects.

2. Suitable Methods

2.1 Cooperative Learning

2.1.1 Five key elements

2.1.2 Implementing the Elements

2.1.3 **Cooperative Learning Techniques**

2.2 Project work

....

2.1 What is Cooperative Learning?

Cooperative learning involves more than students working together on a lab or field project. It requires teachers to *structure* cooperative interdependence among the students. These structures involve five key elements which can be [implemented](#) in a variety of ways. There are also [different types of cooperative groups](#) appropriate for

different situations.



More than Just Working in Groups

2.1.1 Five key elements differentiate cooperative learning from simply putting students into groups to learn (Johnson et al., 2006).

- 1 **Positive Interdependence:** You'll know when you've succeeded in structuring positive interdependence when students perceive that they "sink or swim together." This can be achieved through mutual goals, division of labor, dividing materials, roles, and by making part of each student's grade dependent on the performance of the rest of the group. Group members must believe that each person's efforts benefit not only him- or herself, but all group members as well.
- 2 **Individual Accountability:** The essence of individual accountability in cooperative learning is "students learn together, but perform alone." This ensures that no one can "hitch-hike" on the work of others. A lesson's goals must be clear enough that students are able to measure whether (a) the group is successful in achieving them, and (b) individual members are successful in achieving them as well.
- 3 **Face-to-Face (Promotive) Interaction:** Important cognitive activities and interpersonal dynamics only occur when students promote each other's learning. This includes oral explanations of how to solve problems, discussing the nature of the concepts being learned, and connecting present learning with past knowledge. It is through face-to-face, promotive interaction that members become personally committed to each other as well as to their mutual goals.
- 4 **Interpersonal and Small Group Social Skills:** In cooperative learning groups, students learn academic subject matter (taskwork) and also interpersonal and small group skills (teamwork). Thus, a group must know how to provide effective leadership, decision-making, trust-building, communication, and conflict management. Given the complexity of these skills, teachers can encourage much higher performance by [teaching cooperative skill components](#) within cooperative lessons. As students develop these skills, later group projects will probably run more smoothly and efficiently than early ones.
- 5 **Group Processing:** After completing their task, students must be given time and procedures for analyzing how well their learning groups are functioning and how well social skills are being employed. [Group processing](#)

involves both taskwork and teamwork, with an eye to improving it on the next project.

Similarly, Kagan (2003) has developed the easily recalled acronym **PIES** to denote the key elements of **p**ositive interdependence, **i**ndividual accountability, **e**qual participation, and **s**imultaneous interaction where the latter 2 components encompass the final three described above.

2.1.2 Implementing the Elements of Cooperative Learning

There are a variety of techniques that can be used to promote one or more of the elements of effective cooperative learning groups. The list below is intended to be representative rather than exhaustive.

- **Positive Interdependence:**

- **Big Project:** This is the usual motivation for assigning students to work in groups in the first place, a learning task that a student cannot accomplish alone in a reasonable length of time. Often these projects are more interesting and can teach more than simplified versions. See [examples of projects](#).

- **Jigsaw:** Divide the group into specialists on particular areas of the material to be learned. Specialists in one area work together to develop expertise in their specialty, then return to their original group to combine their new expertise with those of experts on other aspects of the material to finish the project. For a complete description of this technique, see the [jigsaw module](#).

- **Peer Review:** Providing students with the opportunity to learn how to provide and received constructive feedback is an important part of process of conducting research. The [peer review module](#) describes how to use student pairs or groups to help each other with written work.

- Ways to promote positive interdependence include (Smith and Waller 1997, p. 202):

- Output goal interdependence- a single product is produced by the group

- Learning goal interdependence- the group ensures that every member can explain the group's product

- Resource interdependence- members are provided parts of the assignment or relevant information or the group is only provided one copy of the assignment

Role interdependence- members are given distinct roles that are key to the functioning of the group

-
- **Individual Accountability:**
 - Individual Grades: Individuals can be given quizzes and exams. Likewise, parts of group projects can be done independently or randomly drawn students can provide oral/written reports on group results.
 - Within-Group Peer Assessment: Another way to discourage students from letting others do their share of group work is to have students (anonymously) rate their group mates and include the average rating from all of a student's group mates as part of his or her grade.
 - See the [assessment of cooperative learning](#) page for more information about how to encourage individual accountability.
- **Face-to-Face (Promotive) Interaction:**
 - [Student Roles](#): Encourage students to interface with multiple parts of the project by assigning roles that require interaction with the rest of the group as they work, such as checking data, keeping the group on task, or keeping records.
 - Online Bulletin Boards: If students have limited time to meet face-to-face (common on commuter campuses and online courses), the instructor can set up an online asynchronous bulletin board for students to post what is essentially an e-mail to the group. Many forms of classroom management software such as WebCT and Blackboard make this possible. It also allows the instructor to monitor interaction.
- **Interpersonal Skills:**
 - Discussion: It may be helpful to explain to your students why they are working together and how the group can promote their learning.
 - Practice: Give students time to learn to work together before expecting spectacular results from cooperative learning. If you assign students to groups early in the term and let them do a series of projects together, not only will they learn each other's schedules and particular strengths, they will learn to ask and answer better questions of each other about their projects and progress.
- **Group Processing:**
 - Reflections: It may be worthwhile for group members to write

individual, private reflections on their learning after the project, citing which parts of the project and which group members contributed to various discoveries, then bring the group back together to discuss the project. Fink (2003) describes this process of 'learning how to learn' as one of five key components that contribute to significant learning experiences as it enables students to become better students, inquire about a subject and construct knowledge and become "self-directing learners." (p 50-55) For more information about self-reflection in the learning process, see the *Cutting Edge* website about [metacognition](#).

Source: <https://serc.carleton.edu/introgeo/cooperative/whatis.html>

2.1.3 Cooperative Learning Techniques

Cooperative learning techniques can be loosely categorized by the skill that each enhances (Barkley, Cross and Major, 2005), although it is important to recognize that many cooperative learning exercises can be developed to fit within multiple categories. Categories include: [discussion](#), [reciprocal teaching](#), [graphic organizers](#), [writing](#) and [problem solving](#). Each category includes a number of potential structures to guide the development of a cooperative learning exercise.

Discussion: communicating

"A good give-and-take discussion can produce unmatched learning experiences as students articulate their ideas, respond to their classmates' points, and develop skills in evaluating the evidence of their own and others' positions." (Davis, 1993, p. 63)

- **Think-pair-share**: As probably the best known cooperative learning exercise, the think-pair-share structure provides students with the opportunity to reflect on the question posed and then practice sharing and receiving

potential solutions. Its simplicity provides instructors with an easy entry into cooperative learning and it is readily adaptable to a wide range of course constructs. (Example: [Where Do I Begin? Using Think-Pair-Share to Initiate the Problem Solving Process](#))

>>>Video that explains Think-Pair- Share:

<https://serc.carleton.edu/details/files/19471.html>

- **Three-step interview:** This structure can be used both as an ice-breaker which introduces students to one another and to provide students with a venue for soliciting opinions, positions, or ideas from their peers. Students are first paired and take turns interviewing each other using a series of questions provided by the instructor. Pairs then match up and students introduce their original partner. At the end of the exercise, all four students have had their position or viewpoints on an issue heard, digested, and described by their peers.

Reciprocal teaching: explaining, providing feedback, understanding alternative perspectives Slavin (1996), in a review of hundreds of studies, concluded that "students who give each other elaborated explanations (and less consistently, those who receive such explanations) are the students who learn most in cooperative learning." (p. 53)

- **Note-taking pairs:** Poor note-taking leads to poor performance. Designing an exercise which requires students to summarize their understanding of a concept based on notes taken (with directed questions such as what is the definition of a concept, how is it used, what are the three most important characteristics of a topic) and receiving reflective feedback from their partner provides students the opportunity to find critical gaps in their written records.
- **Jigsaw:** For more complex problems, this structure provides students the opportunity to develop expertise in one of many components of a problem by first participating in a group solely focused on a single component. In the second stage of the exercise, groups are reformed with a

representative from each expert group who together now have sufficient expertise to tackle the whole problem.

Graphic organizers: discovering patterns and relationships "Graphic organizers are powerful tools for converting complex information in to meaningful displays...They can provide a framework for gathering and sorting ideas for discussion, writing, and research." (Barkley, Cross and Major, 2005, p.205) See also, [concept mapping](#).

- **Group grid:** Students practice organizing and classifying information in a table. A more complex version of this structure requires students to first identify the classification scheme that will be used.
- **Sequence chains:** The goal of this exercise is to provide a visual representation of a series of events, actions, roles, or decisions. Students can be provided with the items to be organized or asked to first generate these based on a predetermined end goal. This structure can be made more complex by having students also identify and describe the links between each of the sequenced components.

Writing: organizing and synthesizing information The [Writing Across the Curriculum Clearinghouse at Colorado State University](#) encourages the use of written assignments across the campus because it teaches students to communicate information, to clarify thinking and to learn new concepts and information.

- **Dyadic essays:** Students prepare for the in-class portion of this exercise by developing an essay question and model answer based on assigned reading. Students typically need to be guided to develop questions that integrate material across classes as opposed to ones that simply recite facts presented in the reading. In class, students exchange essay questions and write a spontaneous answer essay. Students then pair up, compare and contrast the model answer and the spontaneously generated answer. Subsequently, questions and answers can be shared with the larger class.

- **Peer editing:** As opposed to the editing process that often appears only at the final stage of a paper, peer editing pairs up students at the idea generation stage and peers provide feedback throughout the process. For example, the relationship begins as each student in the pair describes their topic ideas and outlines the structure of their work while their partner asks questions, and develops an outline based on what is described. See also, [peer review](#).

Problem solving: developing strategies and analysis Research by mathematics educators Vidakovic (1997) and Vidakovic and Martin (2004) shows that groups are able to solve problems more accurately than individuals working alone.

- **Send-a-problem:** Students participate in a series of problem solving rounds, contributing their independently generated solution to those that have been developed by other groups. After a number of rounds, students are asked to review the solutions developed by their peers, evaluate the answers and develop a final solution. (Example: Understanding the Impact of (Fiscal and Monetary) Policy)
- **Three-stay, one-stray:** Even students working in groups can benefit from the feedback of additional peers. In this structure, students periodically take a break from their work (often at key decision making points) and send one group member to another group to describe their progress. The role of the group is to gain information and alternative perspectives by listening and sharing. The number of times the group sends a representative to another group depends on the level of complexity of the problem. This method can also be used to report out final solutions.

For additional structures associated with each of these skill categories, see Barkley, Cross and Major, 2005.

Source:

<https://serc.carleton.edu/introgeo/cooperative/techniques.html>

Sources:

- Video on cooperative learning: <http://www.co-operation.org/videos/>
- **Information about cooperative learning methods: Science Education Research Center Carleton College: Pedagogy in Action** (<https://serc.carleton.edu/sp/library/cooperative/whatis.html>) The goal of the Pedagogic Service is encourage educators to reflect critically on their own teaching practices and to support them in exploring new pedagogies. Building on a [successful model in the geosciences](#), we have created a library of pedagogic methods and a collection of activities which exemplify each method. The complete library is available through the [Pedagogy in Action portal](#).

Part 2: Methods and Procedures in our international Meetings

1. General remarks about the methodology in our activity meetings

The overall methodology we applied to support low-qualified students covers an international interactive learning based on cooperative learning methods.

To make the project succeed we used different interactive methods that are helpful to make the students work in teams, create awareness of their own skills and improve them if necessary.

To illustrate our procedure we decided to demonstrate our methods according to the different international meetings in Glückstadt, Genk, Valencia and Vysoke Myto.

2. Methodology: Glückstadt Meeting (January, 2018)

2.1 General remarks about procedure and methodology in Glückstadt

From a variety of cooperative learning methods supporting transferable skills we chose the following:

Team activities to get to know each other and to strengthen the team spirit. Analysing statistics to train comprehension and also a SWOT analysis to learn more about the strengths and weaknesses that should be improved.

Below all these activities and methods are explained in detail. During all the phases especially communication skills were in the focus of learning, like advising, writing, speaking proper English, instructing other students, presenting persons, practicing active listening etc.

The given methods required intercultural and language skills.

Throughout the meeting the atmosphere was very relaxed and the students were willing to learn and work in teams.

2.2 Methods used in Glückstadt

2.2.1 A first approach, the “**name game**” was a simple game where students had to choose 3 letters and explain them according to first name, last name and hobby. This way it was easy to remember all the names and make everyone participate in the group work. Students and teachers learned all the names fast, thus it was a great step to create an open atmosphere for an efficient work in international teams.

2.2.2 Another step to involve all international members was an activity called “**choose-your-block**” where all students had to pick a wooden block out of a clothbag without being allowed to see the blocks. Comparing the blocks the students had to make sure they find corresponding forms among the other students’ blocks. This method contributed to the feeling of being a member of the group.

2.2.3 “**Building a bridge**” was the next activity where the students had to create a bridge out of standard paper size sheets of paper and glue. In the group they had to discuss the most effective method. The bridge that was able to hold the highest amount of weight was the winner.

2.2.4 In the following there was a **lecture** about “Vocational Training in Germany” where the students had to practice active listening and understand analyzing statistics as part of communication skills.

2.2.5 Another method was the SWOT- Analysis (Strengths, Weaknesses, Opportunities, Threats) where the students had to find out about their strengths and weaknesses supported by a coach.

2.2.4 SWOT Analysis

A SWOT Analysis is a tool to develop business strategies, marketing strategies in particular. SWOT stands for strengths, weaknesses, opportunities, threads. It can also be udes with students and learners to reveal their individual strenghts and weaknesses and point out opportunities and threads in order to provide a chance to deal with this matter.

It can also be used to analyse an individual's favourable and unfavourable factors for career development (cf. <https://www.edrawsoft.com/personal-swot-examples.php>).



The following questions can help you to identify the factors.

<p>STRENGTHS</p> <ul style="list-style-type: none"> • What professional skills do I have? • What am I good at? • What services can I offer but others can't? • What favorable personalities do I have? • What resources do I possess? 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> • What am I bad in? • What should I hone and practice? • What am I afraid of? • What are my wrong mindset? • What are the roots of my failure?
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> • What training programs are available? • Can I receive better education? • What can my employer offer to improve myself? • Who can support and help me? • What are the beneficial policies? 	<p>THREATS</p> <ul style="list-style-type: none"> • What obstacles are in my way to success? • Who are my competitors? • What are the new technologies that I don't master?

3. Methodology: Genk Activity Meeting (September, 2018)

3.1 General remarks about procedure and methodology in Genk

At the beginning of each activity meeting there are activities that help the students to get to know each other and that help them to get connected to their teams. These activities can be ice-breakers, team building activities and fun activities.

Our task is to create videos and online activities that students as well as teachers can use to improve students' transferable skills. Having analysed the results of our questionnaires, we have an idea about what skills trainers require and what skills trainers miss in students. Nevertheless, we want to draw from the students' experiences with the interviews and use what **they** found "remarkable" as a **starting**

point for the development of video tutorials and online activities. Therefore we collect outstanding positive and negative examples from the interviews (about students' transferrable skills). In order to get all students involved we use the method of **Think-Pair-Share** (see below) to find examples. The examples are collected with the help of mind map cards to have them visualized for further steps. They are split into positive and negative examples. Both can serve as sources to create the videos.

If the students don't have suitable ideas, teachers can help out by presenting tables about: skills required and skills trainers missed.

In a next step the students are asked to think of a story for a video to learn from. Then there will be a workshop about making short video films with mobile phones so that the participants are able to produce films in good quality.

3.2 Methods used in Genk

0) Team building activities

Ice breaking games to learn or to recall the names of the members of the project meeting.

1) Working in mixed groups

The students are going to work in mixed groups (groups of students of different nationalities) to enhance their social and intercultural skills. Moreover, they train face-to-face interaction, individual accountability and improve their language skills.

2) Prepare the students for the steps to follow/Activate associations

Students are shown the questionnaires so that they become familiar with the questions and the skills that were mentioned in it. They are asked to think about their interviews with trainees and trainers and to think of the most remarkable (positive and negative) comments of trainers and trainees. If the students identify the problems/the missing skills themselves they are more likely to be motivated to work on a solution for this problem.

3) Think-Pair-Share

The following explanation of this method is taken from <https://teachingcommons.stanford.edu/resources/learning/learning-activities/think-pair-share>.

Think-Pair-Share is a short activity designed to engage students in thoughtful consideration of a topic, and may serve effectively as a warm-up to instruction and class discussion on new course material.

*First, students individually **think** for a few minutes about a question posed by the instructor, then get together for a short period in groups of two (**pair**) to four students to discuss their thoughts, and one or more groups **share** the results of their*

discussion with the class. In addition to engaging with course content, students can reflect before speaking, and share their ideas in a low-risk situation before participating in full class discussion. Thus, both the quality of class discussion and students' comfort in contributing to class discussion may improve.

Think-Pair-Share also allows instructors to assess students' initial knowledge and to modify instruction to bolster understanding and clear up misconceptions. Developed for use in class, this technique is just beginning to be adapted and experimented with in the online environment.

Source: <https://teachingcommons.stanford.edu/resources/learning/learning-activities/think-pair-share>

Great video that explains this method to teachers:

<https://serc.carleton.edu/details/files/19471.html>

4) Mind Map/Metaplan Cards

In order to collect ideas for positive and negative examples and to keep record of the students' ideas, they are written on mind map cards and pinned to the wall.

Great video that explains this method to teachers:

<https://serc.carleton.edu/details/files/19471.html>

5) Creating a story board for a video production

The students' have to discuss their thoughts, and one or more groups share the results of their discussion with the class. In addition to engaging with course content, students can reflect before speaking, and share their ideas in a low-risk situation before participating in full class discussion. Thus, both the quality of class discussion and students' comfort in contributing to class discussion may improve.

Think-Pair-Share also allows instructors to assess students' initial knowledge and to modify instruction to bolster understanding and clear up misconceptions. Developed for use in class, this technique is just beginning to be adapted and experimented with in the online environment.

Source: <https://teachingcommons.stanford.edu/resources/learning/learning-activities/think-pair-share>

Great video that explains this method to teachers:

<https://serc.carleton.edu/details/files/19471.html>

4. Methodology: Valencia Activity Meeting (January, 2019)

4.1 General remarks about procedure and methodology in Valencia

As known from the former meetings the activity meeting in Valencia started with some ice breaking games and getting-to-know-each-other activities.

Again this helped the students to feel comfortable again in the group and to integrate new students joining the project and make them feel part of the team.

The cultural trips (doing a local game with the local hero of PILOTA VALENCIANA, PUJOL II) through the city that the group did together contributed to dynamic group behaviour where the students were able to create a positive work atmosphere.

4.2 Methods used in Valencia

One example for an icebreaking activity was the **speed dating** where the students got together in pairs to do a three- minute interview with their partner. This way they learned more about the individual personality which was necessary for further team work.

After the cultural activities the meeting in Valencia focused on a **lecture** about the students' social media profile that they all had to work on afterwards. This was the first step to the video CV, a workshop prepared by one of the Valencian teachers to support the students creating their own Video CV.

Two important activities were in the focus of the meeting: **role plays** with students and teachers to practice the situation of a job interview and to reflect them critically.

And the **peer-group-learning** where younger students from other schools were invited to learn and profit from the results of the project that had been achieved so far.

Detecting faults after each video to support the student's self evaluation.

Role playing is a way of working through a situation, a scenario, or a problem by assuming roles and practicing what to say and do in a safe setting. This kind of learning experience has several benefits and advantages when it's implemented carefully by a good trainer or teacher. Instructors can supplement their teaching methods by role playing in any context where it seems relevant. Even rehearsals of personal situations through role playing with a trusted friend can provide beneficial learning opportunities.

<https://study.com/academy/lesson/role-play-method-of-teaching-definition-benefits.html>

Practising interviews: Whereas the students took over the role of the applicant being interviewed, teachers were the interviewers.

This way there was a the perfect chance to make the students dive deeply into the situation of an interview in real life as they even had the task to dress appropriately thus evoking the impression of a real-life-situation.

Afterwards the students got a feedback and had the chance to reflect and improve their interview.

A voluntary video of the interview supported the self reflection.

Peer-group-learning

One of the most visible approaches to peer learning comes out of cognitive psychology, and is applied within a "mainstream" educational framework: "Peer learning is an educational practice in which students interact with other students to attain educational goals." [1] In this context, it can be compared to the practices that go by the name cooperative learning. However, other contemporary views on peer learning relax the constraints, and position "peer-to-peer learning" as a mode of "learning for everyone, by everyone, about almost anything." [2] Whether it takes place in a formal or informal learning context, in small groups or online, peer learning manifests aspects of self-organization that are mostly absent from pedagogical models of teaching and learning.

https://en.wikipedia.org/wiki/Peer_learning

In the given situation of peer-group-learning younger students from other schools were invited to learn and profit from the results of the project that had been achieved so far. The project results, i.e. the tasks that were developed throughout the project were carried out by the participants of the project who practiced them with the guest students from local schools.

Thus the VITAE students took over the part of the teacher checking the reliability of the planned activities and learned a lot.

5. Methodology: Vysoke Myto Meeting (March, 2019)

5.1 General remarks about procedure and methodology in Vysoke Myto

To start the activity meeting in Vysoke Myto there were various ice breaking activities again to connect the group getting to know each other and help them to build their international teams and work with them.

Due to organisational reasons some partners had to bring in new students again so that these **ice breaking activities** were very essential and helpful.

For the students this was a great chance to learn more about presenting on the one hand and to profit from their partners' reactions and evaluation on the other hand.

5.2 Methods used in Vysoke Myto

As mentioned above there were again different ice-breaking activities:

- learning the names
- Europe quiz
- short theatre play in Czech language

Presenting was one of the methods the students practiced in Vysoke Myto. Each national team had to prepare the presentation of the local labour market and had to present this to the international partners.

An important part of the meeting was the Local Job Fair in Vysoke Myto

It was the students' task to guide the guest students and teachers from local schools of Vysoke Myto through this job fair that was organized very well by our Czech team.

Again peer learning was a very important method used here to reveal the students' gain in knowledge concerning different skills students are supposed to have.

Presenting, listening, communication, comprehension, precesion were part of the skills that the students could improve throughout the fair.