Project: Masters of Didactics

A MASTERS OF DIDACTICS MODEL FOR UNIVERSITY TEACHING AND TUTORING

Edited by

dr hab. Jakub Brdulak, prof. SGH

prof. dr hab. Katarzyna Glińska-Lewczuk

prof. dr hab. Anna Janus-Sitarz

dr hab. inż. Janusz Uriasz, prof. PM

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FOREWORD

This publication is the result of the Master of Didactics (MoD) project, launched by the Ministry of Education and Science and co-funded by the Knowledge Education Development Operational Programme. It supports the innovation and improvement of teaching processes, the improvement of teaching (pedagogical development) and the better recognition and promotion of tutoring. The task of the project was to learn about the best practices applied in higher education in the field of modern education using tutoring methods in the best European universities and to transfer these solutions to the Polish educational system. The specific aim of the project was expressed, in particular, with the sentence "Improving the competences of Polish university teachers in the application of modern, innovative teaching methods, such as the use of tutoring in the classroom".

The publication consists of three parts. The first part introduces tutoring as a teaching philosophy that includes a Student-Centered Learning (SCL) approach to education. It presents selected foreign universities participating in the project: Aarhus University, Ghent University, University College London, University of Groningen and University of Oslo. Their solutions for modern didactics, including tutoring, were presented in the publication. Each university has developed its own model of tutoring, which in detail is a unique way of education. It was felt that it would be appropriate for the needs of the Polish educational system, which is indeed so diverse, to identify a number of possible tutoring solutions that have been successfully applied in foreign partner universities. These models can be individually transferred to the national educational system.

However, based on the individual models, a comprehensive model of the tutoring system was developed and presented in the second part of the study. Proposed model can be applied in different areas of education. Model is not specific, tailored to a particular university, academic discipline or field. Its advantage is that it can be adapted in different fields of education, such as humanities sciences, technical sciences, agricultural sciences, natural sciences, medical sciences, arts or other. Model can also be applied in interdisciplinary education, which is so common in Poland.

This model includes three levels, namely the university level, as well as the teacher and student levels. Each Polish HEI can adapt it to its own needs and expectations. The Masters of Didactics project enabled hundreds of Polish academics to gain on-site experience with tutoring solutions at foreign partner

universities so as to implement their experiences at their home universities. They presented their initial observations at the international conference "Masters of Didactics" held in June 2021. Selected articles from this conference are presented in the third part of this publication.

It is believed that the experience gained from the Master of Didactics project will sustainably improve the teaching processes at Polish universities, which will lead to an increase in their competitiveness in the European Higher Education Area and in the world.

PART I.
MASTERS OF DIDACTICS MODELS FOR UNIVERSITY TEACHING AND TUTORING

Partners contribution:

Dr. Annika Büchert Lindberg, educational developer, Aarhus University

Jens Laurs Kærsgaard, pedagogical consultant, Aarhus University

Rune Thostrup, educational developer, Aarhus University

Liza Strandgaard, Division Manager, Aarhus University

Dr. Jens Bennedsen, Docent, Aarhus University

Dr. Jan Folkert Deinum, University of Groningen

Ine Noben, educational developer, University of Groningen

I.M.E. Douwes-van Ark, educational developer, University of Groningen

Dr. Clare Bentall, University College London

Dr. Harriet Harper, University College London

Prof. Sam Smidt, University College London

Dr. Alex Standen, University College London

Prof. dr. Martin Valcke, Ghent University

Dr. Britt Adams, Ghent University

Dr. Laura Thomas, Ghent University

Dr. Piotr Garbacz, University of Oslo

Annely Tomson, University of Oslo

Part 1 based on the version from 2019 prepared by:

dr hab. Jakub Brdulak, prof. SGH

prof. Joanna Gotlib

prof. Ryszard Koziołek

dr hab. inż. Janusz Uriasz, prof. PM

Introduction

Improving teaching approaches and related processes is an area of increased priority and activity for European Higher Education Institutions. (Gaebel & Thérèse Zhang 2018)

The project Master of Didactics (MoD) launched by the Ministry of Education and Science and co-financed by the Operational Programme Knowledge Education Development, supports the innovation and improvement of teaching processes, teaching enhancement (pedagogical development), and better recognition and promotion of tutoring. The proposed solutions show the importance of international experiences in developing and enhancing learning and teaching, with mobility opportunities for staff to make improvements to their education offer, and generally, consideration for international trends in learning and teaching, such as active and student-centered learning, and full implementation of the Bologna reforms in the framework of the European Higher Education Area.

The aim of the project is:
Improving the competencies of Polish academic teachers in the use of modern, innovative teaching methods, such as the use of tutoring in education. The project assumes the development of concepts and implementation of new solutions in the field of tutoring aimed at supporting outstandingly talented as well as less talented students. The solutions will be developed, tested and then implemented at Polish universities using the experience of international partners.

It is worth noting that some Polish universities are already applying very good practices in educating academic staff in terms of improving didactic competencies (Próchnicka 2013, Sajdak 2019), however, there is a growing understanding of the importance of student-centered working and a constant need for improving the skills of academic teachers in this field (Referencing Report 2013, Maciejowska 2019). Exchange of experiences with foreign partners can be inspiring for many Polish academic teachers.

The international partners of this program are the following universities located in the first hundred of the best universities in the world according to the Academic Ranking of World Universities:
1. Aarhus University, AU
2. Ghent University, GU
3. University College London, UCL

4. University of Groningen, UG
5. University of Oslo, UO

The aim of the part one is to inspire academics in Polish universities who will train and support other academics in their respective universities on teaching, tutoring and learning. In most situations connected to education, there is no one universal solution fit for all types of teaching processes or appropriate for all types of universities. Diversity is a part of academic teaching and it is a great value of higher education. Therefore, the present publication should not be interpreted as an instruction for implementing tutoring in education.

The layout of the part one is meant to serve the abovementioned goals. It is divided into 6 chapters. The first chapter is devoted to a discussion of the notion of 'tutoring'. In this chapter, we point out that tutoring is a tool meant for improving teaching. A feature of tutoring is the individualisation of teaching programmes with consideration of diverse groups of students. Therefore, what is of particular importance is dialogue between students and academic staff that will ensure a student is in an efficient process of learning at all times. A feature of dialogue is that both parties take advantage of its content, hence, we may put forth a thesis that tutoring is a process where not only the student is learning but also the academic teacher and the institution that he or she represents.

The second chapter of the part one presents the main challenges connected to applying tutoring in Poland. This chapter is very important for the whole study as implementing tutoring into the Polish reality requires the consideration of the Polish specificity. The form of tutoring is an autonomous decision of each university, therefore, in the following chapters we present the solutions currently applied at our foreign partners', which are clearly embedded in different social and legal environments. This is why imitating them directly and transferring to Polish universities requires some reflection upon these systemic differences.

Chapter 3 of the part one presents the diversity of the models of tutoring in the countries represented by foreign partners of the programme, while chapter 4 is devoted to institutional support for students at selected project partners' institutions. Chapters 5 and 6 contain discussions of areas that compose tutoring. These areas are the following:

1. Institutional support for students, particularly individualisation of teaching with consideration of diverse groups of students, e.g. made up by talented students, or by students who need support. Creating groups may be done according to very different criteria.

2. Professional development of academic teachers – each of the partners of the project 'Masters of didactics' improves its academic staff. An academic teacher must improve his or her teaching competencies on a regular basis, alongside research tasks that he or she must also carry out. We believe that this area needs to be reinforced in Polish universities and requires some systemic solutions.

In the last chapter of the part one, each partner university presents its own training program for Polish academic teachers in the project "Masters of Didactics".

1.1. Tutoring – definition, models

Tutoring is a concept that has a number of definitions so it is worth referring to the most basic sources defining individual terms: "Polish Language Dictionary" PWN. The dictionary does not contain the definition of "tutoring" but contains the definition of the word "tutor". A tutor is *an employee of a university or other school who supervises the course of studies of students studying in an individual course of study* (PWN 2019). Thus, it can be assumed that tutoring in practice comes down to the individualisation of education. In the most recent Polish literature on the subject, tutoring is described in the context of personalised education and defined in relation to such terms as mentoring or coaching (Czekierda et al. 2018; Sarnat-Ciastko 2015; Dziedziczak-Foltyn, Karpińska-Musiał, Sarnat-Ciastko 2020).

However, in partner universities, this concept has a much broader meaning and includes all aspects of effective teaching and learning. Therefore, each of the partners will indicate which aspects are emphasised in their specific tutoring approach. Key is that – even within the context of e.g., large classroom-based teaching and learning approaches – there is a large emphasis on individual oriented support and guidance.

1.1.1. Overview of the definitions presented by the project partners

Aarhus University:

Aarhus University has indicated two definitions of tutoring:

1) Comprehensive academic advisory on academic and personal matters, including information on academic learning processes, procedures and expectations, opinions, academic development, and personal support (Gray and Osborne, 2020).
2) Tutoring is a master-student relationship to develop the academic, social and personal competences of a student or a group of students.

Additionally, Aarhus University distinguishes between tutoring conducted as an extra-curricular activity or tutoring integrated into the curriculum.

In the professional development of tutors, Aarhus University aims at supporting both the scholarship of teaching and learning (SoTL) and the development of reflective practitioners by facilitating reflection on

one's own tutoring practice through four complementary perspectives: 1) Self perspective 2) Student perspective 3) Peer perspective and 4) Theoretical perspective.

Ghent University:

Ghent University shared a broader reflection on tutoring. Ghent University pays more attention to the competencies of modern academic teachers. The starting point for this discussion is two models presenting the competencies of academic teachers.

The first model is based on a study from Tigelaar's and Gilis et al. (2008), which describes a number of roles of contemporary academic teachers. In addition to being experts in factual knowledge, academic teachers facilitate learning processes, which means that they are process/educational designers, group process managers, assessors/evaluators, lifelong learners, educational technologists, differentiators, and quality assurance providers.

The second model describes the tutor's competencies. It distinguishes three main competencies/categories: (meta-)cognitive, socio-communicative and organisational:

1) **(Meta-)cognitive competences:** academic teachers must stimulate the development of knowledge and understanding of knowledge in the group, be able to ask effective questions, offer help if needed, provide feedback and use reflection with students.

2) **Communicative competences:** academic teachers must build a safe and supportive learning environment. To do this, academic teachers need listening skills, verbal and non-verbal communication skills, etc.

3) **Organisational competences:** teachers need to know how to encourage students to participate in the learning process, how to manage interactions during classes and student collaboration, how to manage time, etc.

Ghent University assumes that academic teachers must be able to apply the abovementioned roles and competencies of a tutor both in 1-to-1 classes, with a small group of students, and when they are responsible for a large group of students. The former (working with small groups of students) is in line with Oxford University's interpretation of 'personalised learning', as their core teaching is based on *conversations, usually between two or three students and their teacher, who is an expert in the field. These meetings are referred to as "tutorials", giving the opportunity to discuss the topic in detail and to receive individual feedback. In addition to the "tutorials", a variety of teaching forms are used, depending*

on the activity: seminars, lectures, laboratory work and weekly language lessons. Students not only receive a large number of hours of tutoring, but also have regular and personalised contact with the tutor. Both of these opportunities provide an ideal environment for exceptional education.[1] However, Ghent University aims to develop academic teachers that, even if they set up and support large group classes, they still have to think and behave as tutors.

University College London:

According to University College London 'tutoring' is a form of individualised support for students covering all aspects of their study, pastoral, academic and career advice, where appropriate. Tutors aim to support students in their development, taking into account their individual needs, skills and interests. Departments develop different approaches to tutoring to reflect the requirements of their students and disciplines.

University of Groningen:

According to the University of Groningen, tutoring in university education is part of the curriculum and classes as an integral part of general education. Tutoring can take place in large or small groups but can also be individualised in specific situations. The purpose of tutoring is to adapt to the diversity of students, such as background, discipline, academic competence, specialisation and interest, and to enable students to achieve academic and professional goals.

Furthermore, the University of Groningen adopted a broad definition of tutoring. The concept of tutoring is related to several other concepts such as mentoring, supervising, coaching, counselling, consulting, and teaching. The duration of the relationship between the tutor and the tutee as well as the nature of the knowledge transfer makes it possible, to a certain degree, to distinguish the concept of tutoring from the other concepts (Fig. 1).

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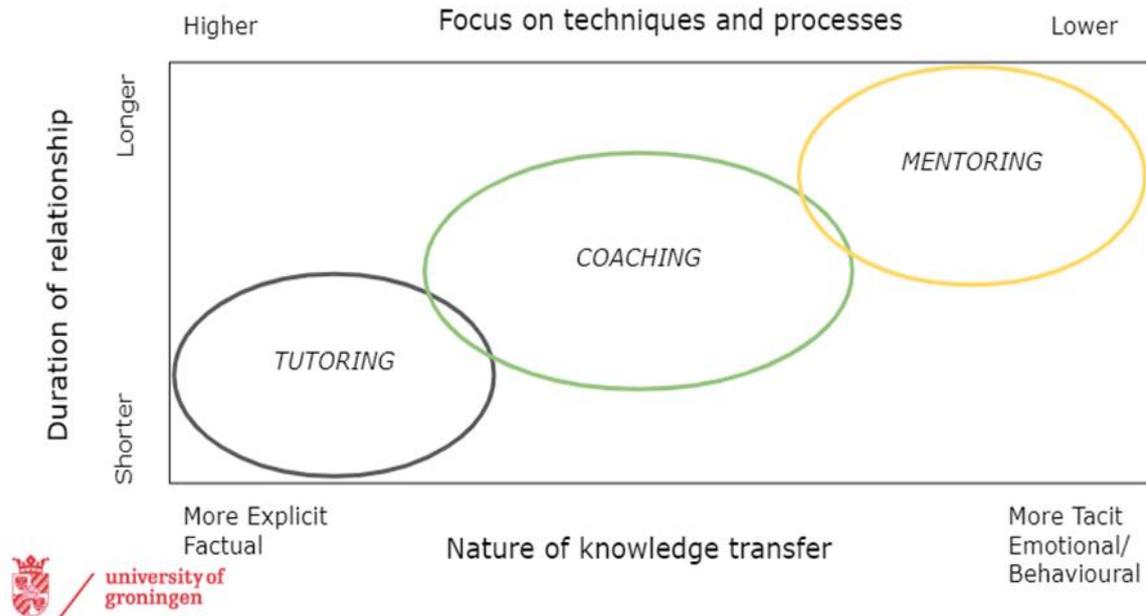
Fig. 1. Techniques and processes of teaching and knowledge transfer

University of Oslo:

The definition of tutoring presented by the University of Oslo is similar to the understanding of the term at the University of Groningen and Aarhus. The tutoring is understood as the part of the study programme and classes, being an integrated element in the overall didactics. The aim of tutoring is to accommodate the diversity of students to enable them to achieve professional development goals.

1.1.2. Overview of tutoring forms

There is a large variety of applied tutoring methods, the application of which depends, to a large extent, on the aim of tutoring: writing an academic text, literature review, analysis of alternative approaches to a problem or help in solving personal issues. The list of tools and methods is not limited to a particular tutoring situation. Among educational approaches between the teacher and the students involved, the following forms of tutoring are most often practiced:

1) One-to-one tutoring
2) Small groups tutoring
3) Large groups tutoring

as well as various forms of

4) Peer tutoring

1.1.2.1. One-to-one tutoring

Students learn the subject matter with a good tutor for each student, or sometimes, for two or three students simultaneously (Bloom, 1984). This tutoring instruction is followed periodically by formative tests, feedback-corrective procedures, and parallel formative tests as in the mastery learning classes. It should be pointed out that the need for corrective work under tutoring is very limited. Individualised support for students' learning may take a number of forms. It is well accepted that 1-to-1 tutoring promotes both greater student learning and increased student motivation to learn compared with traditional, formal classroom teaching and learning settings (Wood and Tanner, 2012). One of them is Personal Tutoring approach (UCL).

The key elements of this model are that:

- Each programme decides how best to provide support to their students. No promotion of a one-size-fits-all approach.
- Each programme must ensure that every taught student is assigned a Personal Tutor who is available to provide regular and personal support and guidance to the students. The programme can decide what the specific role of the Personal Tutor is and who else is involved in the local hub of student support.
- The support is organised locally and clearly communicated to students so that students know where to get the support when they need it.
- Every programme provides every student with information on how to access personal guidance and support relating to:
    - o Academic progress and associated development of research skills,
    - o Careers and personal professional development,
    - o General well-being.

Table 1. Methods and tools in the education of students in one-to-one tutoring

Name of the method / tool	Short description of the method / tool	Benefits of using the method / tool
Open questions	The teacher asks open questions so that the students may think about the question. The aim is not to give a particular instruction but to provoke the student to understand the problem deeper and, by this, find his or her own solutions.	The tutee's sensation of agency (he or she finds the solution on his or her own)
Assessment strategies, on-line teaching paths	Self-assessment: the activity or process of analysis and assessment of one's own actions - (e-)portfolio: 1) collection of (electronic) evidence gathered and managed by the user, usually online. Such (electronic) evidence may include input text, self-reflection/-assessment, certificates of participation in some events, (electronic) files, images, multimedia, blog posts, hyperlinks, etc. 2) both a demonstration of the user's skills and a platform for self-expression 3) online: the users can maintain them dynamically	
Evaluation/getting feedback	Dialogue or questionnaire, video or audio feedback	Students' opinions on the structure and contents of tutoring/teaching are of key importance, as teaching should activate the processes of learning preferred by the students.
Blended learning (mixed teaching)	Open online course (MOOC) or Canvas (e-learning platform)	Combination of asynchronic and synchronic educational actions in one course provides flexibility for students. Blended learning is social learning, as students interact with their professors and other students.

1.1.2.2. The education of students in small groups tutoring

Another form of individualising academic education is combining tutoring with work in small groups. This approach fits implementing tutoring approaches in the context of large group teaching. This applies especially to students writing papers from one discipline or when the topics of the papers fall within one macro-issue. An example was the diploma theses of students of linguistics, which were subject to control and consultation not only by the relevant supervising professor, but also by his colleagues - specialists from the same discipline. This type of collaboration is becoming particularly popular (OU) when writing doctoral dissertations. It helps to create high standards for the whole group of doctoral students and strengthens the motivation to raise the level of their own work. Small study groups, usually at master's studies (between 5 and 12 students) give the teacher the opportunity to differently and individually manage the education and evaluation of students. It is easy to specify didactic instructions that favour the effective education of a specific person.

Table 2. Methods and tools in the education of students in small groups tutoring

Name of the method / tool	Short description of the method / tool	Benefits of using the method / tool
Concept cards	Students in pairs make cards with concepts on one side and its description on the other side. Other students check the correctness of the description, ask questions, etc. providing the description's quality this way.	Students make their own descriptions of notions and share their understanding.
Flipped classroom (also possible in 1-to-1 tutoring or in large groups)	In a flipped classroom, students watch online lectures, cooperate in on-line discussions or conduct research at home, involving in concepts under the tutor's eye (tutorials/common educational exercises).	This technique makes students much more active and involved in the classes, as their task is to use their basic knowledge in a more complex way.
Cooperation-based learning strategies	A situation in which two or more people learn or try to learn something together. A few strategies: Jigsaw Classroom, STAD/TGT, peer tutoring, role playing, problem-based learning.	

Assessment: peer assessment, rubrics	Educational activity in which students assess the results of their peers. Rubrics: Rubric for assessment, usually in the form of a matrix or network, is a tool for interpreting and assessing students' work on the basis of some determined criteria and standards.	
WIKI	A website or database made together by a community of users, giving each user the chance to add and edit contents.	
Online learning path	A learning path is a sequence or structure containing many courses and actions, which allow students to gain appropriate knowledge in proper sequence without wasting time. Learning paths may include quizzes, films, presentations, tasks and texts.	
Think-pair-share	Each student is asked to individually think about the problem; then, students discuss the problem in pairs; in the last step, each group prepares one answer.	Students learn solutions and embedded concepts in a cooperation-based learning environment. This technique is easy to master and apply. Students have time to think about the questions before they start to discuss them (Millis and Cottell 1998, 2003).
Tools of educational technology: Augmented Reality (AR), Virtual Reality (VR), social media, tablet apps		

1.1.2.3. The education of students in large groups tutoring

Conducting classes in large groups of students (e.g. 50 - 150 people in UO or up to 500 (even more) at Ghent University), where the purpose of such classes is not to individualise education, is aimed to build standard knowledge bases, elementary skills or the introduction of basic scientific concepts. It is about finding an effective connection between individual tutoring, classes in small groups and multi-person

lectures. Efficiency means using diversified individual education to achieve a high level of education for all students, not just the most gifted. Electronic learning management systems and educational platforms - like MOOCs - are a great tool to support and implement this approach. Thanks to them, it is possible to simultaneously both standardise and individualise the achievement of learning outcomes.

Table 3. Methods and tools in the education of students in big groups tutoring

Name of the method / tool	Short description of the method / tool	Benefits of using the method / tool
Mobile response technology (mobile apps such as Mentimeter or Socrative)	During the presentations the listeners use their smartphones to connect with the presentation, they can answer questions, provide feedback, etc. Answers can be visualised in real-time, in order to create a pleasing and interactive experience.	It can easily be checked whether every student is actively participating. It also helps the teacher to monitor the understanding in view of progressing in an adequate way during the lecture/working session.
'Ice breakers'/ activation of students' previous/prior knowledge	A few options: news items, carousel brainstorm, metaplan, etc.	Decreasing students' cognitive overload during classes
Activate students in lectures, for example: Think-pair-share	Students think about the questions using three different steps: Think: students may independently think on the question, creating their own ideas. Pair: students are grouped in pairs, to discuss their reflections. This step allows them to express their ideas and think about the ideas of others. Share: Pairs of students share their ideas with a larger group.	Students treat one another as a resource of information and attitudes in a large group.
Individual assessment and feedback	Embedded focused self-assessment exercises have to be tackled before a group-based meeting/class. The teacher takes into account critical elements taken away from the prior assessment.	Orient students to the new content, checking prior knowledge and developing self-monitoring of progress.
Ending lectures actively	Students formulate testing questions on their own. (more than that, exit ticket – one-minute paper, passed for the lesson, etc.)	Motivating students to actively get involved in the topic.

1.1.2.4. Peer tutoring

Peer tutoring is a specific form of collaborative learning where a more experienced student (tutor) offers help and support to one or more (even more than 30) less experienced students. Through peer tutoring, both the tutor and the tutee develop their knowledge and/or skills. Related definitions are partner learning and peer learning. There are several possibilities to apply peer tutoring in practice[2]:

‒   peer tutoring in small or large groups,
‒   peer tutoring followed or not by training,
‒   peer-to-peer tutoring conducted online or face-to-face,
‒   peer tutoring among people of the same or different ages,
‒   fixed (one-sided) or reciprocal (mutual) peer tutoring.

In peer tutoring among people of the same age, the tutor and the tutee are of similar age or degree. Students with similar knowledge and/or skills as well as weaker and stronger students can work in one group. In peer tutoring among people of different ages, the tutor is usually a more experienced student who leads his or her younger tutees.

In fixed peer tutoring, roles are defined in advance. Throughout the duration of the peer tutoring, one and the same person plays the role of tutor. In reciprocal tutoring, however, there is no continuity of role. The changeability of the role makes the students play the role of both tutor and tutee. The change of roles takes place in strictly defined strategic moments. Reciprocal peer tutoring occurs mainly among people who have a similar age and have similar knowledge and skills.

In peer tutoring it is beneficial to systematically involve tutees in assessment and feedback activities. Through assessment and feedback activities tutees develop feedback literacy, critical thinking and the ability to make judgments about the quality of the work of self and others. Such capabilities are precursors to becoming experts and fosters independence and self-regulated learning.

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[2] Ghent University's materials: https://onderwijstips.ugent.be/nl/tips/peer-tutoring/

When to use peer tutoring? Peer tutoring should not be used to introduce new learning content. Tutors usually help the tutees with further exercises or to deepen recently acquired knowledge and/or skills. In addition, peer tutoring provides tutors with many learning opportunities. On the one hand, it requires them to have a good knowledge of a particular subject so that they can support their tutees, and on the other hand, it emphasises the development of social competences. Examples include developing coaching skills, developing a friendly attitude, improving communication skills, (interdisciplinary) cooperation skills, leadership skills, etc. The elements which should be considered in organising peer tutoring is presented in Table 4.

Table 4. Elements to consider when organising peer tutoring.

Definition of learning objectives	The intended learning objectives must be defined, both for the tutors and for the tutees, both scientifically and socially (if applicable). It should be ensured that the learning objectives are clearly and concretely formulated.
	Based on the learning objectives, it is necessary to decide on different aspects of peer tutoring (group size, same or different/cross age, fixed or reciprocal, online or face-to-face, etc.).
Division of roles	There are no strict rules governing the creation of tutoring groups.
	Usually the "weakest" and the "strongest" students work together. However, some teachers suggest that the most hard-working students should become tutors. They are usually more supportive in situations where the tutees may have difficulty understanding a particular issue than the "best" ones, who usually have an almost "automatic" understanding of the content.
	Finally, group coherence can also be examined: can the tutees and tutors work together? Do the tutees accept the tutor in this role? However, in the context of social competence development, different matchings may be interesting. In this case, the tutor and the tutees are grouped separately from their gender, background, socio-economic status, etc.
Transparent method	It should be ensured that the policies and procedures established are transparent and contained in the rules of procedure applicable to both sides. It should be identified which forms of cooperation between the tutee and the tutor are desirable and which are not. Procedures must specify when (frequency) and for how long the tutor and the tutees meet, which educational materials can be used, and which educational activities should be carried out.
Monitoring	Proper monitoring of the tutoring process by the teacher(s) is necessary. Do the tutor and the tutee(s) follow the established rules and procedures? If necessary, the rules and procedures can be changed.
Evaluation	The progress of actions should be regularly evaluated in order to ensure a successful outcome. Are the tutor and tutee achieving their learning goals? If progress is not noticeable, rules and procedures can be changed. It is critical that

	clear criteria and quality indicators are available to make the evaluation transparent and geared to the development of the learners. Linked to evaluation, feedback is a keyword. Without feedback, the assessment will be less effective. Types of feedback should be stressed: feedback (how am I doing?), feed forward (where am I going?) and feed up (what next?).
Preparation of the tutors	It is recommended to prepare students for the role of tutors. In addition to explaining the rules and procedures of the tutoring project (see above), tutors can be prepared on academic level by, among other things, participating in special information sessions on the issues raised during the project. With regard to the social competencies of tutors, role-playing training (combined with feedback) can be organised. This makes it possible to practice the following skills: – How to monitor and react to the learning process? – How to give adequate and relevant feedback? – How to ask a good question? – How to deal with criticism? – How to moderate the conversation? – How to ensure that everyone is involved (in a group of several tutees)? – How to build a good relationship between the tutor and the tutee? – Addressing each other with respect.

1.1.3. Guiding and evaluating the tutors

Proper monitoring, regular evaluation and training of tutors are essential elements to create high quality tutoring. Tutors can receive additional support throughout the whole process, e.g. in UO by receiving tutoring cards.

Tutor card

- Let the tutees brainstorm (broadly).
- Keep the available time in mind.

- In advance
    - Let the group develop an action plan for task execution.
    - Ask questions which suggest a purposeful approach for task execution.
    - Let the tutees decide for themselves how to execute the task.
- In between
    - Check the available time and the progress made.
    - Delegate the task to check the time frequently regularly to a tutee.

- Check whether all tutees are participating actively.
- Check whether the proposed solution is in line with the task demands.
- Check tutees' comprehension by giving feedback and by asking differentiated questions.

> Examples of questions:
> . What does… mean?
> . Summarise the characteristics of… .
> . Can you give an example of…?
> . In what is … different from/comparable to…?
> . Why do you say that?
> . Does everyone agree?
> . Can you explain why…?
> . Can someone elaborate on that?
> . What are the strengths/weaknesses of…?
> . What can you conclude about …?

- Check whether the final task solution corresponds with the task demands.
- Check to what degree the learning objectives are met by all tutees.
- Check whether tutees still have questions.
- Reflect on the peer collaboration.

Liesje De Backer, Hilde Van Keer, Martin Valcke, Exploring the potential impact of reciprocal peer tutoring (RTP) on higher education students' metacognitive knowledge and regulation

For example, such cards may contain a short overview of the session (with proposed procedures). Organising periodic peer-to-peer interviews with tutors can be helpful in supervising the tutors' work and in general monitoring and evaluating the process. Finally, a portfolio can be an effective tool for the evaluation of tutors' activities. Tutors can run a portfolio in order to monitor the progress made, both in scientific and social terms. As a more structured alternative to portfolios a poster format can be used,

e.g. at Aarhus University, where tutors developed a tutorial design and reported on their tutorial results and experiences guided by a poster developed for the purposes.

In many ways, what promotes student learning with an expert tutor is highly similar to practices that have been shown to be effective in a variety of teaching and learning environments and across disciplinary boundaries. The researchers (Wood and Tanner, 2012) identified seven characteristics of the most successful tutors, which they identified by descriptors that spell out the acronym INSPIRE (Table 5).

Table 5. The INSPIRE model of expert tutoring and results for tutees after Wood and Tanner (2012)

Characteristics and behaviours of expert tutors	Results for tutees
Intelligent: Superior content as well as pedagogical content knowledge	Difficulty of questions optimally matched to students' levels of understanding
Nurturant: Establish and maintain personal rapport and empathy with students	Feeling accepted, supported, and free to explain their thinking
Socratic: Provide almost no facts, solutions, or explanations, but elicit these from tutees by questioning	Constantly thinking, doing, and responding Moving in small steps to higher competency through deliberate practice
Progressive: Move from easier to progressively more challenging cycles of diagnosis, prompting toward a solution, and posing of a new problem	Working in a nonjudgmental atmosphere Gaining insight into their own thinking through metacognitive reflection
Indirect: Provide both negative and positive feedback by implication; praise solutions	Experiencing productive learning and gaining confidence in their abilities
Reflective: Ask students to articulate their thinking, explain their reasoning, and generalise to other contexts	
Encouraging: Use strategies to motivate students and bolster their confidence (self-efficacy)	

Characteristics and behaviours of expert tutors presented in Table 5 can be viewed not only through the definition of the concept, but also from the point of view of its application. They are in line in principles suggested by UCL based on observations of the successful implementation of tutoring by Polish lecturers within their own institutions. The following recommendations for tutors underpin approaches to tutoring:

− Formulate your goal clearly and communicate it to the students (for example, whether it is a personal, academic or mixed goal),

- Clearly formulate the result of activities that is agreed with the students (e.g. preparation for a conference, writing an article, working on a task, preparation for an interview, identification of personal skills, etc.),
- Organise regular meetings according to a schedule agreed with the students,
- Based on understandable theories about supporting students' learning and personal development,
- Don't be discriminatory, but you can be selective (i.e. create different opportunities for different students according to their needs),
- Have a mandate from students to engage them in work,
- Codify the learning process (for example, take notes of the number of meetings that students have had, what the effects have been, what the time has been),
- Evaluate both quantitatively and qualitatively.

Regardless on the approach, a tutor (master) - student communication is indicated as an extremely important condition for effective use of tutoring.

1.2. System challenges related to tutoring in Polish higher education

In recent years, there have been many discussions on the quality of teaching in higher education in Poland, improving the position of Polish universities in international rankings, as well as in a broader scope, with particular emphasis on the role of students and other internal and external stakeholders in the education process.

Poland has a high demand for higher education services (Grotkowska and Sztanderska, 2015). This demand has two sources:

1) individual, which results both from the preferences and budgetary constraints of the candidates for studies

2) public, which results from the individual preferences of potential students and the system of public financing of higher education.

The higher education system in Poland is changing. This is indicated by objective facts. In the academic year 2019/2020, as many as 1.2 million students studied at Polish universities. At the moment, students can study in Poland at 392 universities, 132 of which are public, 250 non-public and 11 ecclesiastical universities.

Looking at the graph (Fig. 2), for over a decade, a downward trend in the number of students can be observed. It results from many factors, including (Grotkowska and Sztanderska, 2015) changes in the structure of secondary education. During the period of transformation in Poland, there was a development of general education, usually ending with an examination giving the right to take up higher education. This was done to a large extent at the expense of vocational education. This resulted in a clear tendency among graduates of schools with a secondary school leaving certificate to continue education at the tertiary level. In 2005, 82.9% of high school graduates up to the age of 25 continued their education! Among technical secondary school graduates, this percentage was as high as 48.5%. In subsequent years, the tendency to continue education was halted, which was associated with an improvement in the relative situation of people with secondary technical education in the labour market and a decrease in the relative attractiveness of studying. An interesting observation is the study of trends in education in the European area (Gaebel and Zhang, 2018), which indicates that in Poland the bachelor's degree for 40% of the surveyed institutions does not provide a true academic education. For

this reason, it is one of the reasons for the relatively high percentage of students who declare their willingness to continue their master's studies immediately after completing their first-degree studies.
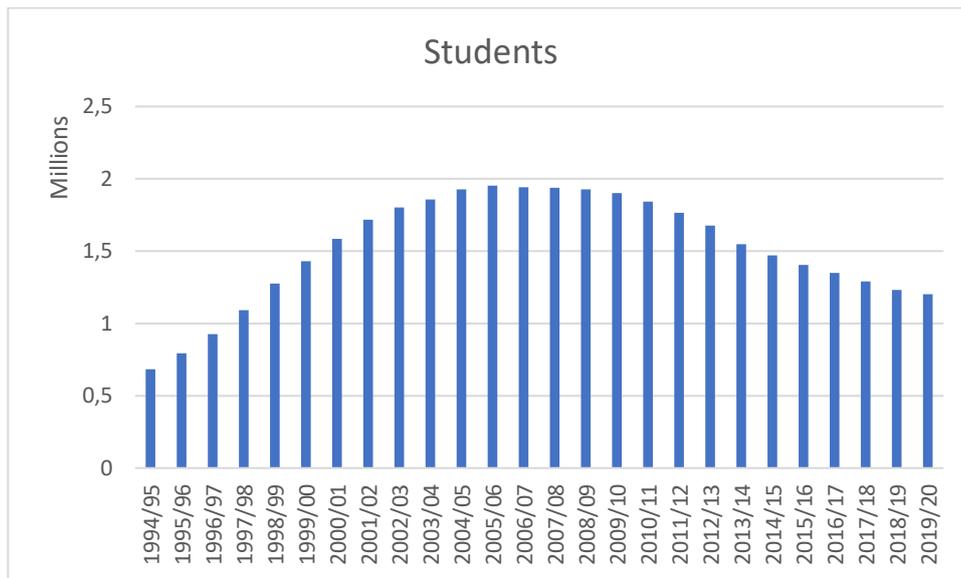
Fig. 2. Summary of the number of students studying at Polish universities (according to the Central Statistical Office – access: 31.05.2021).

Another factor influencing the change in the number of students/candidates for studies are undoubtedly demographic conditions. At present, the population in the 20-24 age bracket is still falling (Fig. 3). The decline in the population aged 20-24 is generally accompanied by the decline of the entire population in Poland (Fig. 4). Therefore, universities must prepare for the decrease in the number of students and adapt their teaching methods to this situation.
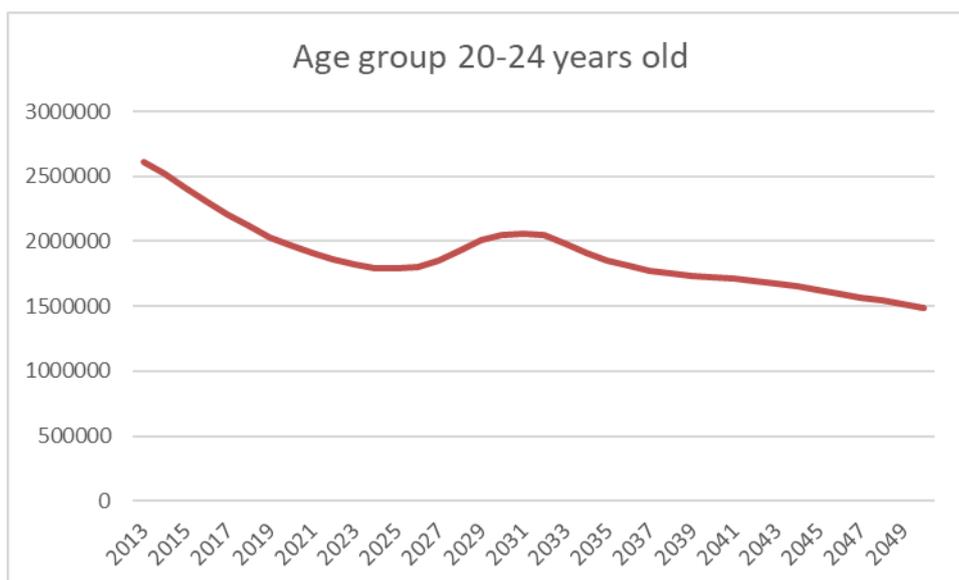
Fig. 3. Status and forecast of the population in Poland aged 20-24 (source: the Central Statistical Office).
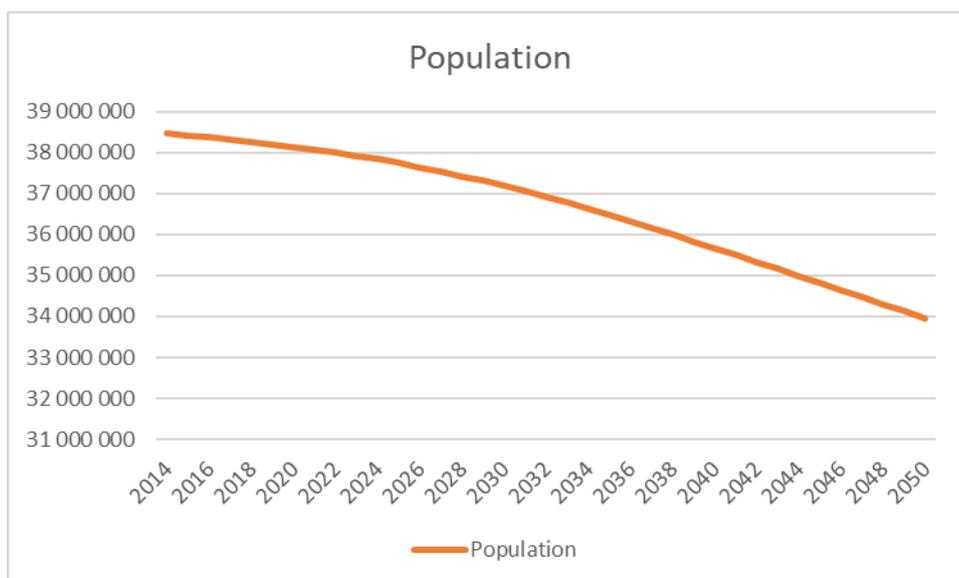
Fig. 4. Status and forecast of the population in Poland (source: the Central Statistical Office).

Among the students starting the academic year 2019/2020 there were 82,194 foreigners. The dynamic growth in the number of foreign students studying in Poland is clearly noticeable.
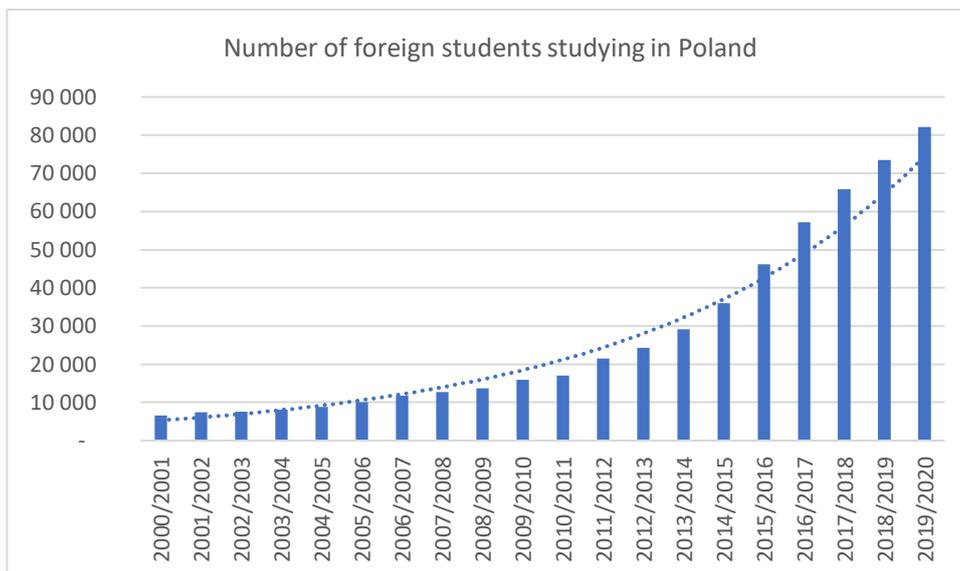
Fig. 5. Summary of the number of foreigners studying at Polish universities (source: the Central Statistical Office, access: 31.05.2021).

This is a new situation for which universities prepare themselves systematically by raising their levels of internationalisation. There are already cases in which the number of foreign students in the institution exceeds the number of Polish students. International students, representing various educational systems, choose all the fields of studies offered in Poland. The most frequently offered foreign language is English. It means that the current challenge for Polish universities is to enhance teaching methods, both in face-to-face and remote forms, in order to adapt them to the needs and capabilities of students. Therefore, there is an urgent need to introduce systemic changes in higher education, which result from:

1) The need for its development,

2) Its service-oriented and pro-development role for the economy and society,

3) Changes in internal demand for educational services,

4) Intensifying international demand for educational services.

Among the catalogue of current works there is a necessity to reinforce modern methods and techniques of education, including the implementation of solutions and experiences of the best foreign academic centres.

Polish higher education institutions provide education through programmes established on their own or with the consent of the Minister of Science and Higher Education and other bodies supervising a given

institution. In most cases, there is large-scale education (Hinc, 2016) carried out in the form of classes, lectures, exercises, laboratories, seminars or workshops etc. The curriculum and the student's workload necessary to achieve the expected learning outcomes is described and measured in ECTS. Free access to knowledge resources are increasingly common and require the use of new and diversified methods of education. In them we can distinguish e-learning, distance learning, blended learning, problem-based learning, case study teaching, cooperative learning, flipped classroom teaching and many others. The transition from mass education to personalised (individual and/or group) is a time-consuming process that will require the use of new learning methods and their implementation, e.g. through modern tutoring.

In the current higher education system, there is growing concern about a noticeable shift towards 'consumer' attitudes regarding learning and teaching (Bunce et al., 2017). These concerns revolve around the idea that higher education students are increasingly seen as passive recipients or consumers of services. This concept risks that students will be detached from personal responsibility for the learning process in exchange for unrealistic expectations that it is the trainers' responsibility to succeed and solve any problems.

In the context of the shift towards consumerism, driven by wide-ranging social, political and economic changes, a competitive approach has emerged in education theory and best practice, whereby more emphasis should be placed on a more student-centered approach and where 'interaction' and more responsibility for the student is proposed. This approach highlights the fact that both the student and the university staff are jointly responsible for the implementation of the educational process. It is assumed that even high-quality teaching is not sufficient to ensure high-quality learning. Student involvement is crucial, and professionals believe that student involvement, i.e. active participation in learning activities, is an important route to high quality learning outcomes, such as progress and achievements in science. Initiatives to implement the active learning concept are initiated either in a single faculty or in a central unit focused on professional development.

1.3. Models of tutoring – main assumptions applied at the selected project partners

1.3.1. Model of tutoring - Aarhus University

In the Danish context, tutoring is originally a master-student relationship with the purpose of developing the academic, social and personal competencies of a student or a group of students. Tutoring can refer to academic tutoring, personal tutoring, pastoral care, peer tutoring and online tutoring. Tutoring is usually labelled supervision, although tutoring methods are also applied within other teaching formats. These have been categorised by types of tutoring. It could be combined with a personal tutorial as well as curriculum integrated or extracurricular model as follow:

− academic tutoring: the emphasis is on developing the students' academic knowledge, skills and competences,

− personal tutoring: participants' also addresses personal matters and personal development with students concerning the educational processes, expectations and a career for instance in research, as well as their personal welfare,

− curriculum integrated or extra-curricular tutoring: tutoring was offered both as an extra-curricular activity and as curriculum integrated tutoring, where it is offered along with the regular/ordinary teaching.

The tutor can apply multiple tutoring methods and decide on desired student characteristics:

− randomly selected students with no specific qualifications or requirements,

− struggling students who want to improve their academic competences and fill potential gaps,

− talented and creative students with gifted skills and competencies.

Tutoring could be delivered individually, as group tutorial or as a combination of the two. Many different teaching and learning activities are used across the tutorial designs but there are some common characteristics of pedagogical principles that are emphasised. One of these is to create a useful feedback culture, both feedback from teacher to students, but also among students (peer-feedback). There are various methods and tools used to obtain better peer feedback. In this context, Aarhus University introduced rubrics, digital tools to support a more structured approach to peer feedback, and developed

feedback criteria to ensure the quality of peer feedback. In particular, the participants have a focus on aligning expectations with the students about what to expect from the teacher, but also on what the teacher expects from the students and how to activate teaching and learning as well as how peer feedback should take place. To encourage critical thinking and self-regulated learning and to minimise hierarchical teacher-student relationships an emphasis is put on developing questioning and active listening techniques and to implement them systematically in the tutorials.

Aarhus University assumed a more comprehensive approach for developing competencies for tutoring and teaching. The model describes three different elements with three different target groups as follows:

–   practice level: lecturers who want to make good academic tutoring/teaching,
–   course level: university department or another organisational part who wish to enhance the teaching staff's teaching/academic tutoring competencies,
–   institutional level: a university that wants to implement a didactic competence development system for its faculty.

Some of the main outcomes of tutoring are developing academic, social and personal competences and a sense of belonging to the university. Tutoring has shown positive outcomes for different types of students: minority students, students with academic difficulties as well as outstanding students (Krajewska and Kowalczyk-Waledziak, 2014).

1.3.2. Model of tutoring - Ghent University

Ghent University was traditionally set out to organise courses for large student groups. Indicators for this are the past investments in large lecture halls (up to 1000 students) and provisions for students to work in open learning centres. For over a decade now, there has been a shift in this policy, inspired by accreditation requirements and focus on higher quality teaching. This resulted in a university-wide professional development investment beyond the explicit requirements for starting university teachers, an investment in a wide range of training offers: from supply-driven courses to demand-driven individual support in the classroom. The university did not embrace one single 'model' to direct the professional development and subsequent teaching approaches in the university. Instead, a variety of models were fostered that can be characterised with the concepts: active learning, student-centered learning, development of complex competences, blended learning. The observation that developments were

easier to implement in graduate programmes led to an explicit move towards promoting active learning at undergraduate level. The university level educational policy put 'active learning' at the centre of its educational model. All instructional strategies are evaluated according to this 'standard.' As such, the tutoring model of Ghent University is inspired by this active learning adagio. Active learning is the basic feature of education's quality and is indispensable in order to teach students a wide range of competencies. A decision was made to approve the proposition of using central educational resources in order to appoint a teaching project team (the so-called ACTIVO team). This ACTIVO team has been created to monitor curricula and educate teachers in order to introduce them to active didactics and educational activities, appropriate (continuous) evaluations, and efficient forms of feedback[3].

The notion of engagement

The key to the concept of active learning in higher education is the ***notion of engagement***. Engagement consists in actively engaging and motivating students in educational activities and is understood as a road to positive educational results initiated by the student (Reschly and Christenson 2012; Skinner et al. 2009). In the project launched at Ghent University since the academic year 2018-2019, the definition of active learning stems from the multi-dimensional concept of students' engagement (Reeve 2011, 2013). This concept fits within the dialectic approach to learning and instruction and implies the expectation that students will have the key role in the didactic process, sharing their experiences, encouraging to ask questions and/or giving constructive feedback in relation to teaching and learning activities (Cowie and Harrison 2016).

Active learning at Ghent University is conceptualised as an educational approach, in which students actively and constructively assist in educational activities. Students' own experiences, opinions and preferences are perceived as an enrichment of the learning environment. Ghent University activates students by introducing activating and evidence-based instruction strategies and assessment forms.

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[3] More info: https://onderwijstips.ugent.be/en/tips/activerend-onderwijs-project/ (access: July 2021)
https://onderwijstips.ugent.be/media/uploads/bijlagen/actieplan_activerend_onderwijs.pdf (access: July 2021)

The central point of the concept of active learning in higher education is **the concept of engagement, i.e. the active engagement of a motivated student in activities related to learning** that he or she undertakes on his or her own initiative to achieve positive learning outcomes. The current draft definition of active learning derives from the multidimensional conceptualisation of student engagement according to Reeve. This conceptualisation is situated in a dialectical approach to learning and teaching and includes the expectation that students will realise their subjectivity by sharing experiences, undertaking research and/or providing constructive feedback during the teaching process.

Active learning at Ghent University is based on an educational approach in which students make an active and constructive contribution to learning activities.

Student engagement includes:

(1) **the behavioural component** related to the attention, effort and perseverance of students

(2) **the emotional component** related to maintaining interest and enthusiasm

(3) **the cognitive component** in which students, having a solid foundation of knowledge, feel competent and are able to apply appropriate learning strategies, in accordance with the credo 'dare to think.'

In the work on student involvement and the creation of a motivating and supportive educational environment, the concept of "agentic **engagement**" is proposed as the fourth dimension of student involvement. It is defined as "**the constructive contribution of students to the flow of information that is transmitted to them.**" The engagement is based on intentional action taken by the student, through which he or she joins the teaching process (e.g. students offer their contribution to the teaching process, communicate their needs, recommend the goal or intention they want to achieve, give suggestions on how to improve the learning environment). These activities should take the form of a cycle of dialectical transactions between the student and teacher/assistant that affect and transform what teachers and their assistants do in a learning environment. This can be defined as the Ugent 'tutor role' as adopted by teachers/assistants.

Engagement, assessment and feedback

The concept of proactive feedback is defined as a form of engagement in which the learner is responsible for the effectiveness of the feedback process. In this context, assessment is defined as a controlled process aimed at involving students efficiently in the learning process (i.e. assessment as learning). However, current performance studies at specific learning stages and performance studies at specific feedback stages are largely regarded as two separate research areas, while both - each of them - focus on integrating learning and assessment. Examples of this active involvement in evaluation and assessment are the examples give structured feedback to one another and are engaged in self- and peer evaluation.

To implement an ambitious "active learning" plan, university teachers and assistants will need to be thoroughly trained and instructed so that they can, if necessary, introduce appropriate activating teaching strategies into the curriculum and assessment.

Goals and functions:

The Ghent University competency model serves many purposes. It can be used:

- by the director of the field of study to monitor whether the field of study competence overlaps with those imposed by educational authorities,
- by the director of the field of study to monitor whether the competencies are at an appropriate academic level,
- by the director of the field of study as an inspiration to formulate competencies for individual fields (e.g. extension of the ECTS quality mark) and/or to define the academic profile of the field,
- by supervisors of individual courses to determine the competence of the subject and to complete information forms for the subject,
- as a source of inspiration for assessing students from alternative educational paths (e.g. assessing previously acquired experience and qualifications).

Inspiration, motivation, sources:

The **competency model** interprets and develops many national and international requirements. The model draws inspiration from two European sources, namely the Qualifications Framework for the European Higher Education Area (also known as Dublin Descriptors) and the European Qualifications Framework for Lifelong Learning (EQF).

The structure of the model is based on the criteria of the developed curricula, applicable at bachelor and master studies at universities in Europe. The current design of the model is the result of an in-depth analysis of the objectives of the field of study and the objectives of individual subjects, contained in self-assessment reports and information forms for the subject.

Key to read the model:

The **competency model** of Ghent University contains six closely related areas of competence describing the nature of academic activity:
−   competence in one or more scientific disciplines,
−   scientific competence,
−   intellectual competence,
−   competence in cooperation and communication,
−   social competence,
−   strictly professional competencies.

Each area of competence consists of many competencies at the bachelor's and master's level. In the extended version they are divided into competence subcategories, mostly reflecting the level corresponding to increasing complexity. The competency model has been used to screen all academic programmes. These programmes had to adapt changes to be congruent with this model.

Application:

The model has been tested in three fields of study implemented at Ghent University (sociology, political science and structural engineering) in 2006. It was then further refined by adding a number of features

to increase its user-friendliness. Currently, the model is used in almost all faculties at Ghent University, both for the needs of external auditing and to simplify existing descriptions of fields of studies.

1.3.3. Model of tutoring - University College London

UCL offers tutoring, i.e. individualised support for students' learning, in a number of forms.

1. **Personal tutoring** is about supporting students' learning during their time at UCL. Every taught student (Undergraduate or Masters) is assigned a Personal Tutor who is available to provide regular and personal support and guidance to the students. Individual degree programmes can decide what the specific role of the Personal Tutor is and who else is involved in the local hub of student support. Typically, this support will cover the following:
    - Academic progress and associated development of research skills,
    - Careers and personal professional development,
    - General well-being.

2. In addition, students at UCL receive individualised academic support in many different ways, through small group teaching (seminars and tutorials), individual project and dissertation supervision, and the provision of office hours for additional feedback on assessed work. In some departments, such as the English department, a tutoring model, like the Oxford model, using small group teaching to teach subject content, is also used.

As a further example, the UCL Institute of Education Academic Writing Centre and the Writing Lab (based in Arts and Humanities) are centres which support students with their academic writing, particularly students who have not done any writing for a while, or who may not be familiar with UK expectations of academic writing. This is often provided on a one-to-one basis.

UCL employs a number of approaches to tutoring within certain agreed principles. As stated above, UCL offers tutoring, i.e. individualised support for students' learning, in a number of forms. Full guidance provided to students and staff about UCL's approach to **Personal Tutoring** is available on UCL's website: https://www.ucl.ac.uk/teaching-learning/teaching-resources/personal-tutoring.

The key elements of this model are that:

- Each programme decides how best to provide support to their students. UCL does not promote a one-size-fits-all approach.

- Each programme must ensure that every taught student is assigned a Personal Tutor who is available to provide regular and personal support and guidance to the students. The programme can decide what the specific role of the Personal Tutor is and who else is involved in the local hub of student support.

- What is important is that the support is organised locally and clearly communicated to students so that students know where to get the support when they need it.

- What is essential, is that every programme provides every student with information on how to access personal guidance and support.

Tutors aim to support students in their development, taking into account their individual needs, skills and interests. Departments develop different approaches to tutoring to reflect the requirements of their students and disciplines.

1.3.4. Model of tutoring - University of Groningen

In the Netherlands, there are no national regulations at the level of the Ministry of Education to support universities in improving their teaching. Universities are responsible for this area, according to one of the most important academic values - institutional autonomy.

The Dutch universities have developed a solution that makes it possible to improve academic teaching in an organised way.

In line with López-Gómez et al. (2019), the University of Groningen recognises three dimensions in tutoring (Fig. 6): 1) personal-social, 2) academic, and 3) career development. Throughout the students' academic careers, the focus might shift from one dimension of tutoring to another.
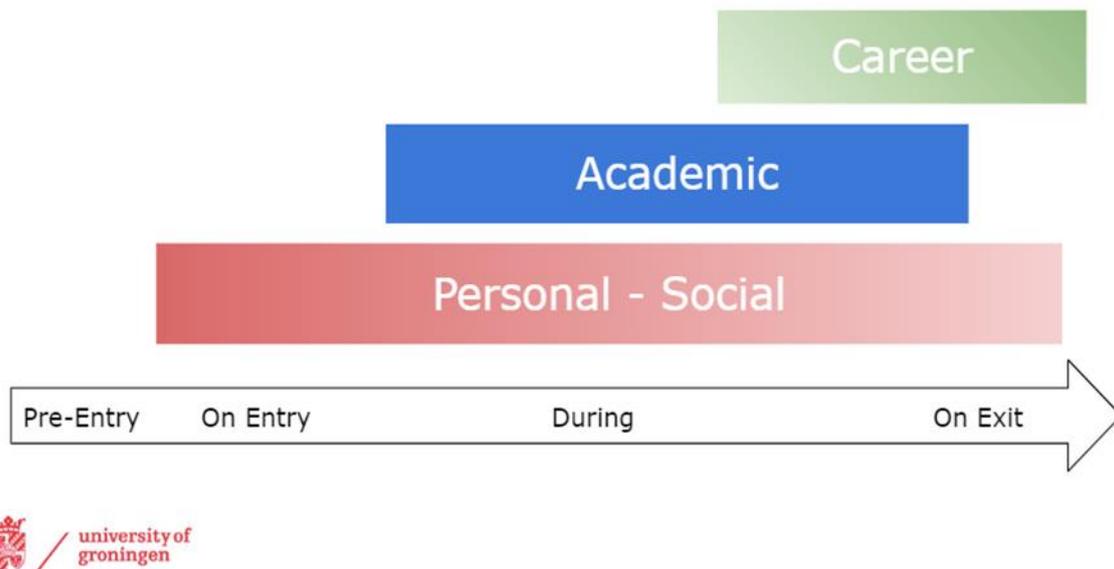
Fig. 6. Three dimensions of tutoring at the University of Groningen

A broader description of this model is presented in Chapter 4.

1.3.5. Model of tutoring - University of Oslo

Over the past few years, the Norwegian Ministry of Education and Science has created a new education policy by highlighting the role of individual education:

https://www.regjeringen.no/en/dokumenter/meld.-st.-16-20162017/id2536007/

In Norway, due to the ethical and legal requirement for equal treatment of every aspect of public life, especially education, the elitist ("Anglo-Saxon") tutoring model is not fully accepted. Individualised education is designed in a more modest form, in three varieties:

    1) individual tutoring as proper tutoring based on the student's work with the teacher;

    2) managing a small group of students;

    3) tutoring introduced to a typical group of students.

Individual tutoring most commonly occurs when an academic teacher manages the student's thesis. In relation to Polish solutions, it would be a kind of individual diploma seminar. With the Norwegian variant, conducting diploma theses requires certain specific competencies that are developed and tested

as part of the education quality improvement system. Pursuant to the relevant provisions, the condition for providing tutorial care over a student and his or her diploma thesis is to undergo training in this form of teaching. This solution works at the Faculty of Humanities of the University of Oslo. A similar model of cooperation between the researcher and student has been developed for doctoral students (see: https://www.hf.uio.no/english/research/phd/).

Individual tutoring at the Faculty of Humanities is primarily intended for second-cycle students. Due to the number of undergraduate students, the costs of individual classes would be too high. However, there are some elements also at undergraduate studies of working with a single student in the form of feedback that a student receives after completing each main module (course). This gives a minimum of six individual consultations, which are carried out by the person or persons responsible for a specific module. They can be in oral or written form, as well as voice or video recording. The purpose of this feedback consultation is not to assess the student's work and progress, but to significantly improve learning outcomes. In addition, each student has the opportunity to arrange a consultation with the teacher or exchange comments by email. This type of informal tutoring is very popular in the Norwegian academic community.

Another form of individualising academic education is **combining tutoring with work in small groups**. The project recently implemented at the Faculty of Humanities of the University of Oslo consists in joint management of diploma theses by several academic teachers. This applies especially to students writing papers from one discipline or when the topics of the papers fall within one macro-issue. An example was the diploma theses of students of linguistics, which were subject to control and consultation not only by the relevant supervising professor, but also by his colleagues - specialists from the same discipline. This type of collaboration is becoming particularly popular in Scandinavian universities when writing doctoral dissertations. It helps to create high standards for the whole group of doctoral students and strengthens the motivation to raise the level of own work.

In addition to the diploma module, there are a lot of small study groups at master's studies (between 5 and 12 students), which gives the teacher the opportunity to differently and individually manage the education of these students. It is easy to evaluate each one individually and also to specify didactic instructions that favour the effective education of a specific person. Activity in such a small group becomes naturally forced, and thus the degree of focus on the topic and the speed of learning and skills

are greater. Involuntarily, a student learning a particular issue faster becomes an informal tutor of a colleague, some colleagues or the whole group.

Finally, you can consider the **tutoring when conducting classes in large groups of students** (50 - 150 people), where the purpose of such classes is not to individualise education, but to build standard knowledge bases, elementary skills or the introduction of basic scientific concepts. It is about finding an effective connection between individual tutoring, classes in small groups and multi-person lectures. Efficiency means using diversified individual education to achieve a high level of education for all students, not just the most gifted. Electronic learning management systems (Canvas in Oslo) and educational platforms like MOOC are a great tool for this. Thanks to them, it is possible to simultaneously standardise and individualise the achievement of learning outcomes.

Of the Norwegian solutions presented, the fresh educational initiative launched in June 2018 under the name of the Honors Programme is particularly interesting. Under the agreement of three faculties: humanities, mathematics and natural sciences, an interdisciplinary program was created, addressed to particularly gifted students whose abilities herald an academic career. The training path prepared for them includes, in addition to seminars, workshops, participant observations, also individual tutoring. This innovative and new individual education program is the basis of the course prepared by the University of Oslo for Polish participants of the "Masters of Didactic" programme.

1.4. Institutional support for students in selected project's partners

1.4.1. University support for students - Aarhus University

Aarhus University provides a wide range of support for students. The aim is to help students in their academic, personal and social development. It is achieved by different mechanisms and tools like:

1. Student Advisory and Information Office.

The Student Counseling and Information Office at Aarhus University consists of five units located in four faculties and in the administration unit. The office offers individual classes and support in the field of:

– learning skills and learning techniques,

– study groups,

– Bachelor's project and Master's workshop,

– research on learning progress,

– explanation of competence,

– mentoring programmes,

– well-being of students.

(see: https://studerende.au.dk/en/; access: July 2020)

2. Student Counseling Service.

Student Counseling Service is an institution subordinate to the Danish Ministry of Higher Education and Science with local units at all Danish universities.

Student Counseling Service offers personal advice that focuses on the problems faced by students in their lives. The goal is to provide psychological and psychiatric counseling and treatment to undergraduate, professional undergraduate and graduate students so that they can complete their studies without unnecessary extension and without unnecessary interruptions in their studies.

The team consists of psychologists, social workers with psychotherapeutic education and specialist psychiatrists.

(see: https://studerende.au.dk/ ; access: July 2020)

3. Special education support and vocational counseling.

The goal of SPS (Special Education Support) is to provide all students with equal education opportunities, also when they have some disabilities. Special Education Support provides information and guidance on support available to students with disabilities at Aarhus University.

The main task of the Career Office is to strengthen students' professional skills by providing knowledge of the labour market, awareness of competences and job search tools.

This office provides professional advice in the following areas:

– career planning,

– needs of employers,

– student work, internships and first job,

– competence assessment,

– feedback on CVs and application documents,

– job interview,

– professional networks.

(see: https://studerende.au.dk/en/csu/; access: July 2020)

4. Online resources:

a) STUDENTS.AU.DK

This site is the main online resource for students with important information concerning Aarhus University. It contains information on finances, regulations, digital tools and administrative systems as well as university related news.

(see: https://studerende.au.dk/en/; access: July 2020)

b) Student portals

Each field of study has an educational portal containing information about:

– teaching,

– timetables,

–   exams,

–   academic regulations.

(see: http://studerende.au.dk/; access: July 2020)

c) AU Studypedia

AU Studypedia is an online resource for developing general academic skills and a learning tool for students to use when writing assignments, searching for sources and for other working methods that are part of learning. AU Studypedia offers advice, inspiration and exercises.

AU Studypedia provides information on the following topics:

–   time management,

–   reading and taking notes,

–   group work and feedback,

–   writing an academic essay,

–   exams,

–   Danish educational conditions,

–   literature and references,

–   academic standards,

–   preparation of the doctoral project.

(see: http://studypedia.au.dk/en/ ; access: July 2020)

1.4.2. Institutional support for students - Ghent University

Institutional support for students at Ghent University is organised in a similar way as in Aarhus University: https://www.ugent.be/student/nl/studeren/studiebegeleiding/monitoraat. At GU, there is a special department dealing with diversity on the level of university. Students may consult this department if they need any help: https://www.ugent.be/nl/univgent/waarvoor-staat-ugent/diversiteit-en-gender.

A broad range of support for students if offered, for example:
https://www.ugent.be/student/en/study-support/feelinggood

Support is offered in particular for students with disabilities too:

https://www.ugent.be/student/nl/administratie/flexibel-studeren/bijzonder-statuut/studeren-functiebeperking.

The questions of counselling for students are presented on the dedicated website:

„Monitoraat"

Each of the 11 faculties of Ghent University has a 'Monitoraat' with study coaches and trajectory coaches, who take initiatives to make studying easier and more efficient. Given the large groups of students, these 'Monitoraat' units set up a lot of activities for undergraduate students.

The study coaches

−   These offer support with regard to a number of content-related courses in the first Bachelor year; students can contact them with questions about the subject matter. They offer individual and/or group sessions on study method and study planning, how to pass exams etc. They support students to look for solutions related to issues that hinder their studies (concentration problems, fear of failure, procrastination).

Trajectory coaches

−   Offer students individual advice about their personal study paths and study progress;
−   Provide guidance and information related to study choice moments during students' university career (specialisation, minor/major, ...), discuss possibilities regarding GIT (individualised trajectory), applying for a credit contract;
−   Help students with reorientation (transfer to another study programme).

Students with disabilities

Students with disabilities can rely on an extensive range of support measures. The Student & Disability Contact Point closely manages your file. Disability is defined as a long-term or permanent loss of one or more bodily functions: developmental disorder (such as dyslexia, dyscalculia, ADHD, ASS), auditory, visual or motor disability, psychiatric disability, chronic illness, other restriction.

"Long-term" means that there has been at least 12 months of dysfunction and/or that a dysfunction of 12 months is expected in the future. Students with a functional disability who need support to make their studies more feasible can start the procedure below to apply for 'special status.'

STEP 1: Request special status via oasis.ugent.be
To be able to use the services of the Student & Disability Contact Point, students must first request the special status via oasis.ugent.be.

STEP 2: Appointment with the Student and Disability Contact Point
After submitting the application, the student will be invited for an interview at the Contact Point of their own faculty. During that interview, students discuss what the impact of their disability is during the lesson weeks and exams. The Contact Point provides advice with regard to the grant and the admission period of the special status. If the recommendation is positive, the education and/or exam facilities discussed will be formally recorded in Oasis.

STEP 3: Linking the facilities to the courses via oasis.ugent.be
To inform your teachers about the allocated facilities, they must be linked to your courses every semester.

STEP 4: Re-request status or facilities
Students with a special status that is valid for one year must apply again for a status in the following academic year if they wish to continue using education and examination facilities (see step 1). Students with a special status that is valid for the entire study duration must confirm their teaching and exam facilities to the Contact Point each year.

Diversity

In addition, related to diversity, this Policy Unit coordinates a 'mentoring' system allowing students to request a mentor (= more experienced students) who can help him/her with getting to know the faculty, with tips related to processing subject matter, etc. Next to this, they organise sessions for refugees who want to study at Ghent University and provide information related to religious and philosophical questions.

Gender policy (for both students and staff)

The Diversity and Gender Policy Unit takes care of, among other things, gender mainstreaming, transgender policy, etc.

1.4.3. Institutional support for students – University College London

Alongside the tutoring support described in the section **3.3**, and the general support of the department and programme teams responsible for the degree programmes the students are undertaking, UCL also provides other forms of support for students (see: https://www.ucl.ac.uk/teaching-learning/teaching-resources/personal-tutoring):

− UCL Student Support and Wellbeing services: advice and support with issues such as mental health and other wellbeing concerns,

− UCL Student Centre: advice on accessing UCL's services and understanding UCL's processes,

− UCL International Student Support: assists students with settling into the UCL community,

− UCL Student Disability Services: provides support for students with disabilities,

− UCL Student Mediator: helps resolve complaints, involving staff or other students or services of UCL,

− UCL Financial Advice and Support: help for students on monetary matters,

− Support for Academic Writing through the centres mentioned above.

There are also various services offered by UCL Students Union (see http://studentsunionucl.org/). The union offers a variety of activities, societies for students to join, and there are officers responsible for issues such as welfare and international students, black and minority ethnic students, women students, post-graduate students.

1.4.4. University support for students – University of Groningen

As mentioned before in chapter 3, the University of Groningen recognises three dimensions in tutoring and support of students: 1) personal-social, 2) academic, and 3) career development. At the University of Groningen, student support is organised on different levels: faculty-specific support by study advisors and institutional-wide support by the Student Service Centre (SSC) and Career Services.

Study Advisors

Every study programme at the University of Groningen has one or more study advisors (depending on the amount of students in the programme). This is the first point of contact for most students when they are in need of support. Study advisors mainly focus on the personal-social and academic (discipline-specific) dimension of student support.

Student Service Centre (SSC)

For further support students are welcome at the Student Service Centre (SSC), the student counselling expertise center of the University of Groningen. At the SSC, Student counsellors, student psychologists and trainers work together to provide an integrated package of student support with the aim of helping students with their studies. The SSC has a wide range of support facilities - information and advice, individual discussions, short-term therapy and a wide variety of workshops and training courses. The support at the SSC focuses on the personal-social and academic (study skills) dimension of student support.

Online study course

At several moments during the year students can join the online course 'Improving Your Study Techniques' for free. In this 4-week online course, trainers of the SSC will give students information, tips and exercises about studying effectively. More information can be found on the page Improving Your Study Techniques of the FutureLearn website (see: www.futurelearn.com/courses/improving-study-techniques).

Student counsellors

Student counsellors are confidential advisors who also fulfil a mediating role. Students can consult them for personal or financial matters, questions about degree programme choice and all other study-related questions that students cannot or do not want to discuss within your degree programme.

Student psychologists

The student psychologists at the SSC can help students and PhD students with:

− Problems relating to studies, such as stress,

− Psychological problems, such as anxiety or depression,

− Phase of life problems, such as issues relating to your identity.

Workshops and courses

The SSC offers a variety of workshops, courses and group activities. Most of the courses are offered in Dutch and in English. Workshops could be about:

− How to choose what to study,

− Study skills,

− Self-discipline,

− Managing stress,

− Personal development,

− PhD-support group.

In addition to the regular courses for students, the SSC also offers tailor-made courses for staff and student organisations of the University of Groningen.

Career Services

Students at the University of Groningen also receive support from Career Services in preparing them for a successful career. Career Services helps students to make well-informed choices and gives them the opportunity to realise those choices. They do this by offering workshops and training courses, and by providing help with writing a CV and letter of application. Students can also contact Career Services for personal careers advice. The Career Services focuses their support on the third dimension: career development.

Studying with a functional impairment

AD(H)D, autism (ASD), blindness, deafness and dyslexia are all examples of functional impairments that can hinder students' study progress or even result in a study delay. The University of Groningen has various arrangements and facilities for students with a functional impairment. If students encounter obstacles to studying due to a functional impairment, we will work with them to overcome these as best we can, for example, by arranging study and examination facilities, adapting the educational environment or modifying the study plan.

1.4.5. Institutional support for students - University of Oslo

The University of Oslo adopts a broad understanding of tutoring that includes several perspectives on and aspects of tutoring, e.g. tutoring and guidance for groups of students that vary in terms of number of students (1-to-1, smaller and larger groups) in order to develop their academic, professional, personal and social abilities. Many different methods of learning and platforms, e.g. meeting in various formats, online tools that enable individualised feedback, etc.

Similarly to a few other European universities, academic teachers concentrate mainly on academic teaching, described and formalised in the curriculum, while other forms of support and care for students, focused more on personal and partly professional matters, are carried out by other organisational units. Some organisational units that provide various services (counselling, advice, information, workshops, etc.), particularly for the Faculty of Humanities, are listed below.

Online information.
The students of the University of Oslo can find a lot of useful and up-to-date information on the websites of the University of Oslo (see: https://www.hf.uio.no/english/)

Student Information Centre on faculties.
The Centre provides counselling and information for students concerning administrative matters, e.g. it gives answers to questions about the structure of study programmes, exams, leaves, special need related with studying, special exam arrangements, exchange programmes, IT problems, etc. The Centre analyses the students' questions and directs them to appropriate units and/or employees. If the student

asks a question that the Centre is not able to answer, it is obliged to direct the student to an appropriate organisational unit or to an employee who will provide him or her with all the necessary information, contact details and guidance.

(see:https://www.hf.uio.no/english/studies/contact/student_info_centre.html)

Academic administration in institutions.

All faculties are divided into smaller units, institutes, centres or departments. In every institute, there is some academic administration. Usually, some student counsellors are employed there. Student counsellors are usually responsible for one or two programmes or specializations in Bachelor's and Master's studies. They give advice and information for students in relation to administrative questions about their Bachelor's or Master's programmes. Academic administration in institutes performs the same function as the Student Information Centre on the level of faculty.

Student Welfare Organization in Oslo and Akershus (SiO).

It is a publically funded organisation, independent from the University of Oslo, which deals with various tasks concerning everyday life and wellbeing of students, starting from student dorms, or campus restaurants, and ending with sports premises, or kindergartens for employees and students who are parents. SiO provides services connected to students' health, both physical and mental. SiO provides each students with medical care of GPs and dentists. In addition, SiO provides services in mental health care offered by trained psychologists and psychiatrists, who offer both short-term therapies and individual or group consultations, making it possible to continue therapy in other centres. Trained personnel provides counselling services and assists students in matters connected to their personal lives such as financial problems, personal relations, etc., or to their studies.

(see: https://www.sio.no/en/home)

Services of the career centre at the University of Oslo.

This centre, also managed by SiO, offers students help and guidance in various issues connected to their professional life and searching for jobs. The offer includes e.g. individual meetings aimed at finding a job, writing CVs and motivational letters, simulations of job interviews, counselling on what employers look for, etc. In addition, the centre organises a range of courses and workshops related to these topics (see: **https://www.uio.no/english/studies/career/**).

1.5. Tutoring models in the professional development of academic teachers at selected partner institutions

1.5.1. Professional development of academic teachers – Aarhus University

In Denmark, academic teachers must pursue an obligatory programme of professional development. At Aarhus University, this programme is held twice a year. The programme is directed at academic teachers who teach at Aarhus University. Its aim is to support professionalisation and to improve the quality of academic teaching by developing practical teaching skills and promoting scientific approach to teaching.

- The aim is considered reached when the participants are able to:
- analyse and discuss didactics on the basis of their knowledge on the quality of teaching, didactics, assessment and evaluation,
- plan, carry out and assess properly selected didactic and evaluation activities within their own disciplines and organisational contexts,
- use and assess educational technologies in order to promote educational actions for groups and individual students,
- demonstrate practical teaching skills within various forms of teaching,
- collect data, analyse and transfer information on their own didactic practices and experiences to their co-workers and other interested people in a didactic portfolio.

The programme is organised in order to support didactic activities in which participants are already involved, e.g. by supporting teaching plans and introduction of didactic experiments, or preparing (digital) didactic materials.

The structure of the programme

The programme consists of four modules:

Module 1: Introduction to teaching and learning in research-based education
Module 1 is a 3-day on-site course.
The module includes the following topics:
- the participants' own development as academic teachers,

- basic university pedagogy: theory, concepts and models,
- students' characteristics, motivation and learning,
- pedagogical research and evidence,
- planning teaching with focus on justified selection of teaching results, contents, evaluation and educational IT,
- methods and techniques of teaching, including introduction to lectures, teaching in small groups and supervision,
- assessment of the course and development of the participants' own courses.

The total amount of work time is estimated as 50 hours. The module is conducted in the form of *blended learning*. Preparation, estimated as ca. 25-30 hours before the on-site course, is obligatory.

Module 2: Educational information technologies – the use of educational technology

The module is conducted in each of the faculties and the contents are designed in accordance with different educational IT strategies in the faculties.

The module is focused on:

- educational information technologies of Aarhus University, including different formats of courses: 'dispersed technology,' 'supported technology,' 'innovative technology' (blended learning) and 'based technology' (distance learning),
- examples of the best practices of technology-supported teaching,
- models of planning a learning design and blended learning (in-class teaching supported with e-learning),
- practical experiences with different methods of e-learning and technology with particular emphasis on lectures, teaching in small groups and supervision,
- creating at least one digital didactic item and a learning for the participants to use in their own teaching,
- re-designing the participants' own courses,
- reflection on the role of the teacher in a digital environment.

The total preparation and work time for this module are estimated as 25 hours. The module is conducted as a blended learning module in ARTS, BSS and HEALTH and as a distance learning module in NAT-TECH.

Module 3: Course in designing courses

The participants must choose one of the following subjects: lectures, teaching in small classes or supervision

All the paths have the following format:

− online introduction,

− a day of on-site course with presentation, exercises, knowledge sharing and preparing a project (again) of a course design or training module,

− supervision connected to the project of (re-)designing, including the use of technologies,

− testing the re-designed module of learning in the participants' own teaching,

− the last day of the course with evaluation of experiences and results.

The path of lectures is focused on:

− identifying problems in the participants' own lecturing practice,

− designing lectures or a series of lectures (including interactions between classes in the classroom and beyond),

− rhetorical strategies during lectures,

− digital tools during lectures,

− visual aids during lectures.

The path of teaching in small groups is focused on:

− identifying problems in the participant's own small-group teaching practice,

− possibilities and challenges connected to activating students in small-group teaching,

− organising small-group teaching (including the use of technologies and interactions between classes in the classroom and beyond),

− meetings with students, including group and students' diversity management,

− conducting professional dialogue in small-group teaching,

− feedback and assessment in small-group teaching.

−

The path concerning supervision is focused on, among other things:

− identifying problems in the participants' own supervision practice,

− aligning expectations in the area of supervision,

− relational and process-related skills,

- skills in creating text and giving feedback in the process of writing,
- communication skills and methods of dialogue,
- the use of technologies,
- supervision of groups,
- online supervision.

The total work time for each of the paths in this module is estimated as ca. 45 hours: 20 hours for preparation and participation in the course and ca. 25 hours for preparation and testing of the participants' own projects.

Module 4: Final workshops on the teaching portfolio, knowledge sharing and teaching practice in the five faculties.

The contents of this module differ slightly depending on the faculty. However, regardless of the faculty, the participants present their experiences and observations as well as the results of the training programme for teachers in the form of a teaching portfolio.

On the last day of the course, focus is put on:
- feedback on the participants' own educational portfolios or designs of teaching portfolios,
- presentation of selected results from modules 2 and 3,
- discussion of the teaching environment in the faculty: students, assessment, teaching conditions and development, university strategies.

The total amount of time for preparation and work in module 4 is estimated as 30 hours.

In addition, Aarhus University offers professional development activities for its employees at different stages of their careers. Below are a few examples:

Introduction to Teaching and Learning

Introduction to Teaching and Learning (InTeL) is an online module in university pedagogy for all educators at all levels, regardless of discipline and teaching form and method. The module contains a broad introduction to academic teaching and learning, including key concepts and methods that help teachers improve the quality of their teaching and learning practice. Those key concepts and methods include aspects such as constructive alignment, active learning, learning outcomes, educational IT,

feedback as well as assessment and evaluation. Additionally, the module delves into different teaching forms including lecturing, small class teaching, laboratory teaching, clinical training and supervision with advice and guidelines on how to improve their teaching and learning practice.

The module is designed as a flexible online module estimated to take approximately 7 hours over one full week. The content of the module consists of a combination of reading texts, watching educational videos and completing a series of online asynchronous learning activities. During the week, participants must complete three different online learning activities where they have to relate what they have learned during the module to their own teaching practice. The module is largely based on active participation and peer feedback, as well as e-moderators will follow the participants' progress and provide feedback if they deem it necessary.

The three online learning activities focus on their own teaching practice, where they initially have to 1) to describe and analyse their own teaching context, 2) describe how their teaching activities both out-of-class and in-class is organised and aligned and how it supports the students' learning, and lastly 3) design a lesson plan ready to be used in their own teaching practice. Throughout the online activities, the participants are asked to relate and provide peer-feedback on other participants' contributions. At the end of the module, the participants are asked to evaluate their outcome of the module.

The online module is conducted twice a year in English. Since the module takes place online and asynchronously, they can complete the module regardless of time and place. All online learning activities are compulsory, and upon successful completion of the module, a diploma is issued.

Learning objectives:
Upon completion of the module, academic educators will be able to:

– Identify elements in their own teaching which can be developed in order to enhance student learning
– Apply pedagogical principles and tools to the identified element
– Argue how the chosen pedagogical principle or tool is expected to enhance students' learning.

The online module description can also be found on Centre for Educational Development's website.

Teacher's assistants (students):

Teaching based on practical exercises, discussions and case studies is the basis of many courses at Aarhus University. In many cases, such courses are conducted by teacher's assistants (students). On-site teaching allows students to work with theories, data and subject methods. They can ask questions, practice the application of theory and subject methodology under the teacher's supervision and get feedback. Teachers' assistants at Aarhus BSS have an important didactic function of substantive educational potential. The aim of the course is to use and develop this potential.

The aim of the course is to develop the skills of teachers' assistants so that they can teach efficiently – in other words, teach in a way that motivates students to prepare and actively participate in the classes.

Learning results

After completing the course, the participants should:

− design a course that motivates students to prepare for the classes and promote their active participation,

− determine a specific goal of each class,

− consciously choose working techniques that support the class's goal,

− use techniques of asking questions to explore the knowledge and skills of students and provide feedback on that basis.

1.5.2. Professional development of academic teachers - Ghent University

At Ghent University, academic teachers' professionalisation is organised by the central Educational Policy Department. Their offer is threefold:

Supply-driven offer, some examples:

The website educational tips: the website is built up in Dutch, but some pages were translated https://www.onderwijstips.ugent.be/en/. Trainings for our university teachers:

− basic training: https://onderwijstips.ugent.be/en/tips/basisdocententraining/ and

− specific training: e.g., how to prepare a knowledge clip, how to prepare multiple choice exams, etc. A lot of these trainings are documented with video clips. This fosters the reuse of materials and the distributed nature of the training offer.

Demand-driven offer: team of 4 people always available for individual or team support of teachers/assistants. Project-driven offer: e.g., active learning project. Individual teachers can also ask for individual support in their classroom. They will get a visit of a coach, who will help – during a period of time – in view of particular requests. An example is dealing with large groups, dealing with classroom management problems.

The basic training for academic teachers consists of three whole-day sessions and focuses on the basics of teaching at Ghent University.

During this training a lot of insights and practical tips are given related to planning and executing their teaching as well as evaluation. Participants are stimulated to exchange ideas regarding their educational experiences and assignments. Various educational principles and techniques are discussed and tested on their feasibility. Participants also get the opportunity to try out different techniques and give each other feedback. During this entire process, there are links to recent educational research. Additionally, the content of the training is linked to the educational policy and culture of Ghent University. The language of the training is Dutch, and the training is organised five to six times per academic year. Personnel of Ghent University who may follow the course (professors, doctor-assistants and scientific personnel) are kept up to date about the training dates via e-mail.

The offer depends on the interest and may include:
− Educational tips on the website (partly translated into English)
  https://www.onderwijstips.ugent.be/en/
− Trainings for academic teachers: basic training (see:
  https://onderwijstips.ugent.be/en/tips/basisdocententraining/) and specialist trainings: how to prepare knowledge clip, how to prepare exams containing multiple choice questions, etc.,
− Individual and team support for teachers/assistants provided by a 4-people team,
− Support directed at a specific project, e.g., a project of active learning.

1.5.3. Professional development of academic teachers – University College London

The main source of centralised support for the development of academic teachers in UCL is provided through UCL Arena (see https://www.ucl.ac.uk/teaching-learning/professional-development/ucl-arena).

This is UCL's professional development pathway for teaching: a scheme of awards accredited by the Advance HE (formerly the Higher Education Academy) - (https://www.advance-he.ac.uk) giving teaching and support staff nationally recognised fellowships.

This scheme is open to all UCL staff: academic, professional services, research supervisors and post-graduates who teach. There are different pathways for different groups of staff, for example any new Lecturer who has limited teaching experience must complete Arena Two, which is a short course (8 x 2-hour sessions) which leads to accreditation by the Advance HE.

Accreditation by the Advance HE is available at 4 levels of Fellowship: Associate Fellow, Fellow, Senior Fellow and Principal Fellow. These levels reflect different levels of engagement and experience in teaching and learning. It is a system of recognition for academic staff in the UK, based on evidence of individuals meeting the criteria set out in the UK Professional Standards Framework (see https://www.advance-he.ac.uk/knowledge-hub/uk-professional-standards-framework-ukpsf). It can either be obtained in universities through individual application (as in UCL) or through attending an accredited course.

Through UCL Arena, staff can attend workshops and other events to help them develop their applications. A panel of staff already accredited then assess the applications once a term and decide whether sufficient evidence has been provided for the individual to be recognised at the level for which they have applied.

Individual departments in UCL also offer different types of support for academic staff in their teaching. This might be a system of peer observation and feedback, or might be co-teaching. Programmes also have regular meetings to discuss feedback from students and changes to make in teaching. The Arena Centre offers individualised support to all UCL departments in curriculum enhancement.

UCL also runs an annual education conference focusing on teaching and learning where staff and students can present their innovative approaches and research into their practice. In 2019, for example, the theme was 'inclusivity' and presentation abstracts can be viewed here - https://www.ucl.ac.uk/teaching-learning/sites/teaching-learning/files/ucl_education_conference_abstract_booklet_26_march_web.pdf.

1.5.4. Professional development of academic teachers - University of Groningen

Below, you can find the description of the characteristics of qualifications of the University Teaching Qualification - UTQ[4].

The following material is taken from the UTQ document prepared by the Association of Netherlands Universities (VSNU), (de Groot and Kouwenaar, 2018). VSNU is formed by 14 universities: Erasmus Universiteit Rotterdam, Open Universiteit Nederland, Radboud Universiteit Nijmegen, Rijksuniversiteit Groningen (University of Groningen), Technische Universiteit Delft, Technische Universiteit Eindhoven, Universiteit van Amsterdam, Universiteit Leiden, Universiteit Maastricht, Universiteit van Tilburg, Universiteit Twente, Universiteit Utrecht, Vrije Universiteit Amsterdam, and Wageningen Universiteit.

In the preamble to this document, the universities write about their main intentions to build UTQ: The UTQ, recognised jointly by our 14 universities, has been in existence for ten years. This is something we want to appreciate and cultivate. UTQ is proof of the didactic competence of (beginner) lecturers. It is embedded in the university's human resources policy, which makes it an important element in the

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[4] https://www.vsnu.nl/en_GB/characteristics-utq-scheme-, (access: June 2019)

professional development and evaluation of academic teachers. The value and quality of UTQ is widely appreciated, which results from the evaluation carried out by universities in 2017. Of course, there are also some critical assessments at universities and they need to be constantly improved. (...) All universities place increasing emphasis on the continuous professional development of lecturers, not only at the beginning of their teaching career, but also in its successive phases (de Groot and Kouwenaar, 2018).

Content-related characteristics (Sanders, 2018):

– The level of the certified lecturer is described in terms of behaviour („Lecturer can…"),

– Requirements to be met by lecturers are consistent with international standards for academic lecturers (NVAO, 2.1; Dublin descriptors),

– The requirements that lecturers must meet come from professional practice (NVAO, 2.1); in this particular case it means paying attention to the areas of learning outcomes, education development, education assessment, education evaluation, supervision of students and organisation (UFO) and/or infrastructural, educational and organisational implementation of study programs (NVAO, 2.3),

– Lecturers are expected to contribute to the development of their own learning area through research (NVAO, 2.3).

Characteristics related to the assessment:

– All results areas of academic teachers will be included in the assessment,

– Assessment criteria are described for all academic teacher output areas,

– It was determined how much lecturer experience in these results areas must be.

– Assessment depends largely on reflecting your own professional practice,

– There is a description of the assessment procedure,

– There is a description of the type of specialised knowledge required of the assessment team,

– There is a description of how the assessment team ensures the accuracy, confidentiality and objectivity of the assessment process.

Characteristics associated with the process:

– The content, scope and form of career development of lecturers (e.g., courses, coaching, portfolio) were based on the requirements that lecturers must meet in the UTQ qualification,

- In developing their career path, lecturers learn to use didactic knowledge and actual research results in this field,
- The institution facilitates the professional development of lecturers at UTQ level.

The following list presents the criteria for obtaining UTQ:

1. Designing or redesigning didactics
- The lecturer can explain how their course is embedded in the curriculum or the curriculum as a whole.
   o Explaining how learning objectives clearly contribute to achieving the goals or competencies of the study program.
   o Explaining how didactics connect with research or future professional field.
   o Explaining how the education project meets the institutional rules, regulations and educational vision of the university or faculty.
- Lecturer can design education based on the principles of "constructive alignment"
   o Learning objectives that are specific and measurable; their level is appropriate to the place of the course in the program.
   o How the tasks, teaching and assessment modes are linked to the learning objectives and showing that the learning objectives are fully considered correctly and reliably.
- The lecturer can design active, effective and efficient teaching methods and teaching materials.
   o Variety of activating teaching methods and tasks during the course.
   o Sufficient advice for students to give direction to their educational activities.
   o Combining individual learning with digital or online learning.
- The lecturer can design their education taking into account the specificity (curriculum) and needs of students.
   o Explaining how the initial level (e.g., prior knowledge, prior educational experience) of students is taken into account, and how student knowledge and interests are taken into account when designing the course.
   o Explaining how the diversity of student environments is taken into account when designing the course (e.g., in teaching modes, selected teaching materials / literature, composition of project teams, unambiguous expectations).
   o Explaining how students are motivated to think independently and actively.
- The lecturer can design their classes in a practical and logistically feasible way.

- o Appropriate conditions (e.g., EC, budget, list, hours, place, type of meeting) are taken into account.
  - o Both classes for lecturers and students (e.g., assessment, providing feedback) can be treated realistically within the time available.

2. Teaching and supervision

- The lecturer can prepare an educational meeting. This includes a lesson plan containing:
  - o Specific learning objectives of the meeting
  - o Context of the meeting (course/module/series of meetings)
  - o Overview of the meeting, including: subjects, lecturer classes, classes for students
  - o Justification for the timetable.
  - o Meeting materials (e.g., exercises, slides, textbook, etc.)

- The lecturer can conduct an educational meeting and reflect on his/her performance. This includes explicitly conducting an educational meeting (lecture), using a video or live observation report that shows:
  - o Clear explanation of the purpose and meaning of the didactic session for students,
  - o Clear explanation of the subject and/or student instructions,
  - o Real interaction with students to stimulate the learning process,
  - o Good and stimulating atmosphere,
  - o Proper use of technical support,
  - o Thorough reflection on results with points to improve,

- The lecturer can supervise students, individually and/or in groups. The lecturer shows that:
  - o has a vision and method of supervising students for a certain period of time, including significant milestones,
  - o understands the student's goals and needs well and is able to apply different and appropriate styles of supervision, adapted to the situation and needs of the student,
  - o provides effective feedback during meetings with individuals or groups of students, is aware of team dynamics and shows skills to support the group process,
  - o strengthens student initiative, independence and autonomy and knows how to stimulate it,
  - o supports students in the development of academic skills,

3. Assessment

- The lecturer can design and implement assessment of student development and learning outcomes. This includes:

- o How students' progress is regularly assessed and how students receive feedback on their performance,
- o An assessment matrix that shows the agreement between learning objectives, assessment methods and test elements, and the weight of each assessment component,
- o Explain how the assessment methods meet the quality criteria: reasonableness, reliability, transparency, usefulness/practicality and positive impact on the student,
- o Example of assessment and corresponding response model,
- o Explaining how the assessment fits into the university or faculty assessment policy (regarding OER, examination board rules and regulations, etc.),
- The lecturer can analyse the results of the assessment and draw conclusions. This includes:
  - o Psychometric or other important qualitative assessment of (including e.g., subject analysis, assessment credibility, adequacy of criteria determining whether learning objectives have been achieved),
  - o Explanation of the choice of method used to determine cut-off point and evaluation of the work.

4. Assessment of teaching

- The lecturer can conduct evaluation and gather information (data) intentionally to improve their teaching. This includes:
  - o The purpose of the evaluation or any specific questions related to the teaching situation,
  - o Evaluation approach (methods, sources and elements/criteria) and justification of choices made in a given context,
  - o Evaluation of results obtained from students and other sources (e.g., evaluation results, classmates),
- The lecturer can analyse evaluation results, draw conclusions and identify areas for improvement. This includes:
  - o Conclusions regarding the quality of the educational project, teaching and assessment of the course,
  - o Specific recommendations and intended actions aimed at improving the educational project, teaching and assessment of the course,
  - o How previous evaluation results were used to (re-)design the course,

5. Professionalisation

- The lecturer can formulate their own vision of educating and learning students. This includes:

- o Coherent vision of learning and teaching, supported by references to literature and/or descriptions of experiences that have influenced this vision,

- o Examples illustrating how his/her educational vision affects his/her teaching,

– The lecturer can organise their professional development and cooperate in a teaching team. This includes:

- o Examples showing the role of the teacher in teamwork (e.g., role/tasks, constructive contribution to teamwork, management of student assistants, etc.),

- o Indication of relevant committees and boards that the teacher should inform about when designing/teaching the course,

- o Description of how the lecturer balances different professional roles (e.g., different didactic roles or teacher roles),

– A lecturer may reflect on their teacher's work and future professional development in teaching. This includes:

- o Reflection on personal strengths and weaknesses and development in relation to 5 UTQ competences,

- o Specific plans for the further professional development of the teacher.

Improving competencies of Polish academic teachers in tutoring should be as systemic as it is in the case of UTQ in the Netherlands. In particular, it is important to design the lecturer's career path supported by an appropriate assessment mechanism and ensuring the sustainability of the didactics improvement process, for which universities are responsible. Without designing system solutions, the tutoring model in training lecturers (academic teachers) will not be able to function.

1.5.5. Professional development of academic teachers - University of Oslo

The University of Oslo (UiO) expects its academic employees to have basic pedagogical competencies and skills. They should have them on the day when they are employed. However, if someone who is employed cannot show documents that prove them, he or she will have the chance to acquire these skills by participating in special courses oriented towards the participants' needs. They may participate in the courses for free during their working hours.

The course 'Academic pedagogy' or 'Teaching and learning in higher education' aim to 'make a contribution in the culture of teaching and learning development at the University of Oslo.' By various

activities, the participants are encouraged to increase awareness about methods of teaching. The programme encourages them to reflect upon educational experiences of the participants and gives them the opportunity to test innovative methods (see: https://www.uio.no/link/english/academic-development).

The course is 200 hours long and divided into 120 hours of the introductory module, 30 hours of the modules of choice (they can be completed as a single large module or a sum of two smaller modules of 15 hours each, it focuses on such subjects as supervision or grades and exams) and a 50-hour module including pedagogical works connected to the development of one's own faculty, institute or other academic units.

In addition to that course, focused on pedagogy and didactics, the University of Oslo offers many other courses, both in Norwegian and English, as part of its offer of competency development. Some of them are of comprehensive character, others are specific for given faculties. The examples below will help illustrate the thematic scope of the courses offered by the University of Oslo for its employees:

- Courses in technical and practical questions: for instance courses in the use of software and platforms such as EndNote, GitHub and Canvas (platform of didactics management used at the University of Oslo).**,**
- Courses in research administration: how to organise and manage research projects, how to prepare a budget, reports, grant applications, etc.,
- Safe work environment courses, e.g., course of laboratory safety, first aid course.**,**
- Courses in communication for academic employees, concerning the methods of presenting research to a broader audience and to the media, publication online, etc.**,**
- Initiatives for gender equality at work**,**
- Courses of proper management of privacy: up-to-date regulations, what employees should know so that they do not violate these regulations, how to cope with typical problems in this area**,**
- Courses of Norwegian for international employees.

1.6. Training programmes for Polish academic teachers in the project „Masters of Didactics"

1.6.1. Training program for Polish academic teachers - Aarhus University

Master of Didactics in Excellent Teaching (MoD) organised by Aarhus University, Denmark is based on a blended learning concept with both online asynchronous modules and two intensive course weeks. In 2019 the Polish teachers visited Aarhus University twice during the two intensive course weeks. Due to the COVID-19 situation in Poland and Denmark the two intensive course weeks were held in 2021 as online synchronous sessions.

The programme Master of Didactics in Excellent Teaching introduces the participants to Aarhus University's approach to university teaching and learning, which focuses on quality teaching, active learning, didactics, tutoring, learning design, feedback and assessment. The participants will combine and adapt elements of this approach to their own teaching and learning context, when they develop a learning design for a tutorial that they implement at their home institutions. During the programme, the participants experience Aarhus University's pedagogical approach, which is characterised by student-centered learning and active learning, constructive alignment, and the use of educational technologies

Master of Didactics modules

Master of Didactics in Excellent Teaching is organised as five modules which alternates between out-of-class asynchronous activities perform at the home institution and in-class synchronous activities conducted with educators from Aarhus University (in 2019 at Aarhus University and in 2021 with participants online at home institution).
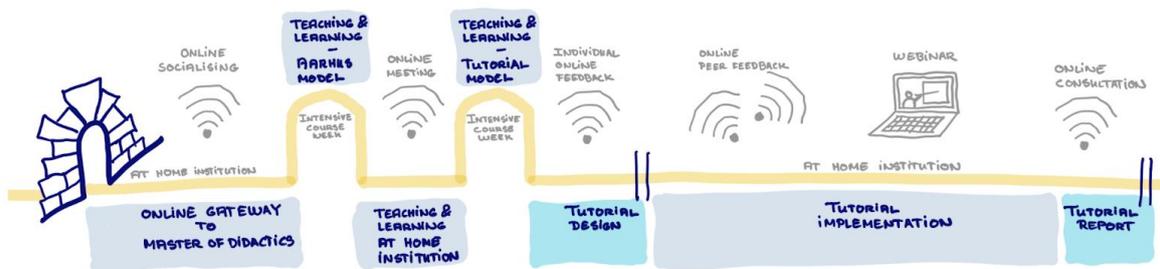
Fig. 7. The five modules of Master of Didactics in Excellent Teaching illustrated and modified to mimic the iconic archway at Aarhus University. The five modules are indicated with blue colour and the two products with turquoise colour.

Module 1: Online gateway to Master of Didactics:

Six-week online module with several asynchronous and a few synchronous activities performed at home institution. Workload approx. 16-24 hours.

Module 1 focuses on online socialising activities between participants and the teacher educators from Aarhus University. In addition, the module introduces fundamental didactic concepts, to ensure that participants have a shared knowledge foundation that will provide common grounds for further discussions and expansion during the intensive course weeks. The online activities performed during this module will support the recall of existing knowledge as well as the acquisition of new knowledge. In addition, several activities will ensure reflections by relating theories and methods to the participants own teaching and learning practice.

Module 2: Teaching and learning - Aarhus model

The first intensive synchronous course week with teacher educators from Aarhus University, Denmark. Workload approx. 32-40 hours.

During the first intensive course week, the participants experience Aarhus University's approach to teaching and learning. The model of teaching and tutorial practices at Aarhus University will be exemplified with student-centered activities, dialogue with educators and support staff, and

observations of teaching practices. The participants are actively involved in collaborative activities, using educational technology, discussing new perspectives and reflecting on the adaptation to their teaching practice. The participants will initiate the development of a tutorial learning design that can be implemented at their home institutions. The online socialisation from 'Online gateway to Master of Didactics' will be further strengthened during the in-class synchronous activities and is intended to create a strong and engaging cross-disciplinary community between the Polish peers and the Danish teacher educators.

Module 3: Teaching and learning at home institution

Online module with few asynchronous activities and one collaborative online synchronous activity performed at home institution. Workload approx. 8-16 hours.

The participants will between the two intensive course weeks investigate the teaching and learning practice at their home institution by interviewing a student and by observing the teaching of one of their colleagues. Finally, the participants will look at their course evaluation and produce a draft for a tutor letter for the upcoming tutorial.

Module 4: Teaching and learning - Tutorial model

The second intensive synchronous course week with teacher educators from Aarhus University, Denmark. Workload approx. 32-40 hours

During the second week of intensive course days, the participants will reflect on the explorations at their home institutions to complete the learning design for a tutorial that will be implemented at their home institutions. The learning design will be qualified through feedback from peers and teacher educators. In addition, the participants will get new inspiration by trying out specific teaching and learning activities.

Module 5: Tutorial implementation

Online module with individual and collaborative synchronous feedback sessions with AU teacher educators and peers. Workload approx. 8 hours. In addition, the home institution will determine the

number of hours the participants have available for implementation of the tutorial (varies between 40-100 hours).

The implementation of the tutorial design at the home institutions will be supported through online tutoring activities, e. g. online peer feedback and webinars. These activities will strengthen the experience with online teaching and tutoring as well as provide specific inputs or reflections on the implementation of the tutorial and to the final Tutorial report.

The final Tutorial report will be shared with the Ministry of Education and Science, Poland.

1.6.2. Training program of Polish academic teachers – Ghent University

The Masters of Didactics training programme designed and developed by Ghent University consists of 3 main parts, as illustrated in Fig. 8.

A. Study visit @Ghent University (5 days x 8 hours)	B. Online booster (20 hours)	C. Good practice days in Poland (32-40 hours, including implementation educational innovation project)

▪ 1 cohort = 20-25 participants
 ▪ 18 cohorts in total
 ▪ After full participation in component A, the participants receive a partial completion certificate.
	Including:
	 ▪ Pre- and post-tests (reflection: 3X45 min./survey)
	 ▪ Access to learning management system of Ghent University: UFORA
	   o Support during study visit
	   o Extra online modules
	 ▪ Online supervision with regard to educational innovation project
		Aim: to share hands-on practices, ideas, and to explore each other's materials actively (3 to 4 cohorts together)
		
		 1X2-day meeting for **Alpha** sciences
		 1X2-day meeting for **Beta/Gamma** sciences
		
		 Day 1: Conference + Speed date
		 Sharing experiences with regard to the educational innovation project you implemented in practice.
		 Day 2: Wheels of Didactics + Demand-oriented workshop
		 After full participation in the entire programme, the participants receive an official certificate of participation in the MoD-project.

Fig. 8. Implementation of the training programme of Polish academic teachers by Ghent University

Below, each of these 3 main parts are discussed more thoroughly.

Before the study visit

Before the start of the study visit, the participants are asked to fill out a pre-course online survey related to university teachers' behaviour, capabilities and beliefs.

A) The study visit @ Ghent University (5 days x 8 hours = 40 hours)

During the study visits organised at Ghent University, we welcome 18 groups of 25 Polish university teachers in total. As the table below illustrates, each day has another central theme.

	Monday	Tuesday	Wednesday	Thursday	Friday
9 a.m. - 12 a.m.	First class session	Teaching and learning activities: How to activate your lectures	Assessment for learning	Educational technology	Differentiation in higher education
	Introducing Ghent University and members of the team Overview of the intervention Presentation of two leading models Polish university teachers present themselves and their course	Constructive alignment Quick wins: question & answer, video with assignment, etc. Mobile response technology	Learning path regarding assessment of learning and webinars related to (1) peer assessment, (2) self-assessment, (3) portfolios, and (4) rubrics Jigsaw session (mixed groups based on webinars)	TPACK Functions of LMS: WIKI, forum, learning paths (and MOOCs), learning analytics	Differentiation for ALL students How to deal with student with disabilities? Honours programmes @UGent Community service learning
Lunch					

1 p.m. - 4:30 p.m.	First class session	Collaborative learning	(Peer)feedback	Educational technology	What's next?!
	Professor-student rapport	Group work on jigsaw, problem-based learning, peer tutoring, role-play and simulations, and TGT and STAD	Feedback lecturer to student (including video annotation and simulation exercise) + (Peer) feedback	Rotation system/corner work: blended/flipped classroom, educational apps, social media, knowledge clips, virtual reality	Introduction to their assignment: develop a small-scale educational innovation project with regard to your own course
	How to formulate learning objectives				
	Activating students' prior knowledge				Evaluation of the study visit

Fig. 9. Weekly overview of the study visit – Component A of the MoD project

In the context of a conference contribution, a new weekly schedule was created.
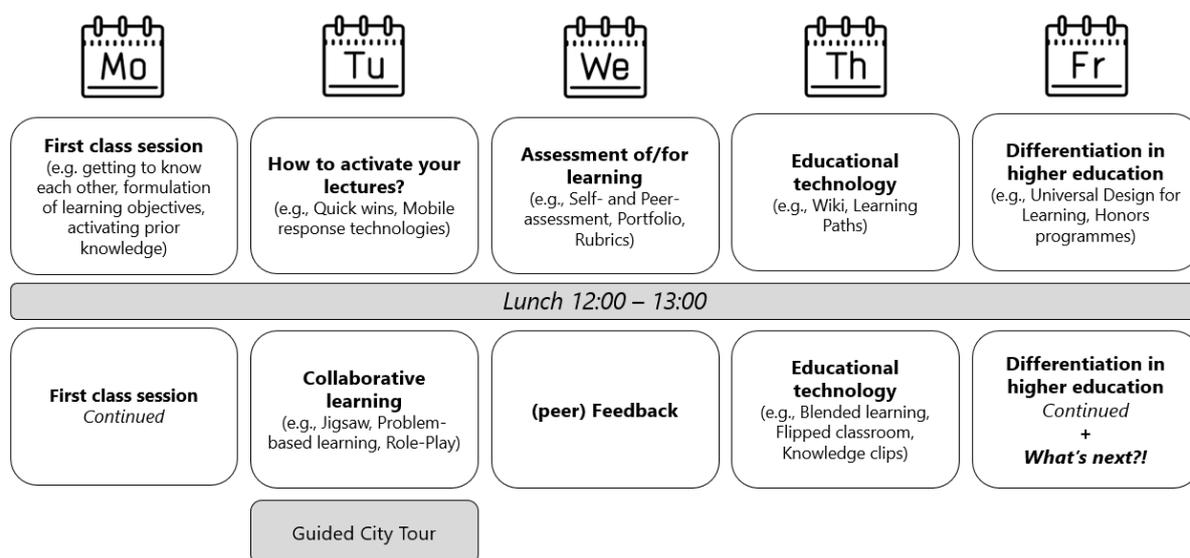
After the study visit

The participants are asked to fill out a post-course online survey related to university teachers' behaviour, capabilities and beliefs.

(B) Online booster (20 hours)

During the study visit, we introduce our participants to our Learning Management System (LMS) 'Ufora.' This LMS is used during the visit to provide the participants with video materials and extra background information related to the topics we discuss. After the study visit (and for an indefinite duration), the participants have access to this platform in order to refresh the elements of the study visit at their own pace.

Moreover, via 'Ufora,' we stay in contact with our participants after the study visit. Particularly, the participants are expected to work out an educational innovation project based on the material they learned during the study visit. Via a template that we prepared for them, they need to submit their project one month after the study visit. After submission, the system randomly assigns each teacher to two of their colleagues (who were also participants during the same study visit). These colleagues need to provide peer feedback (i.e. related to how to improve the formulation of their learning goals, suggestions for improvement in the context of their project, etc.). For this peer assessment phase, fixed criteria were created. Based on this peer feedback, the teachers have time to reflect on their own projects again and submit an improved version. The latter is revised by the instructors of the study visit. The tool that we use for providing this feedback is 'Peer Scholar' (= integrated in our learning management system 'Ufora'). After we have read their projects and provided them with feedback, they are asked to implement them into practice (see also part C. Good practice days). In case of the online version: there isn't peer feedback anymore, but feedback interviews are organised with all our participants in which they are given feedback on their projects.

Good practice days in Poland

Between six months and a year after their study visits at Ghent University, three or four cohorts come together during a 2x2-day meeting. First, a two-day meeting for all the university teachers from the alpha sciences (i.e. arts and philosophy, law, economics and business administration, psychology and educational sciences, political and social sciences) of the three or four cohorts takes place. Second, a two-day meeting for the teachers from the beta (i.e. sciences, applied sciences, bioscience engineering) and gamma sciences (i.e. medicine and health sciences, veterinary medicine, pharmaceutical sciences) of the four cohorts is organised. During these visits, the focus is on networking, and exchanging real-life practices and exercises. That is why for example teachers are asked to present

their educational innovation project in a round table format and a speed date is organised. Additionally, demand-oriented workshops are offered. These workshops are designed based on the input the instructors received from the participants at the end of component A.

After the entire MoD-programme

The participants are asked to fill out a post-course online survey related to university teachers' behaviour, capabilities and beliefs.

1.6.3. Training program of Polish academic teachers – UCL

The UCL programme consists of 3 weeks' worth of work for Polish participants; a 2-week course in London, and the equivalent of 1 week of online activities. After each cohort's visit, the UCL team also visits the Polish participants in Poland to observe and discuss the approaches to tutoring they are implementing.

The aim of the 2-week course in London is to share approaches from UCL to tutoring and teaching more broadly, and to provide space for Polish participants to reflect critically on their teaching practice, and identify plans for implementing their learning, including tutoring, in their institutions in Poland. We take as our starting point that Polish participants are highly experienced and are experts in their own fields and contexts. Our aim is not to give them a model to implement, but to support their professional development so that they can design an approach to tutoring that will work with their students.

UCL covers a range of areas of teaching and learning:
– Academic tutoring,
– UCL approaches to personal tutoring,
– Excellence in teaching and learning,
– Improving teaching – increasing interaction and motivating students,
– Course design and designing a tutoring course,
– Learning in small groups,
– Reflective practice and developing peer review for professional development,
– Effective feedback and analysis,

- Using ICT for learning,
- Evaluation of tutoring.

Participants are asked to prepare two different teaching activities: a small group activity based on a visit to the British Museum, and we spend one day doing micro-teaching (teaching individually to a small group of peers for a short time). For both activities we practice self-reflection, peer and tutor feedback.

In addition, we offer participants the chance to observe teaching within UCL – lectures, small groups, seminars, supervision, tutoring sessions across a range of disciplines.

Participants also have the opportunity to hear from the Engineering department about their Integrated Engineering Programme and speak to students who participate on this programme about the specific approach to project work.

During the online 'week,' which is 5 days of work over a longer period of time negotiated with participants, we ask them to do a critical reflection on some readings, a critical incident analysis of their practice, and we offer a 1:1 tutorial with a member of the UCL team. We are also adapting the work in this online 'week' based on feedback from participants.

During the visits to Poland we visit a selection of institutions and participants, observe classes / tutoring where possible (including providing feedback to participants where relevant), discuss progress on tutoring with participants, meet senior members of institutions to find out what tutoring activities have been implemented. We use the examples we gather to share with subsequent cohorts of participants during the 2-week programme in London.

1.6.4. Training program of Polish academic teachers - University of Groningen

Fundamentals of University Teaching and Tutoring (Foundational Programme)

The UG will train a total of 210 Polish lectures, divided in groups of approximately 16 participants each, in the Fundamentals of University Teaching and Tutoring programme (https://tinyurl.com/UGMoD). The programme consists of a full study week visit of 5 days in Groningen and three follow-up modules of two

days each in Poland. The programme will be completed with a one-day conference in Poland. Throughout the blended-learning programme, lectures work on course work connected to their own teaching practice, enabling them to initiate changes to enhance both their own professional development and the quality of their students' learning. The course work includes a reflective statement after the micro-teaching activity, peer observations, reflective writing assignments, concept maps, a collaborative teaching case, and a presentation for the final conference.

Mo	Tu	We	Th	Fr
Introduction	Microstructure of a lesson	Micro-teaching	Tutoring: Models & Skills	Design Thinking: Introduction
Course design	Video observation			Wrap-up & What's next?
Lunch 12.30-13.30				
Active learning	Video observation	Taking stock	Reflective Practitioner	
		Wrap-up		
Wrap-up	Micro-teaching preparation	City walk	Wrap-up	
	Dinner			

Module 1		Module 2		Module 3	
Taking stock	Assessment of learning	Taking stock	Involving Students	Taking stock	Intervision
Tutoring: Design Thinking		Tutoring: Mindsets & Motivation	Differentiating between students	?	
Lunch		Lunch		Lunch	
Assessment for learning	Intervision	Teaching cases	Differentiating between students	Presentation Design and Storytelling	Curriculum
			Taking stock		Wrap-up & programme evaluation
Wrap-up	Wrap-up	Wrap-up	Wrap-up	Wrap-up	

Fig. 10. Programme study week visit with follow-up modules (University of Groningen materials, 2020)

European Funds
Knowledge Education Development

Republic of Poland

European Union
European Social Fund

Final Conference

1. Keynote speaker from University of Groningen
   Nominated "Lecturer of the Year"

2. Break-out sessions (limited spots available)
   Sharing about tutoring

3. Ignite talks (limited spots available)
   5-minute presentations

4. Ceremony

Fig. 11. One-day conference (University of Groningen materials, 2020)

At the end of the programme, participants will be able to:

- Redesign their course following the principles of constructive alignment,
- Implement active learning in their course design,
- Implement assessment for/of as learning in their course design,
- Modify their classroom teaching practice based on evidence from the literature and feedback from your peers,
- Recognise the role of students in the learning process,
- Translate the theory on tutoring to their own context ,
- Constructively provide feedback to colleagues regarding their teaching,
- Integrate feedback from various sources (students, colleagues, advisors) in their teaching practice,
- Adapt their course based on your critical reflection on your teaching,
- Design presentations that implement evidence-based best practices.

The programme requires a commitment of 12 months with a total of 90 contact hours (kick-off week and modules) and 60 hours for self-study and assignments (150 hours total). This reflects 5 ECTS.

Advanced Programme on Teaching and Tutoring

The University of Groningen will open the applications for their advanced programme in 2020 for all participants who completed a basic/foundational course in the Masters of Didactics programme at one of the five partner institutions. The Masters of Didactics Advanced Programme on Teaching and Tutoring builds upon the knowledge and skills participants have gained in the Masters of Didactics Basic Programme or Fundamentals of University Teaching and Tutoring Programme, and allows them to specialise in several key areas related to teaching in higher education by focusing on a specific project within their own context.

Participants can choose one of the following tracks:
- Academic Leadership/ Educational Management*,
- Train the Trainer (ToT)*,
- Higher Education Research,
- Advanced Qualification.

* these two tracks have specific entry requirements, as participants need to have appropriate roles and responsibilities at their home universities. For more details, see the programme descriptions below.

1.6.5. Training program of Polish academic teachers – University of Oslo

The main focus of the University of Oslo's (UiO) programme is on learning varied didactic strategies and methods to promote the development of students' talents and skills. The program's first part consists of three weeks with workshops, lectures, one-to-one tutorials, group tutorials and observation in Oslo. Its goal is to encourage the Polish faculty to discuss and analyse the tutoring and teaching strategies and methods presented in the programme and to reflect on how many of them would be meaningful to introduce in Poland.

The three-week course at the UiO covers i.e. the following topics: teaching and tutoring, recruiting students, encouraging interaction, academic inspiration, feedback and assessment, research-based teaching, developing the talent, research centres, student participation, career building for PhD candidates, supervising master's thesis, successful collaboration.

How can we develop and strengthen a desire to explore questions that would both expand students' worldviews and improve their ability to engage in academic conversation? The answer could involve an open interaction between students and faculty, more interdisciplinary studies or mentorship as a mandatory part of a degree – these topics and several more is covered by the UiO's programme.

The three-week course at the UiO is followed by an online week. The fourth course week takes place about two months after the course in Oslo.

The purpose of the online week is to discuss introducing and using new methods and didactic strategies as a part of the improved teaching practice in Poland, but the main theme is decided by the mentors in consultation with the participants. The mentors ask the Polish faculty to map either their own needs for new didactic skills or their academic environment's demand for developing new teaching methods. The Polish faculty writes a report based on

1) Mapping of the existing teaching practices
2) Motivation for changing the existing teaching practices
3) Plan for implementing the new knowledge and skills the Polish faculty has gained in the Masters of Didactics Programme by UiO.

The participants have two one-to-one tutorial sessions with their mentors during the fourth week. In addition, the mentors will provide feedback on the draft of the participants' report and read the final report.

The mentors have a follow-up meeting in Poland. The programme of the mentor's visit is agreed upon during the online week, the fourth week. The purpose is either to discuss a planned implementation or the experiences gained through an implementation process focusing on the possibilities to improve the teaching practices integrating the new knowledge and skills acquired in the Masters of Didactics Programme by UiO. The mentors can have one-to-one tutorials or group tutorials.

The didactic strategy is based on the relational philosophy as illustrated in the following figure:
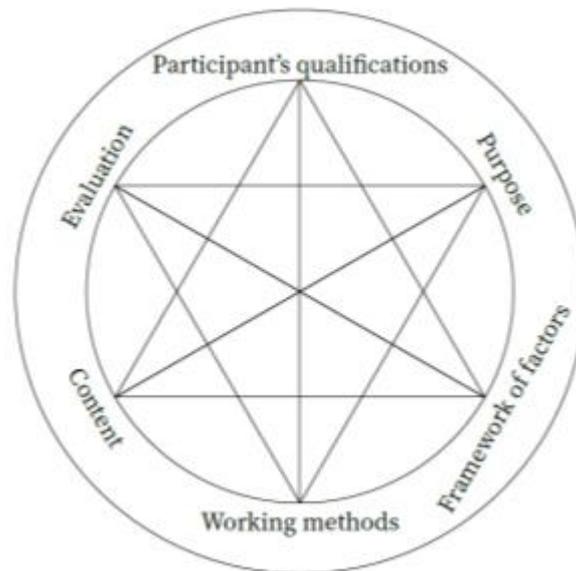
Fig. 12. The didactic relational model (University of Oslo materials, 2020)

This means that among other things academic teachers should carry out continuous evaluation of the students' relations within a university context, collect the data and analyse it in the reports about learning environment. The relations that can be evaluated are:

– Student-lecturer: for example, supervising students,

– Student-student: for example, graduate students teaching undergraduate students,

– Student-environment: for example, outdoors (nature/the forest) used as an arena for reflection, cooperation and shared knowledge,

– Education-working life: for example, international project semester, internships and career seminars,

– Student-student advisor: for example, student advisors at a department and students.

The programme focuses especially on improving students' relations in a university context.

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PART 2. PROJECT OF A TUTORING MODEL FOR ADAPTATION IN POLISH HIGHER EDUCATION INSTITUTIONS

dr hab. Jakub Brdulak, prof. SGH

prof. dr hab. Katarzyna Glińska-Lewczuk

prof. dr hab. Anna Janus-Sitarz

dr hab. inż. Janusz Uriasz, prof. PM

2.1. Assumptions of the model

The experience of Polish and foreign universities implementing the ideas of teaching excellence shows that, on the one hand, there are certain fixed elements of the model that determine the desired effects of the teaching process and, on the other hand, it is necessary to respect the specificity of the units that influences the differentiation of the pathways leading to high educational standards. In the proposed model, it is necessary to take into account the close collaboration of three units: academic teachers, students and institutional staff (in the broadest sense: from universities to the Ministry), which provide the necessary systemic support for the activities.

For the unit implementing the tutoring model, broadly understood as responsibility for learning outcomes, it is necessary to make certain assumptions regarding the teaching/learning philosophy based on the idea of student-centered learning, i.e. a personalised approach to the student that takes into account his/her current knowledge and skills and personal development goals. The idea of SCL is implemented by diagnosing students' changing needs, monitoring their progress, reviewing the impact of teaching, addressing different expectations and opportunities, and using individualised teaching methods.

At the same time, the tutoring model assumes that students are aware of the responsibility for the impact of their own learning and help shape the didactic process and programme of their education as preparation for lifelong learning (LLL). It is also necessary to involve students in the teaching/learning process through peer tutoring, which is recognised as the most effective form of education.

In order to achieve positive impact of the model, systemic and professional activities of the institution are required, which should provide academic teachers with adequate teaching base and infrastructure, as well as systematic activities to enhance their competencies, while students - comprehensive support with the various needs and difficulties that may affect their performance.

The success of the didactic process is largely determined by the awareness of the importance of interpersonal relations and the learning climate. Therefore, in the tutoring model, a high priority should be given to the well-being of students (social skills, especially interpersonal and communication skills of

academic staff are essential here) and academic staff (activities are needed here to make teachers feel appreciated for their efforts to improve the quality of teaching).

The effectiveness of the model is ensured by openness to inspirations and good practices from both Polish and foreign universities. To this end, it is worthwhile to draw on the experience gained during the implementation of the Master of Didactics project: the experience gained during foreign training courses in the field of improving teaching skills and presented by representatives of partner universities within the framework of the "model of initial tutoring", as well as the so-called Oxford tutoring, which is based on individual work with selected students (who are particularly gifted or need support due to special difficulties) and is carried out in selected units involved in the project. Selected examples of the description of these experiences are included in the third part, which contains articles by Polish academic teachers - participants in the training within the Masters of Didactics programme.

The application of the proposed model is broad. Its advantage is that it is flexible and can be adapted to different fields of education, such as humanities, technical sciences, agricultural sciences, natural sciences, medical sciences or arts, but also to interdisciplinary education. Its application goes beyond the original assumptions.

2.2. Structure of the model

The structure of the tutoring model consists of five main components (pillars) (1) Needs, Aims and Assumptions, (2) Input, (3) Process, (4) Output, and (5) Impact described by indicators at three levels: Teacher level (red), Student level (green) and Institutional level (blue). It is a logical cause-effect system that comprehensively shows the relationship between needs and assumptions, human and organizational resources and activities, learning and teaching techniques and practices, and expected outcomes. Due to a number of interconnections and institutional and organizational interdependencies, the levels may overlap.

2.2.1. Needs, Aims and Assumptions

This pillar defines the goals and objectives for participating academics, students, and teaching institutions and the expectations for their efforts to achieve excellence in teaching.
− At the academic teacher level, the model includes individualized and personalized teaching.

- Student-centred teaching and learning is an indicator of activities at the student level. It makes students co-creators of their own education, engaging them in decisions about what, when, and how they learn.
- Institutions are expected to value didactics, to adapt to the specificity, needs, and abilities of a particular unit. There is a need for broad institutional support for the development of academic teachers.

2.2.2. Input

The development of input indicators determines the availability of basic resources and provides status information.

- At the level of an academic teacher, resources are tutor competencies, openness to inspiration, and good practices. This includes didactic staff knowledge. The indicator is the teacher's responsibility for educational effects.
- The student takes responsibility for learning outcomes
- Institutional inputs are targeted support in the area of different needs of students and academic teachers, a system of their motivation, and ensuring formal and informal teaching and learning well-being.

2.2.3. Process

The process indicators include all teaching activities and staff training in teaching innovation that contribute to the tutor's personal development and teaching infrastructure of the institution. They include activities aimed at increasing the competences of the teaching staff, both at home and abroad, as well as improving teaching resources.

- The activities assigned to the academic teacher level are: selection (application/use) of didactic methods and tools appropriate to learning outcomes, use of personalized teaching methods, including 1:1 tutoring, working with small and large groups, diagnosis of changing student needs, monitoring progress, review of learning outcomes.
- Student engagement in learning and collaboration with peers. Using peer-tutoring as the best effective method of teaching.

– Indicators of the institution's activities are: supporting didactic innovations and improving didactic resources of HEI, systematic development of didactic competences of academic teachers (providing training, study visits, scholarships, etc.). Supporting research in general and specialized didactics and disseminating the results, supporting students with different needs, collaborating with stakeholders. Sharing experiences with HEI partners. The institution should ensure regular feedback and evaluation.

2.2.4. Output

The result of the model is the improvement of the situation of the target groups:

– Tutors are skilled at relationship building, consistent, knowledgeable about the content, and culturally competent. Tutors achieve high quality tutoring skills, including working with people with different educational needs.

– Students as a target group gain knowledge, develop new skills, and/or change attitudes. Feedback of the student evaluation of tutors improve teaching.

– The institutions have perfected the system for continuous assurance of teaching competence; systems for motivating teachers to develop didactic competencies and support didactic innovation; certification of teachers' didactic competencies.

2.2.5. Impact

Highly effective tutoring meets the goals formulated in "Needs, Goals, Assumptions", which is achieved by:

– Tutors who are able to provide high standards of education/learning.

– Students who possess key competencies and a willingness to engage in lifelong learning

– Institutions that respect tutors and learners and provide adequate conditions for education in a spirit of environmental responsibility

Tutoring model

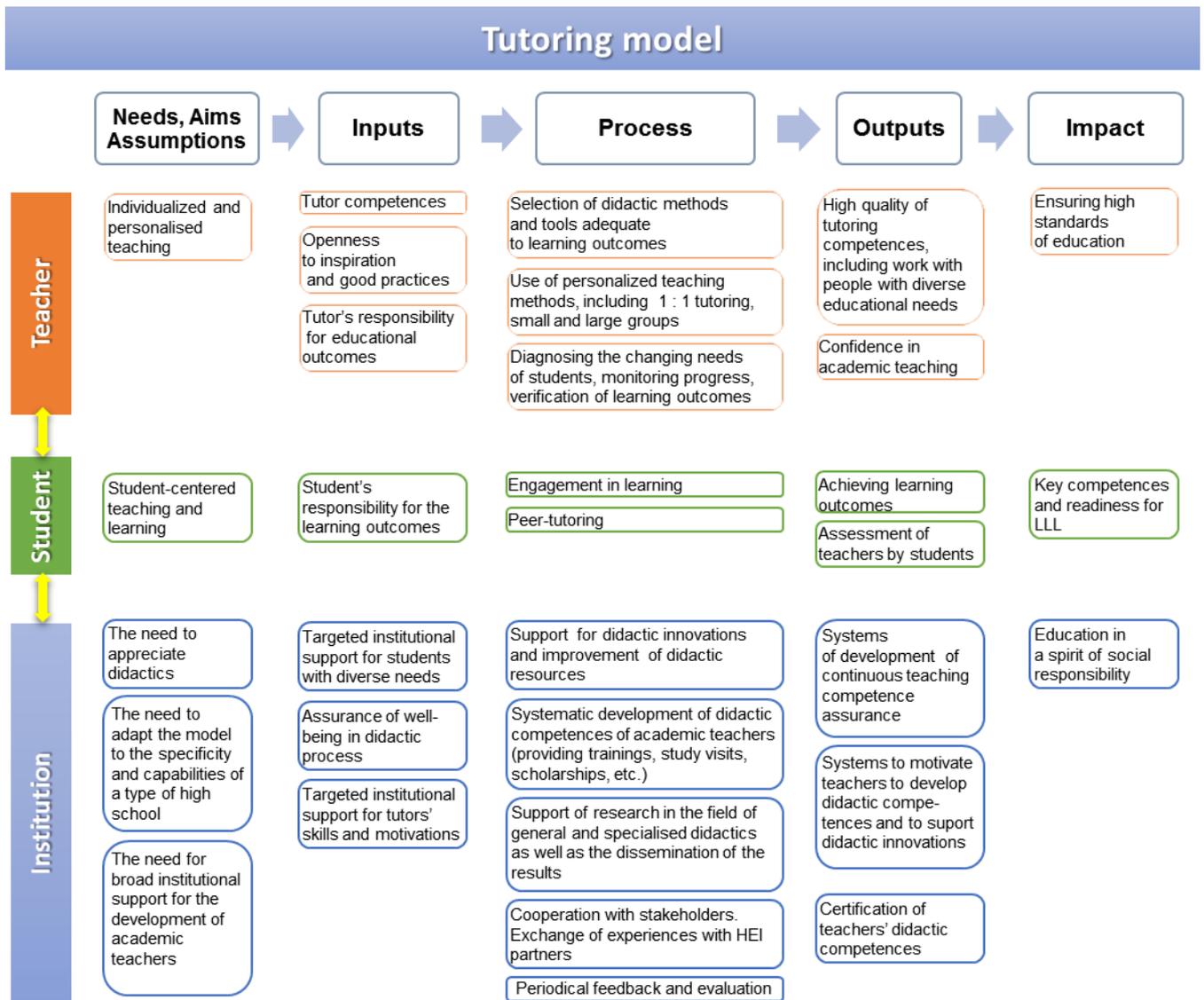|	Needs, Aims Assumptions	Inputs	Process	Outputs	Impact
Teacher	Individualized and personalised teaching	Tutor competences; Openness to inspiration and good practices; Tutor's responsibility for educational outcomes	Selection of didactic methods and tools adequate to learning outcomes; Use of personalized teaching methods, including 1 : 1 tutoring, small and large groups; Diagnosing the changing needs of students, monitoring progress, verification of learning outcomes	High quality of tutoring competences, including work with people with diverse educational needs; Confidence in academic teaching	Ensuring high standards of education
Student	Student-centered teaching and learning	Student's responsibility for the learning outcomes	Engagement in learning; Peer-tutoring	Achieving learning outcomes; Assessment of teachers by students	Key competences and readiness for LLL
Institution	The need to appreciate didactics; The need to adapt the model to the specificity and capabilities of a type of high school; The need for broad institutional support for the development of academic teachers	Targeted institutional support for students with diverse needs; Assurance of well-being in didactic process; Targeted institutional support for tutors' skills and motivations	Support for didactic innovations and improvement of didactic resources; Systematic development of didactic competences of academic teachers (providing trainings, study visits, scholarships, etc.); Support of research in the field of general and specialised didactics as well as the dissemination of the results; Cooperation with stakeholders. Exchange of experiences with HEI partners; Periodical feedback and evaluation	Systems of development of continuous teaching competence assurance; Systems to motivate teachers to develop didactic competences and to suport didactic innovations; Certification of teachers' didactic competences	Education in a spirit of social responsibility

Fig. 2.1. A tutoring model for adaptation in Polish HEI (authors' own study, 2022)

2.3. Process of the Model implementation

The principle of the model to be implemented should be the systematic development of teaching competences of academic staff through participation in training, internships and study visits. The model is based on the teaching (tutoring) skills of an academic teacher in the following areas.

- Design of directive/subject learning outcomes; design and modification of educational programmes; selection of content and didactic methods to the adopted learning outcomes;
- Diagnosis of student needs, conducting "research in action" to monitor and review the effectiveness of the educational process;
- The skilful selection of didactic methods and tools in relation to learning outcomes;
- Use of individualised teaching methods, including Oxford (1:1) and Harvard tutoring (small and large group teaching);
- Use of ICT tools and distance learning methods;
- Use of innovative and creative teaching methods (including peer tutoring) and learning through discovery and problem solving;
- Communication skills - including the ability to give and receive feedback;
- Competence to work with people with diverse educational needs, including people with special learning difficulties and the exceptionally gifted, etc.;
- Development of intrapersonal competences (self-reflection leading to continuous self-development and improvement);

Improving the teaching competencies of academic staff is only possible with comprehensive institutional support. This includes both activities that motivate teachers to improve their didactic training and the organisation of a system that ensures continuous development of competences, including the following:

- Activities to diagnose staff needs, motivate academic teachers to improve teaching competences and promote teaching innovation;
- Implementing activities that motivate people to improve their teaching competences (compulsory measures are not effective), e.g. increasing the value (including financial) of good teachers, reducing the number of people implementing teaching innovations, popularising good practises);
- Systems to ensure continuous development of academic teacher competences, for example through training, mentoring, tutoring, webinars, debates, slam teaching (examples of training programmes

and good practices at Polish and partner universities can be found in the "Initial tutoring model" and in the articles by representatives of Polish units after the conference);

– Certification of the teaching competences of an academic teacher;
– Regular evaluation of didactic activity and assessment of academic teachers by students;
– Improvement of the teaching base and infrastructure of the University (adaptation of the equipment of the teaching base to the current needs of the educational process);
– Supporting research in general and subject didactics and disseminating its results in order to improve the quality of education by creating a constantly updated database of innovative didactic tools and publications;
– Ensuring constant contact with the international community (through internships, study visits with prominent lecturers, conferences, research projects to diagnose changes in students' needs and educational conditions);
– Organisation of cooperation with the business environment to diagnose changing social and labour market expectations.

Each university should provide professional support for students with different needs, including:
– People with disabilities of various kinds;
– Foreigners;
– Pregnant women and caregivers of dependent persons (e.g. children, people with disabilities);
– People with specific learning difficulties and specially gifted.

Implementing of the model requires the support and commitment of the students. Students need to make learning and teaching a priority. To gain not only academic knowledge, but also key competencies in collaboration, critical thinking, problem solving and creativity, students have to be the integral part of the model.

The planned activities should lead to the functioning of systems that effectively support academic teachers to improve the teaching process, achieve quality tutoring competences and enable students with different needs to achieve learning outcomes.

The long-term and lasting impacts of the implemented model should be the creation of an academic community that values teaching, ensures high teaching standards and educates students in a spirit of social responsibility.

PART 3. EXAMPLES AND CHALLENGES IN IMPLEMENTATION OF THE TUTORING MODEL

The international conference "Masters of Didactics", held in June 2021, was devoted to the following topics: professional development of university tutors, philosophy of student-centered teaching and learning; methods and tools of active teaching and learning; peer tutoring; face-to-face and online training of tutors; academic and personal tutoring. Representatives from foreign and Polish universities focused on the different perspectives of teaching and learning in the complex world of higher education. Many interesting contributions tried to answer important questions, such as how to design the structure, tools and content of courses, or how to involve students in the learning process.

The presentations showed and shared reflections on the value of SCL in education and the importance of creating a safe teaching and learning environment. The conference sessions discussed some of the creative solutions for creating a welcoming and inspiring space for learning. The lecturers showed what is important in excellent teaching: teachers' passion, flexibility, good relationships with students, knowledge of the changing needs of new generations and their different expectations. The presenters shared their work and experiences in different areas of study. The relatively new situation of online teaching was of particular interest to all of them. Due to the COVID19 pandemic, academia suddenly had to switch to online teaching. This presented many challenges to faculty in activating student learning online. As a result, many academic teachers began to rethink their didactics and teaching and came up with creative solutions.

Participants in the Masters of Didactics training indicated that they benefited greatly from the programme. They implemented many innovations in their university courses and are ready not only to develop their didactic skills in the future, but also to create more institutional support for other academic teachers.

The diversity of topics discussed at the International Conference "Masters of Didactics" in July 2021 is reflected in the publications of the authors - participants of the project. This publication is complemented by selected examples and challenges in the implementation of the tutoring model. They

were developed by conference participants representing both international partner institutions in the "Masters of Didactics" programme and by Polish research and teaching institutions.

Based on the experience of study visits to the Masters of Didactics programme at Ghent University, **Britta Adams, Laura Thomas, and Martin Valcke** (3.1) emphasised that evaluation and feedback are key for both participants and the trainers of this professional development initiative. They recommended not to leave the university teachers to their own devices after completing a training. In their opinion, feedback serves as input for iterative redesign of a professional development initiative.

Piotr Garbacz (3.2) from the University of Oslo presented the rationale, design, and outcomes of the peer supervision course for all (166) supervisors of master's theses at the Faculty of Humanities. The peer supervision course clearly showed that individual problems and challenges at the grassroots level are an effect of the structure within the organisation.

Annely Tomson (3.3) also from the University of Oslo raised the crucial issue of integrating sustainable feedback in the courses to support students in the development of their self-regulative capabilities.

Jens Laurs, Brøndum Kærsgaard, Rune Thostrup (3.4) from Aarhus University reported that one of the main goals and pedagogical purpose of the Masters of Didactics in Excellent Teaching offered by the Centre for Educational Development at AU is to foster the development of reflective practitioners in relation to student-centered academic tutoring. To overcome the barrier that teachers are unable to translate reflections into practice a more systematic approach should be developed, such as Kolb's experiential learning cycle and Brookfield's four lenses of critical reflection. They have shown that designing and testing a student-centered tutoring approach and reflecting on it supports professional development. Critical reflection on teachers' self-perspective leads to new approaches to teaching, tutoring and learning concepts, as well as new teacher and tutor roles, with teachers envision new opportunities to actively experiment in their teaching and learning practices. They believe that providing opportunities for experimentation that systematically support teachers' critical reflection bridges reflection and action in developing a student-centered tutoring design.

Clare Bentall and Harriet Harper (3.5) from University College London consider what "inactive" learning might be in order to identify what teachers could be aiming for when promoting a more active approach.

In their opinion, the nature of inactive learning - and whether or not it even exists - merits further exploration and discussion, but there is consensus around what is meant by being active in learning. They stated that regardless of academic discipline, students can engage with materials, concepts and ideas and make sense of them for themselves when teachers provide the environment and opportunities for them to do so.

A variety of teaching methods in medical education (3.6), English language (3.7), electrical engineering (3.8), veterinary medicine (3.9), psychology (3.10), and math (3.12) as well as challenges in their practical use are presented by Polish researchers.

Aleksandra Stupak (3.6) showed examples of teaching methods adopted in Competency-Based Medical Education including flipped classroom, problem-based learning in preclinical years, and case-based learning in clinical years. The methods used in the study were carousel brainstorm, simulations, buzz group or think-pair-share, and jigsaw.

Barbara Muszyńska (3.7) presented challenges and solutions related to the backward design and problem-centered approach to English language teaching and learning. She noted that the pre-imposed learning process in the backward design, however successful it may be, deprives students of the opportunity to consciously participate in their learning process and in the designing of their learning process and their learning paths. She pointed out that, in spite of high benefits, the problem-centered approach requires a longer period of time for student reflection and taking responsibility for one's own learning, including planning own learning paths.

Bernard Fryśkowski (3.8) evaluated and compared the performance of students of electrical engineering enrolled in web-delivered courses taught with respect to two methods - a conventional one (a lecture given online) and a method based on the use of an online circuit simulator. In his opinion, online circuit simulators can effectively support laboratory activities conducted via the Internet. His results showed a positive impact of online circuit simulation on students' performance. Online circuit simulators can be adapted for both face-to-face and blended courses.

Witold Kędzierski, Monika Jamioł, Jacek Wawrzykowski, and **Marta Kankofer** (3.9) found that tutoring way of teaching of vet students makes this process more effective, as anonymity is lost and students are

opened for contacts. At this level present contact with teacher but in the future, contact with pet owners will be important. They emphasised that the study programme requires individual work with students, as many topics require deep explanations and it is too difficult for some students to understand it by themselves.

According to **Maciej Bożek** (3.10), the portfolio method seems to work very well in combination with personalised tutoring. The classical form of the portfolio is a good answer to the digital fatigue that students experience. Portfolio is great method for teaching complex problems that need to be reviewed later.

Among the contributions there are also reflections by **Adam Kubiak** (3.11) on the growing interest in distance learning and the dependence on certain software solutions during the pandemic COVID19. The mismanagement of the crisis led to overburdening not prepared and untrained staff. The post-pandemic situation shows that educational institutions are faced with the need to bear the financial burden associated with the maintenance and purchase of infrastructure. To achieve this, institutional management must act collectively and put pressure on the suppliers of certain services and products, as well as on the government agencies themselves.

The last article of **Gertruda Gwóźdź-Łukawska**, **Monika Potyrała** (3.12) from Lodz University of Technology presents the didactical methods worth to used to deliver math classes. They recommend to use system of badges to appreciate development of soft skills or little manifestations of activity.

3.1. Adams Britta, Thomas Laura, Valcke Martin:

Evaluation & feedback: The engines of professional development initiatives

Adams Britt

Ghent University, Department of Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium, 0000-0003-2478-8755

Thomas Laura

Ghent University, Department of Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium, 0000-0002-3725-187X

Valcke Martinc

Ghent University, Department of Educational Sciences, Henri Dunantlaan 2, 9000 Ghent, Belgium, 0000-0001-9544-4197

HIGHLIGHTS:

- Learning diaries to stimulate reflection during a professional development initiative.
- Do not leave the university teachers to their own devices after completing a training.
- Feedback as input for iterative redesign of a professional development initiative.

KEYWORDS:

Professional development initiative, university teachers, Masters of Didactics

Introduction

This conference contribution underlines the power of evaluation and feedback – in all its different facets – in the Masters of Didactics (MoD) programme designed, implemented and evaluated by Ghent University. The three-part programme exists of (1) a 5-day study visit focusing upon evidence-based teaching, learning, and assessment strategies in higher education, (2) an online booster - implementation of educational innovation projects set up by the Polish university teachers themselves,

and (3) the Good Practice Days – in which university teachers meet each other again and exchange experiences. In each programme component, evaluation and feedback are the key for both the participants and the trainers of this professional development initiative (PDI).

1. Study visit

The first component of the MoD-programme offered by Ghent University entails a 5-day study visit (± 40 hours). Based on national criteria for excellence in university teachers (e.g., University Teaching Qualification (UTQ) scheme – The Netherlands) and international educational literature (e.g., Gilis et al., 2008; Tigelaar et al., 2004), a well-thought-out week schedule is designed with the aim to improve the student-centered, tutor-led competences of university teachers (see Figure 1)
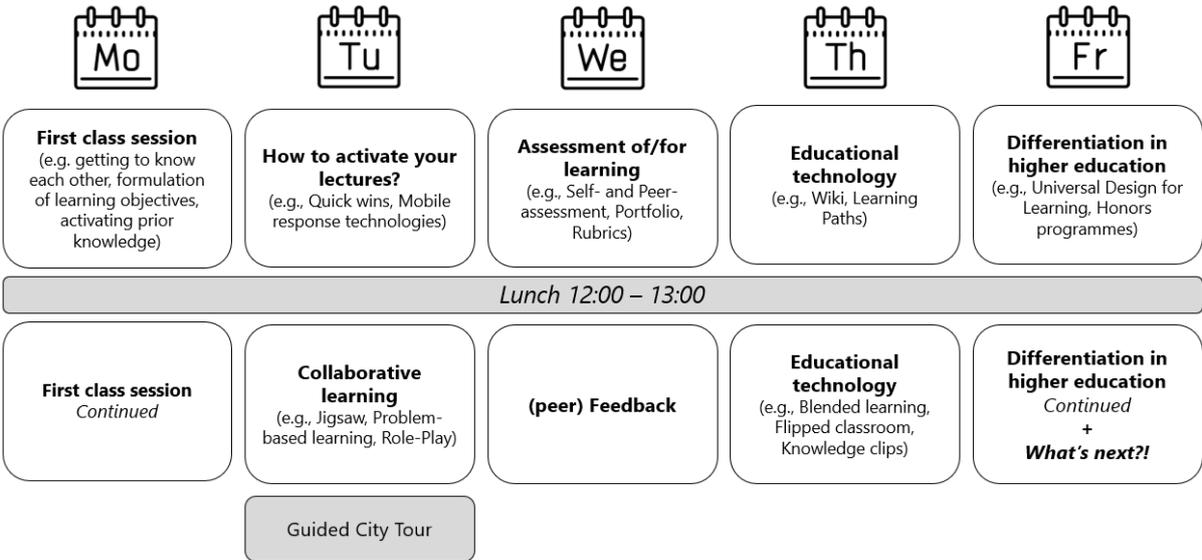

Fig. 1 - Week schedule of the study visit.

With regard to evaluation and feedback in the context of the study visit, the participants are stimulated to self-assess at the end of each training day via a reflective learning diary (OCN London, n.d.): Which elements do they already implement? What new knowledge did they acquire? What are the elements they want to experiment with? As feedback is invaluable to the trainers of a PDI, the template of the reflective learning diary includes text boxes allowing the participants to write down their impressions of each training day. A practical piece of advice is to use carbonless copy paper for this activity. In this way, participants can keep one version for themselves and hand over the other paper to the trainers. Next to

the reflective learning diary, and more particularly at the end of the study visit, participants are also asked to fill out a general evaluation sheet of the PDI.

In addition, mapping the effectiveness of PDIs is one of the main challenges for the educational research field (Merchie et al., 2016; Darling-Hammond et al., 2017); what university teachers learn from PDIs remains often unclear as existing evaluations have generally been limited to measuring participants' satisfaction (Stes et al., 2010). Without knowing what works and why, it is hard to implement professional learning for teachers that is evidence-based and designed to overcome potential obstacles (Darling-Hammond et al., 2017). For this reason, Ghent University invited all teachers of Cohorts 1-9 to complete a pre- and post-questionnaire to determine the effect of the study visit on the didactical competences of university teachers[5].

Online booster - Educational innovation project

Second, our most important plea is 'don't leave the university teachers to their own devices after completing a study visit'. Darling-Hammond and colleagues (2017, p.16) formulated it as follows:

> "[…] offer teachers the opportunity to return repeatedly to the PD material […], but also to apply their learning within the context of their classroom between workshops. By promoting learning over time, both within and between sessions, PD that is sustained may lead to many more hours of learning than is indicated by seat time alone".

To allow the university teachers to regularly fall back on the course materials provided during the study visit, the learning management system of Ghent University – called UFORA – is intensively used as a kind of backbone of our PDI. In the online course, participants can consult all materials, go through additional background information, upload their own assignments/reflections, etc.

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[5] a) Adams, B., Thomas, L., & Valcke, M. (2021). Professional development of university teachers: masters of didactics. In EARLI 2021, 19th Biennial EARLI Conference, Abstracts. [Click here]. b) Adams, B., Thomas, L., & Valcke, M. (20XX). University teachers as versatile masters: Evaluating the effectiveness of a professional development programme on student-centred teaching competences [in review].

To challenge the participants to apply their learning in their own educational practice, teachers are expected to set up an educational innovation project. In individual feedback interviews, the university teacher and one PDI trainer discuss the project in depth to make sure that all educational/didactical doubts and questions are solved before the project is implemented in practice. Sidenote: many of these projects include an element of peer assessment/feedback. So, after completing the study visit, a lot of educators are convinced of the importance of establishing a feedback culture in higher education settings. To illustrate this, read the following excerpt from the written report of an educational innovation project conducted by a university teacher in cohort 13:

> "During the 7th week of classes, students will have the task of assembling the device of another group based on the documentation prepared by this group. After the assembly is completed, they will conduct a **peer assessment** based on the form I have prepared. Between the 7th and 8th classes, students will prepare a response to the comments […]. In addition, they have to make a presentation in the form of a video uploaded on YouTube, in which all members of a given group will participate. Students from another group will add their comments to the presentation using the **VideoAnt tool**. […] (week 8)."

Moreover, after the implementation of the project, the university teachers are required to collect feedback from their students as they need to answer at least one self-chosen educational research question.

Good practice days

Finally, the last part of our PDI consists of the 'Good practice days' organized in Poland (7 up to 11 months after the study visit). For this component, three or four cohorts come together during a 2x2-day meeting. On the one hand, a two-day meeting for all the university teachers from the alpha sciences (e.g. law, economics, psychology) of the cohorts takes place. On the other hand, a two-day meeting for the teachers from the beta (e.g. sciences, bioscience engineering) and gamma sciences (e.g. medicine and health sciences, pharmaceutical sciences) of the cohorts is organized. During these meetings, the university teachers exchange real-life practices and experiences regarding their innovation project. By organizing round table sessions after the presentations of their projects, colleagues can give peer feedback to each other allowing them to improve their future educational practices. Additionally,

demand-oriented workshops are offered based on input the instructors received from the participants at the end of component A.

Iterative design

The trainers of Ghent University evaluate the PDI in different ways (e.g., pre- and post-questionnaires), and collect feedback at specific times (e.g., final feedback survey after the entire PDI). Inspired by the *Design-based research* paradigm (e.g., McKenney and Reeves, 2018), this input is used to improve our PDI by iteratively refining a previous version of the PDI. Reflective teacher(s) (educators) are more likely to develop reflective learners (Spalding, 2020).

2. Critical evaluation & feedback reflections

A first critical note is related to evaluation and feedback in the context of the study visit. During the five-day study visit, the participants often complete individual and group assignments regarding the topics that are discussed. While the assignments are always generally discussed in a plenary part, inviting some participants to talk about how they handled the assignment, individual feedback is not offered to each and every participant or group. Of course, in an ideal world, this should be done. However, the MoD-team of Ghent University exists of 1,5 FTE, and study visits often follow-up each other at a rapid pace. As the final feedback forms show that the participants would like to receive feedback on their assignments, a preliminary solution could be to create correction keys which can be send to the participants after completing the assignments. By doing so, participants can check their answers against the ones of the trainers; nevertheless, the downside here is that not every assignment has a one-size-fits all answer. This is an important issue for the future organization of PDIs.

Secondly, with regard to the set up of educational innovation projects, the university teachers obtain feedback from the trainers before they integrate the innovations in their educational practice as well as discuss the implementation of the project with colleagues during the Good Practice Days. However, this approach does not show actual changes in performance. To fully capture the impact of the PDI, (video-taped) observations are valuable and can serve as interesting input for authentic feedback. A further study with more focus on the use of authentic, video-taped observations in a professionalization trajectory for university teachers is therefore suggested.

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3.2. Piotr Garbacz:

Peer supervision course for supervisors of master's degree students: the effects of macro level on the micro level in a higher education unit

Department of Linguistics and Scandinavian Studies, University of Oslo, P.O. Box 1102 Blindern 0317 OSLO Norway,

0000-0001-5548-7029

HIGHLIGHTS:

− A course for all faculty members as an arena for improvement of the organisation
− Peer supervision course shows individual challenges having a structural source

KEYWORDS:

peer supervision, management of higher education units, employee-oriented leadership

Introduction

The Faculty of Humanities at the University of Oslo has carried out a project in the period 2017–2021, in which all the supervisors of master's degree theses at the Faculty participated in a peer supervision course. In the following paper, I present the rationale for the project, the design of the course and its outcomes for the organisation. Further, I discuss the relation between the benefits and the costs of such a project for the institution. This project is described in detail and discussed more generally in a Norwegian paper by Maasø & Simonsen (2021), while the present paper adopts a leadership perspective on it.

The paper consists of five sections: in section 2, the background of why the course had been developed is sketched. The structure of the course is shown in section 3. In section 4, the expected and actual institutional gains are presented, whereas section 5 contains a discussion on the impact of the course for the institution as such. Section 6 provides a summary.

Background

The Faculty of Humanities at the University of Oslo is the biggest faculty of humanities in Norway, with around 360 scientific staff in permanent positions spread across seven departments, 6000 students, 22 MA-programmes and 17 BA-programmes within language, culture, history, media, literature and philosophy.[6] Following a decision by the Faculty Board in 2015[7], the course was established in order to achieve a better follow-up of MA-students, to strengthen the role of supervisors and to spread good practice through a culture of sharing at the Faculty. Another reason was to establish an understanding of supervision as a common concern, not as an individual one. Finally, the white paper Quality Culture in Higher Education from 2017[8] states (in its Norwegian version *Kultur for kvalitet i høyere utdanning*[9]) that the government expects universities and university colleges to make use of peer supervision to a greater extent than was the case until 2017.[10]

There were also other, more mercantile reasons to start such a course. In 2017, when the peer supervision course started, only 30% of full-time students at the Faculty of Humanities completed their degree within the prescribed two years (70% of the students completed their MA disregarding the time). Completion within the prescribed time has been an ambition of the Faculty, not least since it results in a higher amount of funds to the Faculty. A survey, given by the Faculty before 2017, of the reasons for such a low percentage of on-time completion did not get a conclusive answer, as the reasons turned out to be many.[11] However, an attempt to improve the supervisors' qualifications was made. All MA-supervisors at the Faculty were to participate in the course; 166 attended it within the four-year period (2017–21) according to Wittek & Bastiansen (2021:176).

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[6] https://www.hf.uio.no/om/

[7] https://www.hf.uio.no/om/organisasjon/styret/moter/2015/151030-protokoll.html

[8] https://www.regjeringen.no/en/dokumenter/meld.-st.-16-20162017/id2536007/

[9] https://www.regjeringen.no/no/dokumenter/meld.-st.-16-20162017/id2536007/

[10] «Regjeringen forventer at fagfellevurdering og kollegaveiledning av utdanning og undervisning skal benyttes i større grad enn i dag, og anser dette som vesentlig for å styrke en kultur for kvalitet.» (p. 22).

[11] https://www.uio.no/for-ansatte/enhetssider/hf/aktuelt/leder/2017/ma-ma-ma-over-hele-linja.html

Design

The course was structured as follows: the participants were set up in groups generally consisting of four participants, with each participant from a different department and representing different job categories (full professor, associate professor, lecturer etc.). The group had as many meetings as there were participants in the group, and the meetings were framed by two joint sessions—one at the beginning and one at the end. The initial session was devoted to a discussion of the role and expectations of a supervisor. During the group meetings, the participants were asked to describe a case from their own experience as a supervisor, typically a problem that they were struggling with or could not solve in the past. The supervisors were introduced to the model of the course by a roleplay, where they first exercised the model used later during the course. The model consists of seven steps, and the interaction is led by one of the participants—a different participant leads each meeting.

Step 1: presentation of the problem where every participant in the group presents a problem from their own experience as a supervisor.

Step 2: one of the presented problems is chosen to be discussed

Step 3: the person who has encountered the problem, the so-called "problem owner", presents the problem in greater detail.

Step 4: clarification of the problem through questions and answers. Each participant, in turn, asks a question to the problem owner, and the problem owner answers. This continues until the participants have no more questions. At the same time, it is stressed that one is not allowed to come with veiled solutions while asking. At the end of this phase, the problem is redefined by the group.

Step 5: the problem owner gives an account for how they now think the problem can be solved, and the proposals are noted by the rest of the group.

Step 6: all participants may contribute recommendations, as many times as they like. These recommendations are written down.

Step 7: the problem owner goes through the lists of recommendations, and picks those which they think are relevant, concluding by informing the group which recommendations they are going to follow (and how).

During the final session, when all the course participants are gathered, the groups are asked to share their experiences without commenting on the content of the problems. The leadership representatives

are also invited, in order to be informed about challenges on the micro level, as the macro level was not included at the start of the course (Maasø & Simonsen 2021:143). This presence of the leadership representatives was a good starting point for discussion between the leadership and the supervisors, resulting in proposals about how the experienced structural problems on the unit level could be solved (Wittek & Bastiansen 2021:162).

The method is described in detail in Wittek & Bastiansen (2021). The course given at the Faculty of Humanities was designed by Ass. Professors Thomas de Lange and Arnt Maasø, and taught by Prof. Hanne Gram Simonsen and Ass. Prof. Arnt Maasø, normally in Norwegian, but once also in English. All of the employees who attended the course received a reduction in their teaching load by 25 hours each. This amounts to 4150 hours in total, not including the costs involved in developing, teaching and administrating the course. The total cost of the course will then exceed the amount of NOK 2 million, but given the total yearly budget of the Faculty of Humanities (NOK 800 million), the cost is still very low (2.5%).

Expected and actual institutional gains

Some of the reasons for starting the course were to increase awareness of the role of supervisor, to make the supervision less private and more communal, and to develop good practice across the departments. To achieve a higher percentage of MA-students who completed the degree within the prescribed time was another goal. After the course, it turned out that several structural challenges were discovered (Maasø & Simonsen 2021:146 ff.). These can be divided into three groups (ibid.): (1) those concerning the practice of assigning a supervisor, (2) those concerning cooperation between the administrative and the scientific staff when it comes to supervision, and (3) those concerning employees coming from different academic cultures, and their expectations of the supervision process.

One of the outcomes is the discovery of the structural challenges mentioned above. Another is an increased interaction with colleagues from other departments, as well as getting to know what challenges they are dealing with. The third outcome is a slight rise in the percentage of full-time students at the Faculty completing their MA-degree within the prescribed time from 30% in 2017 to 35% in 2021. Many of the participants have also reported that they had time for a critical reflection, over time, on

how to supervise better (see also Lauvås et al. 2016), not least thanks to being honest about their own weaknesses and problems during the course.

Impact for the institution as such

Maasø & Simonsen (2021:143) note that the goal of the project was reached, but that the project hasn't led to permanent changes in the organisation, as the macro level wasn't involved in it to start with. The permanent changes were, however, not a goal of the project (Maasø & Simonsen 2021:155). Still, some smaller changes at the faculty level were implemented thanks to the project. These included changing the practice of assigning supervisors for MA-students, making the routines easier to change a supervisor at one of the MA-programmes, a revision of the contract between the supervisor and the MA-student and, finally, starting a project on reception of new employees, especially those coming from other academic cultures (Maasø & Simonsen 2021:154).

In addition, the project was an eye-opener for both the participants and the leadership. The project also reveals that organisations where the units are large and lack a leadership level under the so-called level 3[12] are at risk of a disconnection between the operational level and the leadership level. The structure forces employees to take care of themselves and to seek advice and help among their nearest colleagues, typically those in the closest vicinity. Introducing level 4 is only a part of the solution: the leadership must be active in connecting with the operational level, it must gain trust within the unit, and employees should be able to make demands towards it. Otherwise, the structure will remain as it has been so far: partially atomised, with many employees being left to fend for themselves or being grouped in informal structures that partially function outside of the formal structures. This happens easily, not least given the character of academic work within the humanities that, for a long time, had been promoting a structure where an employee is responsible for themselves. The peer supervision course has clearly shown that individual problems and challenges at the grassroots level are an effect of the structure within the organisation. This knowledge is to be considered in detail.

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[12] Within the Norwegian university system, one operates with the following leadership levels: level 1 (vice-chancellor), level 2 (dean), level 3 (head of department), level 4 (head of a centre or head of a discipline group).

Summary

In the present paper, I have presented the project whereby all supervisors of MA-theses at the Faculty of Humanities, University of Oslo were required to complete a course in peer supervision. The rationale for the course was to strengthen both the MA-supervision as such and the role of the supervisor. The project ran between 2017 and 2021, reached 166 supervisors and cost slightly over NOK 2 million. It revealed a number of challenges facing the role of supervisor at the Faculty, but most importantly, it has shown that the decisions made at the macro level and the macro structure of the unit has a clear impact at the grassroots level—although the single employee may perceive many of the challenges they are confronted with as highly individual. The project has already prompted the Faculty to solve some of the existing problems, but the leadership still has a way to go in order to efficiently connect with the grassroots level.

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3.3. Annely Tomson:

Introducing sustainable feedback

Department of Linguistics and Scandinavian Studies, University of Oslo, P.O. Box 1102 Blindern 0317 OSLO Norway, 0000-0003-2110-504X

HIGHLIGHTS:

− Sustainable feedback[13] supports students in the development of their self-regulative capabilities
− Developing and implementing good teaching practices is an institutional responsibility

Introduction

The labour market in Europe is characterized nowadays by greater competency and less routine work. Therefore, education must emphasise learning that stimulates generic skills in order to better equip students for present-day life, which demands constant readjustment. By combining academic knowledge with generic skills in higher education, we ensure that students, after completing their studies, will have mastered both discipline-specific knowledge and have developed capabilities to self-evaluate, self-regulate and manage own learning (Boud et al., 2018).

When designing courses, integrating sustainable feedback to support students in the development of their self-regulative capabilities, is fundamental. In what follows, the advantages of sustainable feedback are briefly explained, focusing mainly on feedback in the context of assessment. Also, an example from

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[13] "Active student participation in dialogic activities in which students generate and use feedback from peers, self or others as part of an ongoing process of developing capacities as autonomous self-regulating learners" (Carless, 2013, p. 117).

European Funds
Knowledge Education Development

Republic of Poland

European Union
European Social Fund

the University of Oslo of how sustainable feedback can be introduced in a course, is presented. Because integrating sustainable feedback in courses presupposes access to necessary resources, i.e. time, an overview of the distribution of an academic employee's required duties at the Faculty of Humanities is given below.

Teaching duty at the Faculty of Humanities, University of Oslo

Teaching duty includes teaching, assessment, supervision and course design, in general. Courses can either be offered as lectures, seminars or group instruction, or as a combination of two of the above-mentioned teaching methods. The following rates are used to calculate teaching time (per hour of teaching):

- Lecture: 4 hours
- Seminar: 3 hours
- Group instruction: 2 hours

There are fixed rates for all of the different teaching-related tasks. Teaching is a required duty for which hours must be recorded.

Professors and associate/assistant professors constitute the majority of the academic staff holding permanent positions at the Faculty. In addition, there are several docents, senior lecturers and lecturers. The required duties for academic staff in full-time positions amounts to net working hours of 7.5 hours per day, 37.5 hours per week, or 1,695 hours per year for employees under the age of 60. If the employee is a professor or associate/assistant professor, research comprises 47% of their duties, teaching 47%, i.e. 796 hours, and administration 6%. If the employee is a docent, senior lecturer or lecturer, their administrative duty amounts to 6%, research 19% (roughly one day per week) and teaching 75%, i.e. 1272 hours per year. Employees who are over the age of 60, have a reduced number of working hours.

The academic management at the unit, i.e. the head of the department, is responsible for the fair distribution of teaching-related tasks among the employees.

Advantages of sustainable feedback

According to Hattie and Timperley (2007), feedback has an influence on the development of student learning. Carless (2017) elaborates: "Helpful comments which enable students to see issues from fresh perspectives are central in supporting the ongoing development of work in progress" (p. 803). Unfortunately, if we focus on feedback in the context of assessment, the ways in which feedback and assessment have often been managed, i.e. courses having a qualification assignment that is graded with pass/no pass, or having one-off examinations at the end of semester, has limited the positive impact of feedback. There are different reasons why this kind of one-way transmissive view of feedback has been adopted by instructors. The reasons that the only feedback students sometimes get being teachers' comments on completed assignments is an interesting topic that will not be discussed here, but students' frustration that "feedback often comes too late to be useful; it frequently fails to connect; and there are usually insufficient opportunities to act on the feedback received" is worth noting (Carless, 2017, p. 803). In order to be most helpful, feedback needs to be timely, so that students can act upon it. (Gibbs, 2006). Additionally, meaningful feedback processes involve dialogic feedback rather than one-way information transmission (Nicol & Milligan, 2006). Therefore, it is also important to focus on how students interpret and use feedback. Carless et al. (2017) explain dialogic feedback as follows:

> *Dialogic feedback suggests an interactive exchange in which interpretations are shared, meanings negotiated and expectations clarified. Dialogic approaches to assessment can guide students on what is good performance by facilitating discussions of quality in relation to specific assignment tasks, and also support them in developing enhanced ownership of assessment processes. (p. 397)*

Consequently, sustainable feedback is defined as dialogic processes (and activities) that give students the support and information they need to complete the task to which it relates, as well as developing the ability to self-regulate and manage own learning in the future.

The main advantage and the ultimate intention of using sustainable feedback is that "students will succeed to the extent that they become independent lifelong learners who have learned from us but no longer depend on us to learn" (Riordan & Locker, 2009, p. 181).

Practicing sustainable feedback

Knowing that students' study habits are influenced by how an assessment task is designed and arranged (Gibbs, 2006), a course that has a one-off, end of module examination, for example, is unlikely to encourage a meaningful dialogic feedback process, whereas courses making use of the multi-stage assignments presented below enhance student involvement in developing self-regulatory practices consistent with sustainable feedback.

Portfolio assessment as a multi-stage assignment

In an undergraduate course in Norwegian for international students with an advanced command of the target language, students were asked by the author to hand in four written assignments constituting their portfolio, twice. The deadlines were planned so that the students' study time was evenly distributed over the period of the course, thereby reducing the pressure of a submission at the end of the course.

The first stage's feedback process began with peer feedback – students commenting on each other's drafts in class. Peer feedback focused on a limited number of aspects that the students and teacher had discussed and agreed upon beforehand. After getting feedback from their fellow students, students wrote a reflection note explaining how the peer feedback enabled them to improve the work in progress and added it to the draft in Canvas[14]. The teacher read the drafts as well as the reflection notes, and provided written feedback in Canvas. The students who needed to make a considerably greater effort to improve the quality of their work got additional video feedback from the teacher. Video feedback has received much less attention from researchers than written and audio feedback (Mahoney et al., 2019), but one of the advantages of video feedback is that it enables students to understand feedback more easily (Borup et al., 2015). The process of how feedback was provided was the same for all the assignments, but the type and length of assignments was different. It goes without saying that both the students and the teacher were responsible for creating a trusting and encouraging course climate to be able to carry out all the activities successfully.

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[14] Canvas is a learning management system (LMS) used at the University of Oslo.

The two-stage assignments presented above, combining elements of conventional feedback practices (e.g. timely feedback to make sure the students have enough time to improve the assignment before the second submission, and the teacher's written comments on drafts for students to use in incorporating the written feedback in the second stage) with elements of sustainable feedback processes (e.g. peer feedback, student involvement in the process of deciding the criteria for peer feedback, students interpreting and using feedback, additional video feedback, when necessary) give an feasible example of assignments supporting sustainable feedback practices.

Regarding the workload, the 5-credit course was taught as a seminar. Since the course had a total of 30 teaching hours, the recorded teaching duty amounted to 90 hours. As for feedback, the instructor had two and a half hours per student i.e., 150 minutes to give feedback on four assignments of different length. The marking rate was one hour per student. Additionally, 10 hours were added for being responsible for the course. In total, with 15 students per course, the recorded teaching duty would have amounted to 152,5 hours. To sum up, it was possible to introduce the improved feedback practices within the regular rates of the Faculty's teaching duty.

Conclusion

As established above, student self-regulation is a central aspect of sustainable feedback. Therefore, it is important to ask what kind of curriculum design, assessment tasks, approach to teaching and learning and teacher-student relationships facilitate developing student self-regulative capabilities. Creating conditions in which dialogic feedback can emerge, promoting self-regulation of learning, introducing students to disciplinary understandings of criteria and standards and helping students to self-evaluate the quality of their work are important elements of good teaching (Ajjawi & Boud, 2018). To inspire and motivate lecturers to develop and implement good teaching practices is an institutional responsibility, and is best promoted through resourced commitments at institutional and department levels.

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3.4. Jens Laurs Brøndum Kærsgaard, Rune Thostrup:

Becoming an Academic Tutor – Professional development of academic tutors through student-centred tutoring designs

Jens Laurs Brøndum Kærsgaard

Centre for Educational Development, Aarhus University, Trøjborgvej 88, 8000 Aarhus, Denmark, 0000-0003-1731-8341

Rune Thostrup

Centre for Educational Development, Aarhus University, Trøjborgvej 88, 8000 Aarhus, Denmark, 0000-0002-7925-9765

HIGHLIGHTS:

–   Design and implementation of student-centred tutoring supports professional development
–   Systematic support of critical reflection builds the bridge between reflection and action
–   Teachers' critical reflection leads to new conceptualisations of tutoring and learning
–   Teachers' reflective exploration enhances their perception of the tutor role

KEYWORDS:

Professional development, Critical reflection, Experiential learning, Reflective practitioner, Student-centred tutoring

Introduction

Studies on higher education faculty development highlights reflection as the most beneficial approach to enhancing teaching quality and professional development. (Harrison et al., 2020; Karm, 2010) A key objective and main pedagogical purpose of Masters of Didactics in Excellent Teaching offered by Centre for Educational Development at Aarhus University was to facilitate the development of reflective practitioners (Schon, 1984) in relation to student-centred academic tutoring.

However, there are barriers, which can hinder reflection. One problem is that teachers are not able to carry reflections into practice, and therefore often fails to bridge the gap between reflection and practice. (Mälkki & Lindblom-Ylänne, 2012) Another problem is that unless reflection is approached in a systematic and consistent way it tends to be superficial (Orland-Barak, 2005).

To meet these potential barriers, and to create a more systematic approach, our design made use of Kolb's (1984) experiential learning cycle and Brookfield's (2017) four lenses of critical reflection to gather and make visible different perspectives on the university teachers own teaching practice; the self, student, peer and theoretical perspective. The experiential learning cycle consists of four modes that guided the Polish university teachers to develop student-centred tutoring designs, which they implemented and tested in their own teaching and learning practice. This led to *concrete experiences* that contributed to *reflective observations.* These reflections were transformed and condensed into *abstract conceptualisations*, which inspired and guided new *active experimentations* that led to new concrete experiences.

Context of the teacher training programme

The Masters of Didactics in Excellent Teaching is a blended learning programme integrating both on-site activities and synchronous as well as asynchronous online activities. See fig. 1 to get an overview of the entire programme. The programme consists of three weeks introductory online module presenting didactical and pedagogical principles in higher education that ensured that:

- everyone used the same terminology, to support initial reflection on their own teaching and learning practice, and
- to exploit the vast experiences of teaching and tutoring among the teachers to provide peer-feedback to each other (Online Gateway to Teaching and Learning).

The online introductory module was followed by two one-week on-site modules at Aarhus University campus (Aarhus Model followed by the Tutorial Model). The two visits consisted of a mix of lecturing, group discussion, microteaching, peer observations and peer feedback on teaching, workshops, active learning, supervision, and the development of their own student-centred tutoring designs.

In between the two one-week visits, the teachers returned home to their institution to further explore their teaching and learning context, for instance by interviewing students. After the second visit, the teachers worked for half a year with their own student-centred tutoring designs at their home institution where they adjusted their design, and implemented and evaluated their tutoring designs. Both between visit one and two, and after visit two, the teachers were active online, both asynchronously and synchronously with the educational developers and with their peers to support their learning and reflective process.

During the entire programme, the teachers carefully selected, combined and adapted elements of different approaches and didactic methods and principles to their own teaching and learning context in order to develop and implement a sustainable student-centred tutoring design at their home institution. Hence, there was a strong focus on how to apply new knowledge, skills, and competences at their home institution in order to bridge the gap between theory and practice as well as a reflection on theory and action.
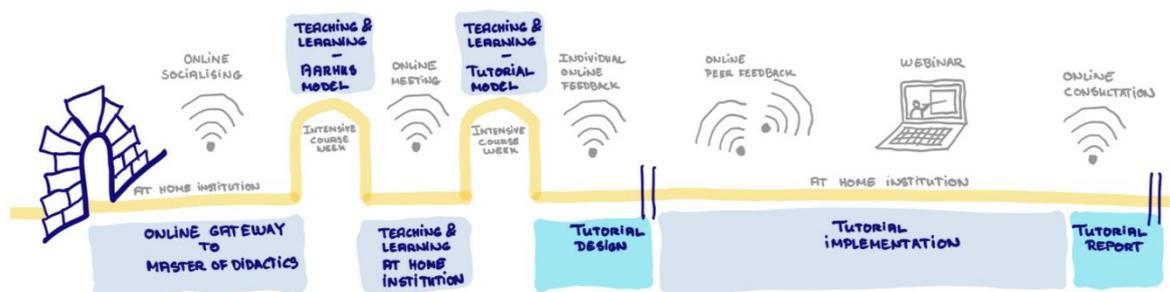

Fig. 1: Our own drawing providing an overview of Masters of Didactics in Excellent Teaching at Aarhus University consisting of both on-site activities and synchronous as well as asynchronous online activities. The programme consists of five modules indicated with the blue colour, and the two products (tutorial design and tutorial report) which the university teachers have to develop, which is indicated with turquoise.

Student-centred tutoring designs

To systematically guide the development of a student-centred tutoring design and to verbalise and represent the design, but also the reflections behind it, two poster templates (tutorial design and tutorial

report, see fig. 1) were developed as a learning design template for the teachers to fill out throughout the programme. This is consistent with Conole & Fill (2005) when supporting teachers in their design decisions.

A learning design is "a methodology for enabling teachers/designers to make more informed decisions in how they go about designing learning activities and interventions, which is pedagogically informed and makes effective use of appropriate resources and technologies." (Conole & Wills, 2013, p. 7). Benefits of the learning design approach are that it is operational and practical, thus, supporting teachers to make a pedagogically informed development of their tutoring design. Moreover, a learning design has an explicit goal to design teaching for the benefit of students' learning process and outcome (Conole & Wills, 2013). By using a learning design approach, teachers are actively involved in the process when developing teaching based on their own pedagogical and didactic choices, thus, being conscious of their role as a designer for learning and an academic tutor, not just a facilitator of the curriculum. The goal of a learning design is to articulate and make pedagogy choices visible and develop teaching and learning activities that are shareable and reusable (Laurillard, 2013), which the poster format can support (Rowe & Ilic, 2009).

Throughout the programme, the teachers continuously developed their tutorial design and reported on the different iterations of their student-centred tutoring design. The elements described the tutoring context, student characteristics, what the pedagogical objective of the design is how they plan to support student-centred learning, the peer-feedback and assessment strategy, as well as reporting their findings from their observations and reflections on their student-centred tutoring design as it developed. There were several iterations of self-reflections, experiments, and peer and teacher feedback on their design, which were adjusted and adapted continuously throughout the programme.

The poster format had the dual purpose to systematically guide the teachers' reflective process and collect data on professional development. Representing the teachers' tutoring design in a poster format allowed the sharing of ideas and experiences, and supported discussion among peers, which is central to the Scholarship of Teaching and Learning (SoTL) approach (Felten, 2013).

Findings

The overall findings demonstrate that the teachers journeyed through all stages of Kolb's (1984) experiential learning cycle, and relate to all four of Brookfield's (2017) lenses of critical reflection; however, here we will only present and elaborate on the teachers self-perspective in their process of becoming an academic tutor as it is the focus of this paper.

Concrete experiences

As the teachers were asked to develop and implement a student-centred tutoring design, the teachers' encountered concrete experiences or reinterpreted existing experiences that contributed to reflective observations. Especially the shift from teaching large groups of students to having a more personal relationship by tutoring fewer students changed their way of perceiving teaching: "Tutoring provided me, as an academic teacher with an opportunity to restate some of my long-established beliefs regarding learning and teaching." (Quote from teacher P) This required a better understanding of the individual student's needs and learning process:

> "The gigantic step for me in my teaching activity was the shift from teacher to tutor, which manifests in more personalised approach to my students, no matter if they are groups attending small classes or individuals preparing their theses under my supervision." (Quote from teacher K)

Reflective observations

The experiences with their design experiments and their reflective exploration has enhanced their perception of their own teacher identity and role, as well as the teaching and learning concept, especially by creating a more independent learning environment for the students: "(...) the idea of teaching is developing as giving more spaces for students autonomy changes the hierarchical system of learning." (Quote from teacher R)

Abstract conceptualisation

Based on the teachers' reflection of the practical and personal tutoring experiences, the teachers develop a more personalised conceptualisation where past assumptions are confronted with new

experiences. One teacher began to reflect on and question the concepts of teaching and didactics, which again led to new insights on the teacher-student relation, which was made visible through a more nuanced didactic language: "Didactics to me is a constant work on myself and my weaknesses [...] "Teaching" is a process where on the other side is a person with their own, enormous inner world. (…) remember about the individual on the other side." (Quote from teacher MW)

Active experimentation

The teachers' personal experiences with abstract conceptualisation may guide and inspire future active experimentations, in recognising teaching development potential on their own role and their future teaching and tutoring:

> "It allowed me to look at didactics as a fascinating field, to verify the role of the teacher and to appreciate the cooperation even more. I know my strengths and weaknesses. I hope to be able to build on my resources to improve the ones that still need to be developed." (Quote from teacher MM)

Concluding remarks

Our analysis demonstrates that having the opportunity to design and try out a student-centred tutoring approach, and reflecting upon it, supports professional development. It seems that the teachers' critical reflections on the self perspective followed Kolb's (1984) learning cycle, which led to new conceptualisations on the concept of teaching, tutoring and learning as well as on the teacher and tutor role where the teachers envision new possibilities for active experimentation in their teaching and learning practice. Therefore, it seems having the opportunity to experiment that systematically supports teachers' critical reflection builds a bridge between reflection and action in the development of a student-centred tutoring design.

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3.5. Clare Bentall, Harriet Harper:

Promoting the 'active' in learning

Clare Bentall

University College London, Gower St, London WC1E 6BT, United Kingdom,

0000-0001-5371-4814

Harriet Harper

University College London, Gower St, London WC1E 6BT, United Kingdom,

0000-0001-7814-3325

HIGHLIGHTS:

– Teachers' thoughts on active (and inactive) learning

– A glimpse at the literature on active learning

– Examples of active learning on the Masters of Didactics programme at UCL, London

KEYWORDS:

active learning, inactive, constructivism, refllection

Active learning is a well-known and widely used term in education. There is a considerable body of research outlining its merits and it would be rare to find a teacher training programme or textbook that does not promote it as an effective teaching approach.

The UCL presentation at the 'International Conference, *Masters of Didactics*' in July 2021 did not challenge this, but asked participants to consider what *inactive* learning might be in order to identify what teachers could be aiming for when promoting a more *active* approach.

Clearly, it would be odd to undertake a presentation on active learning and not involve the audience. Therefore, in presenting to education professionals from Poland, the Netherlands, Denmark and the UK, the speakers sought to draw on participants' teaching expertise and experience. They asked the audience whether they felt the following statements were true or false.

1. Being active in learning requires knowing you are learning
2. There is such a thing as 'inactive' learning
3. Listening to a lecture involves activity on the part of the learner
4. Being active in learning requires inter-acting with others
5. Some types of activity are better for learning than others

While it was not possible to capture every single view, it was evident that there was no consensus over the first four statements. However, there was strong agreement that the last one is true. Having to reflect on each of these statements provoked an interesting debate.

Those who participated in the discussion agreed that the types of activity that are better for learning are those that require students to be cognitively *active*. There were different views about the extent to which students learn *passively* or *inactively* during a traditional university lecture, whereby a teacher seeks to transmit knowledge to students as they sit and listen. Most agreed that whether students learn anything or not in this type of setting, it is not the best way to teach. They understood active learning to be shorthand for the opposite of lecture-style traditional teaching.

The presentation moved on to what the literature on this topic tells us about being active in learning. Research suggests that active learning aligns with a constructivist view of learning (Dewey 1916; Bruner 1986; Gibbs 1988; Biggs 1999; Petty 2006). This means that people do not learn simply by passively receiving and remembering. Instead, learning involves students constructing their own meaning. They need to make sense of new information and ideas, and to make links with existing knowledge, so that they can process and then understand new material.

For this to happen, teachers need to provide a wide variety of ways in which students can engage with and process information and experience. Activities should include the practice of skills and application of knowledge, ideally in complex, real life environments. When students think hard and practise using new knowledge and skills they are more likely to develop long-term recall and a deeper understanding of information and concepts. This can encourage them to connect different ideas together and to think creatively.

Active learning usually incorporates critical exploration of, and reflection on, what is learned. When students question, in a positive way, what, how and why they learn, it can foster autonomy as they assess their own strengths and areas for further development.

Social constructivism focuses on the collaborative nature of learning, as knowledge develops when people interact with each other (see Vygotsky 1978 for example). To support active learning, teachers can incorporate into their teaching opportunities for students to work collaboratively with their peers.

Of course, it is not the case that *any* active learning is better than a lecture. Active learning may be ineffective, if there is a significant mismatch between what students are asked to do and the teacher's intended learning outcomes.

To encapsulate active learning, the following list of principles is helpful (Barnes 1989):

1. Purposive: the relevance of the task to the students' concerns.
2. Reflective: students' reflection on the meaning of what is learned.
3. Negotiated: negotiation of goals and methods of learning between students and teachers.
4. Critical: students appreciate different ways and means of learning the content.
5. Complex: students compare learning tasks with complexities existing in real life and making reflective analysis.
6. Situation-driven: the need of the situation is considered in order to establish learning tasks.
7. Engaged: real life tasks are reflected in the activities conducted for learning.

Moving from the theoretical to the practical, two examples were given of active learning on the Masters of Didactics programme at UCL, London. (Pre-pandemic, each cohort of 30 participants came to London from Poland for a two-week programme, followed by on-line activities when they returned to Poland and also, in some cases, a visit from UCL tutors. Post-pandemic, participants have continued to undertake a two-week programme, but it is online through Zoom.)

Task 1: Small group teaching activity

Facilitated by UCL tutors, participants discuss the nature of groups, team working and team teaching.

This session draws on relevant literature as well as on participants' own knowledge and experience.

This is followed by a visit to the British Museum. Groups of 4 or 5 participants work together to devise a learning activity that is inspired by an artifact they see at the museum. Each small group, as a team, then teaches the session to the larger cohort on the following day.

This activity is underpinned by the principles of active learning, as outlined above. It gives participants the opportunity to experience, discuss and apply a range of techniques for organizing and leading effective group learning. It also allows them to reflect on the value of small group work and how it might be helpful, or improved upon, in their own context in Poland.

Task 2: Micro-teaching

Participants individually plan a 15-minute session, on a topic of their choice, and teach it to 5 or 6 of their colleagues. They critically reflect on their own teaching and that of their colleagues. The activity allows for a professional dialogue about pedagogy. It is a valuable opportunity for participants to give and receive constructive feedback within a safe and supportive environment, particularly for those teachers who are less familiar with this type of professional development.

Post-pandemic, both of these activities have been adapted to be undertaken online, maintaining the characteristics of active learning. Despite some initial difficulties working online, participants have risen to the challenge. Like the face-to-face cohorts, as teams and as individuals, they have designed and led an impressive range of innovative, engaging and informative sessions.

Conclusion

The nature of *inactive* learning - and whether or not it even exists - merits further exploration and discussion, but there is consensus around what is meant by being *active* in learning. Regardless of academic discipline, students can engage with materials, concepts and ideas and make sense of them for themselves when teachers provide the environment and opportunities for them to do so.

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3.6. Aleksandra Stupak:

Competence Based Programme in Health Professionals

Aleksandra Stupak, MD PhD.

Chair and Department of Obstetrics and Pathology of Pregnancy Medical University of Lublin,

20-059 Al. Racławckie 1, Lublin, Poland, ORCID: 0000-0001-8784-510X

HIGHLIGHTS:

- − Competency-Based Medical Education is creating the next generation of physicians.
- − The main goal of this tutorial system was not a degree but getting practical skill.
- − The methods that were used during the study were carousel brainstorm, simulations, buzz group or Think-pair-share, jigsaw and problem-based learning.
- − For the experimental assessment and feedback practices portfolios, a 360-degree assessment, and individual one-on-one meetings were performed.

KEYWORDS:

Competency-Based Medical Education, Tutor, Activating Students, Feedback, Assesment

Introduction

New teaching methodologies and strategies are changing the higher education around the world from the beginning of 21stCentury. All learning methodologies should help students to gain knowledge, develop skills and establish of work habits.

In medical education a great change has emerged to educate the next generation of physicians. Traditional structure/process education is transitioning to a Competency-Based Medical Education (CBME) approach that is focused on outcomes and learner achievement.

The WHO defines CBME as follows *"the intended output of a competency based program is a health professional who can practice medicine at a defined level of proficiency, in accord with local conditions, to meet local demands"[1].*

CBME is an approach to ensure that the graduates develop the competencies required to fulfill the patients' needs in the society. The competency sequence is as follows: knows, knows how (competence), shows how (performance), does (action). With time, practice, and experience the status of the doctor goes through novice, advanced beginner, competent, proficient, expert [2].

In many countries the broad education outcomes are described. In USA there are six domains of general competency: patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, professionalism, and systems-based practice. Three, in the UK, namely, doctor as a scholar and a scientist, doctor as a practitioner, and doctor as a researcher. The Canadian Medical Education Directions for Specialists specifies seven roles of a specialist, such as: medical expert, communicator, collaborator, manager, health advocate, scholar, and professional [3]. There is an urge to create such a terminology for Polish medical students.

Overview of teaching and assessment methods.

Some examples of teaching methods adopted in CBME include "flipped classroom", problem-based learning in the preclinical years and case-based learning in the clinical years. Skills' training can be performed in the laboratory or simulation centers via practical sessions.

The question is how to assess competencies? The evaluations must be continuous and frequent. The role of the coach is to observe, assess, and guide. Some of the common tools are portfolios, patient reviews, chart reviews, simulation, 360 evaluation. The process helps to identify the gap between the trainee's performance and the desired outcome.

Aim of the study

Obstetrics and gynecology is a very intimate and demanding field of Medicine. Changing the approach to teaching this subject may have benefits in the approach to patients and the self-development of the future physician. I would like to share my short experience with CBME with 4th Year Medical Students of Medical University of Lublin.

Background information about the course unit

The experiment was designed for 3 students who are going to complete the course in a different way than it was in previous semester.

The main goal of the CBME tutorial system of this course was not a degree at the end of semester but getting practical skill which would be impossible to gain in a usual form of teaching. This program would be more students-center.

- The was no selection criteria.
- The course was offline/contact.

The tutorials were performed in 4 running days. The topic for each day were as below.

- Day 1. Puerperium- physiology and complications
- Day 2. Infertility
- Day 3. Endometriosis
- Day 4. Gynecological diagnosis- physical examination, pathomorphology tests, colposcopy, PAP-smear, ultrasound.

Learning objectives

At the end of my course unit, students need to be able to:

- classify the basic principles of gynecological diagnostics;
- know basics of early cancer diagnosis and principles of screening programs in oncology;
- compare and understand the causes, symptoms, diagnosing and management principles of gynecological diseases;
- define female reproduction functions, the related disorders, and diagnostic and therapeutic procedures concerning, in particular,:
  - menstrual cycle and menstrual cycle disturbances
  - normal and abnormal puerperium,
  - inflammatory conditions of the reproductive organs,
  - preform basic methods of diagnostics and gynecological procedures;
- collect and secure specimens to be used for laboratory diagnostics;
- interpret PAP-smear record;
- explain signs and symptoms indicative of pathological course of puerperium (abnormal

bleeding, mastitis, depression);

- interpret the effects of physical examination of a non-pregnant patient

- consult a patient and her partner for infertility

- perform ultrasound examination of women genital tract

- set recommendations, indications and contraindications regarding the operations

- treat respectfully teachers and auxiliary staff

- prepare himself/herself for classes

Tutorial tools

The main tools used for the tutorial were presentations, essays, videos, simulators, and phantoms. In the beginning of each day they were activating their prior knowledge using carousel brainstorm, buzz group or Think-pair-share methods. During the classes we were using novel learning possibilities like jigsaw, flipped classroom, problem-based learning for students' collaboration and reading a research article (see fig. 1, 2).

Fig 1. Students' collaboration –own source.

Fig. 2 Students using phantoms- own source.

For the experimental assessment and feedback practices at the end of each day a mind map, 3-2-1/exit ticket or high five methods were practiced. A standard written test were also used but the students were creating the questions by themselves. A 360-degree assessment as a feedback from teachers, peers, patients, other co-workers was also used.

Besides classes in the hospital they were attending individual one-on-one meetings with the tutor (afternoon sessions).

Assessment

At the end of the course they pass their portfolio to the tutor. Here is an example of one student:

- Medical Expert

During the class I was allowed to feel like a doctor. We often started the classes with rounds, which allowed us to learn about the patients' diseases. Even a momentary observation of the patient is very important for the student. For example, during the first round, the topic of the class was puerperium. I read about it before class and it was very valuable to see postpartum patients at the beginning of class.

- Communicator

During the classes, we collected interviews with patients and talked every day. Each student could take the interview himself, ask for permission to conduct the examination and examine the patient. This allowed me to broaden my communication skills, especially with a pregnant woman. It was important to me because it was the first contact with a gynecological / obstetric patient.

- Collaborator

During the classes, we were able to develop soft skills, including Collecting an interview and collaborating with each other. Each person from the group prepared a fragment of the issue. Then we discussed and made suggestions. This helped to improve teamwork and collaboration with others.

- Health advocate and Manager

During the classes, education in the context of health was very important. Risk factors for many diseases were discussed in the context of their avoidance. During the classes, I had the opportunity to talk to patients, informing them about a healthy lifestyle and the necessity to stop smoking during pregnancy, for example. In addition, I have seen many complications in a risky pregnancy in people with diabetes. Such situations made me realize how important prevention and a healthy lifestyle are.

- Scientist

I tried to deepen the topics of the classes by reading scientific articles and watching the conference recordings. It was often useful to find a description of the case of the disease currently discussed in the class in the scientific base. Often the leader encouraged people to broaden their knowledge and look

for information in other sources, such as the Guidelines on the WHO website. It allowed me to broaden my knowledge in the field of EBM.

- Professional

During the daily celebrations, I could observe the great professionalism of the doctors' work. I paid attention to the way they approached the patient. There were many difficult moments during the classes, which, however, illustrated the importance of professional behavior in the work of a doctor. Often the patients were ashamed of the tests and only a skillfully conducted conversation could persuade them to cooperate with the doctor.

Student 's opinion about the class

"I consider the classes very valuable. The way of transferring knowledge and skills allowed for the effective assimilation of the material. The professional approach of the assistants to students was a great advantage. There was a clear commitment and willingness to pass on knowledge. I wish more clinics would run classes this way and emphasize skills, not just 'learning the answer to the test."

Assessment of competencies

The evaluations must be continuous and frequent. The role of me as the coach was to observe, assess, and guide. The tools used in the course were patient reviews, chart reviews, simulation, and 360degree evaluation. The assessment process helped to identify the gap between the trainee's performance and the desired outcome.

Conclusion

The main goal for creating this new Educational Program is more competent and professional doctors throughout their whole physicians' career.

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3.7. Barbara Muszyńska:

Tutoring and backward design versus problem-centered approach in language education

Dolnośląska Szkoła Wyższa – the University of Lower Silesia, ul. Strzegomska 55, 53-611 Wrocław
ORCID: 0000-0002-0137-363X

KEYWORDS:

tutoring, backward design, problem-centered approach, language education

Introduction

Improving standards of academic tutoring and university students' engagement and interest in the courses provided by the university have proven to be quite a demanding process during the COVID-19 pandemic. In this article, I would like to address some of the challenges and solutions that I found to academic tutoring concerning the backward design and problem-centered approach in the English language teaching and learning.

Having done the Master of Didactics course at Ghent University, I must say that I agree that implementing tutoring requires rethinking the instructional system and that it affects all instructional processes and variables. The time of the pandemic, apart from creating initial chaos in educating students, was a perfect opportunity to rethink our educational practices. I began by reexamining my competencies as a tutor, as they would affect the instructional setting I was in. The three main areas I considered are named below.

Tutor competences of university teachers (Ghent University)
- (meta)cognitive, promoting learning through offering help, asking questions, giving feedback, reflecting;
- organisational, planning, organising, monitoring time, etc.
- social-commnicative, creating a safe and pleasant learning environment.

During the course at Ghent University, a great emphasis was placed on peer tutoring and using various teaching strategies to achieve desirable results. What appealed to me during the course was that tutoring is grounded in theories that emphasize student active involvement, sharing between students, and reflection on the process of learning (Stigmar, 2016). It seems that all of the above could be included in any course design. Therefore, I intended to examine whether this concept would be successful when using the backward design and the problem-centered approach.

Theoretical background

The most common framework for planning language courses is **the forward design**. In this type of design, we start with the Input and then move on to the Process and Output. The methods and approaches in language learning, based on this design are the audiolingual method, communicative language teaching, and content and language integrated learning (Richards, 2013, p. 12).

Input $\Rightarrow$ Process $\Rightarrow$ Output

During the stage of planning my course, I have decided to use a renowned approach, **the backward design** (Richards, 2013, p. 6), where we start planning the process of learning from the Output (the learning outcomes) and then take into consideration the Input and Process. We plan backwards taking into account the needs of the learners and the goals and outcomes we want to achieve, as well as the ways of achieving them. In language learning, the aim is to master the ability to use the right language in the right situation, to be aware of the correct and appropriate use of language, and to develop fluency of speech built through practice and the formation of appropriate habits.
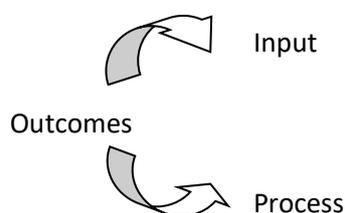
However, since tutoring also refers to shared students' experiences during the learning process[15], I decided to endeavor yet another way of planning a course, and use **the problem-centered approach**. This approach should not be mistaken with the PBL problem-based approach, which originates from content-problem learning. The problem-centered approach originates from reconstructionism, it takes into account learners' life situations and social problems. Educational programs based on this model are prepared in advance, but once they begin, they are adapted to the problems and life situations of the learners. The time of COVID-19 pandemic created space and opportunities to experiment with this approach of teaching and learning. The theory behind this approach is reflected in critical language pedagogy, which aims at promoting diversity, inclusive education, and equity in English language learning, all with social purposes in mind (Auerbach, 1987, 1990; Crawford, 1978; Crawford-Lange, 1981, 1982; Shin, & Crookes, 2005; Crookes, 2012).

Course plan and delivery

During the planning phase, I focused on the course content, and the instructional activities which included a selection of tutoring strategies (e.g. scaffolding, prompting, hinting, cueing, questioning), the use of media[16], evaluation and feedback[17]. After all, the goal of a lecturer as a tutor is to assist students to become independent learners and increase their motivation to learn[18], which was in line with my own teaching objectives.

The content that I decided to use for my classes was adapted from a course that I wrote for students in 2020, titled: *Inclusive, Plurilingual and Pluricultural Learning Environment for English Language learning.*

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[15] Sinha, Zhao, Cassell, 2015

[16] Wood, Mackiewicz, Van Norman, & Cookie, 2007

[17] Geitz, Joosten-ten Brinke, & Kirschner, 2016

[18] Wood, Tanner, 2012

English Language Course[19]. Published by the Publishing House of the University of Lower Silesia thanks to the funds of the 'Innovative University Project – Studying? There are no obstacles! Disability-Friendly University, the European Social Funds under the Operational Programme Knowledge Education Development. The coursebook is compliant with the WCAG.2.1 standards for students with disabilities. I divided the course for my students into two parts. Both parts were text-driven and open-ended. In the first part of the learning process, students worked individually according to the previously given instructions from the teacher. However, at a later stage, they were assigned in pairs (they met on previously created online channels on MS Teams) to evaluate their colleague's work and give suggestions as to how to improve their creations. Students modified their work according to their colleagues' suggestions. Each student's work was visible at all times to the teacher, who could access each channel and see in real-time what the students were writing without disturbing them. The activities were in no way conventional, they required concentration, focus and independence, but students were given precise instructions on what to focus on and worked individually. Each student dealt with a different topic during these classes. They each worked at their level of language proficiency, and could also use their second or third language if they needed to. During the evaluation, students in both groups rated these activities as the most effective.

Part two of the course was based on the problem-centered approach. Students organized their learning and used their language repertoire to communicate and construct new meanings by collaborating and building their learning paths. Mentoring of student learning was used as an assessment. Student learning was expressed in the language they used to do the tasks. Nevertheless, students decided on the course outputs most appropriate for them. The difficulties that occurred were not related to communicating in a foreign language but to conveying meaning and planning work in a foreign language, which seemed frustrating for some of the students. This may be because in the more traditional approach to language education, we learn the language but rarely treat it as a tool for work.

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[19] scan the QR code to download the course

Of course, we need to remember that all learners, regardless of the country they come from, respond to learning materials in different ways, as it depends on their cultural interpretations and previous experiences. However, I think it can be said with confidence that the influence of the Polish education system on students' learning, independent thinking and actions taken by them during their learning process is clear.

Concluding remarks

Both of the learning approaches worked well during the course and were suitable for facilitating learning. Nevertheless, I have observed that the pre-imposed learning process in the backward design, however successful it was, deprived my students of the opportunity to consciously participate in their learning process and in the designing of their learning process and their learning paths. The problem-centered approach seemed to offer such opportunities for students. However, as it happens, it is a more time-consuming approach. Based on my experience I have to say that the benefits of this approach can be very high, but it requires a longer period of time for student reflection and taking responsibility for one's own learning, including planning own learning paths. Building a positive rapport with your students is also necessary, but this proved difficult during the online classes, as students mostly worked with their cameras off.

I have observed some benefits of using the backward design and the problem-centered approach with my university students, as presented in the Table below.

Table 1 – Tutoring in two learning-designs

tutoring in the backward design	tutoring in the problem-centered approach
- the increase in motivation - the improvement in student communicative skills - the improvement in student collaborative skills	- the increase in motivation - the improvement in student communicative skills - the improvement in student collaborative skills

	- the increase in student autonomy

All of the advantages observed are consistent with Stigmar's (2016) research on tutoring and its impact. However, one aspect of tutoring that was more visible in the problem-centered design was student autonomy. Initially, students were quite surprised at what influence they had on the content of their learning and their learning outputs and expected more instructions from the teacher, as well as a confirmation that they were working well. Yet, in this approach, it was more important for the teacher to support learners in their personal journey of learning (Hattie, 2012), than to give direct instructions. Peer tutoring was visible in every class, however, there was not enough time during the course to work on training students as peer-tutors to be able to assign peer-assisted learning[20]. I am planning to develop this part of my teaching repertoire in the future.

I'm very thankful for the experience of participating in the course at Ghent University and further developing my skills and competencies as a tutor. I would like to conclude with two of my students' remarks to show that participation in the classes has positively affected their learning process.

"I feel that the learning process was effective because we talked about interesting notions that are relevant and valid in our everyday lives and because we used metaphors and images to explain theoretical concepts about interculturality."

"Personally, I enjoy learning about other countries and these activities gave me the opportunity to learn something that is not normally taught in a classroom."

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3.8. Bernard Fryśkowski:

Online circuit simulators as a distance learning tool for electrical engineering students

Warsaw University of Technology, Plac Politechniki 1, Warsaw, Poland,
ORCID: 0000-0002-4846-0140

HIGHLIGHTS:

- Online circuit simulators can support effectively web-delivered laboratory activities
- The results show a positive impact of online circuit simulation on student performance
- Online circuit simulators can be adapted for face-to-face and for blended courses

KEYWORDS:

blended learning, online study, virtual laboratory, electrical engineering, circuit simulator

Introduction

The purpose of this study was to evaluate and compare the performance of students enrolled in web-delivered courses taught with respect to two methods – a conventional one (a lecture given online), and a method based on an application of online circuit simulator. Unlike the results of research done by some authors who compared the performance of different groups of students over several academic years [Matz R. L., Rothman E. D. et al. 2012], the performance of two groups of students tested simultaneously within the same semester is discussed in this study. The students have been tested twice – after a conventional lecture delivered online and again after a lecture extended with an experimental part supported with online circuit simulation.

Distance learning is a solution to the problem of closure of universities due to pandemic. Nowadays, many universities created distance-learning opportunities based on computer simulation to enable students to complete their coursework at home [Campos N., Nogal M., Caliz C. et al. 2020]. Online

lectures, video materials and discussion boards are very useful and mostly sufficient to humanities teachers and students. However, at universities of technology the educational process should not be limited to lectures delivered remotely or in a classroom. Students have to practice. It was stated that students concurrently enrolled in a lecture and laboratory activities tend to have better outcomes than in the case of lecture-only courses [Matz R. L., Rothman E. D. et al. 2012]. Hence, lectures should be supported by hands-on laboratory activities or project-based classes. Generally, laboratory activities can give students experience in planning an experiment and data processing. Students working in small groups usually have to work together. Participation in a team helps students learn from each other and improves relationships between them and professor. Furthermore, combining lectures with laboratory work and cooperative learning gives graduates a head start to get a good job.

The profession of electrical engineering demands a theoretical knowledge, problem-solving skills as well as laboratory and design experiences. However, regular access to laboratories restricted to authorized personnel is an example of how the pandemic is hindering educational opportunities for most students nowadays. Online laboratories based on computer simulation and e-learning methods are a way to overcome these problems.

Methods

Generally, lectures and laboratory activities in electrical engineering can be based on subject content and conventional teaching strategies adapted for online delivery. On the other hand, widely known web-based distance learning methods can be supported by some innovative tools such as online circuit simulators. Pros and cons of that approach were discussed in [Zhao L. 2020] and [Semenikhina O., Drushlyak M. et al. 2020]. Some of software companies offer powerful paid versions of circuit simulators to install on a hard drive. Licensed software such as LabView, Simulink, Proteus, Multisim Professional or PSpice requires a good quality computer with enough disk space. However, some of circuit simulators are free platforms installed on a drive or available online (Fig. 1).
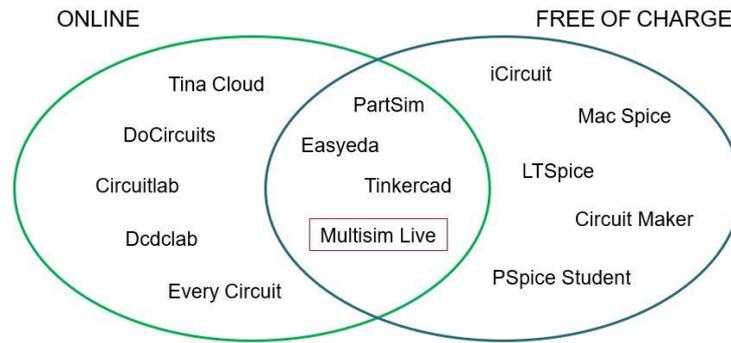
Fig. 1 – Circuit simulators.

Multisim Live is a free online simulator for analog and digital electronics based on the commercial version Multisim Professional developed by National Instruments. Multisim Live supports widely used SPICE simulation standard and models. Therefore, it was selected for further consideration as a useful tool to create a virtual laboratory. The Internet access with Google Chrome on Windows, Mac, Linux, iOS or Android is required but there is no need to install Multisim Live on a computer. Firstly, students have to create and activate National Instruments user accounts. After this step, they can simulate electrical and electronic circuits anywhere with an Internet connection.

The pandemic situation forced teachers and students to adapt to distance learning. The majority of academic teachers prepared their lectures for delivery online. The objective of this study was an experimental comparison of student performance if the learning was based on an ordinary conventional lecture given online only or on a lecture supported with an online circuit simulator. For this purpose, the topic *Overvoltage protection of electronic devices* common for some popular courses at Faculty of Electrical Engineering was selected to evaluate and compare students' outcomes in accordance with the schedule shown in Fig. 2.

TOPIC – OVERVOLTAGE PROTECTION OF ELECTRONIC DEVICES
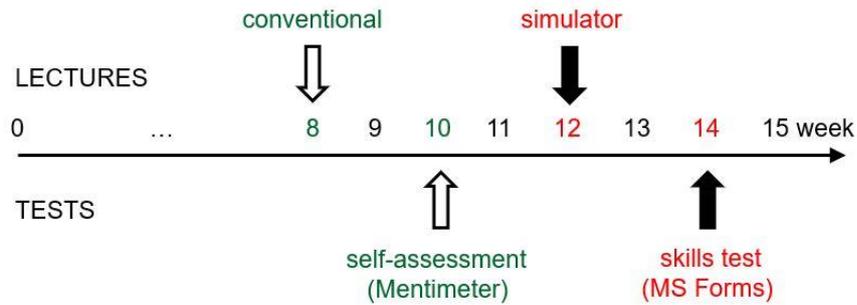
Fig. 2 – Conventional and simulator-based online lectures and tests in semester.

The experiment started with a conventional lecture delivered online in a similar way to [Carreon G. G., Daradoumis T. et al. 2020]. The lecture began in the eighth week of the semester. All students who took part in the lecture had a self-assessment test afterwards. They had to point out all measures which could help protect a transistor driver from transient overvoltage. All responses collected using Mentimeter were anonymous and not available to the students before the end of the experiment. Two weeks later, the simulator-based lecture was held. All students had the opportunity to put into practice the results of theoretical analysis concerning the overvoltage protection. They could develop an electrical circuit with a transistor driver and test all solutions presented in the lecture. Next, skills of all students have been tested individually. To evaluate student performance regarding the topic discussed in online lecture a short MS Forms multiple-choice test shown in Fig. 3 has been developed.
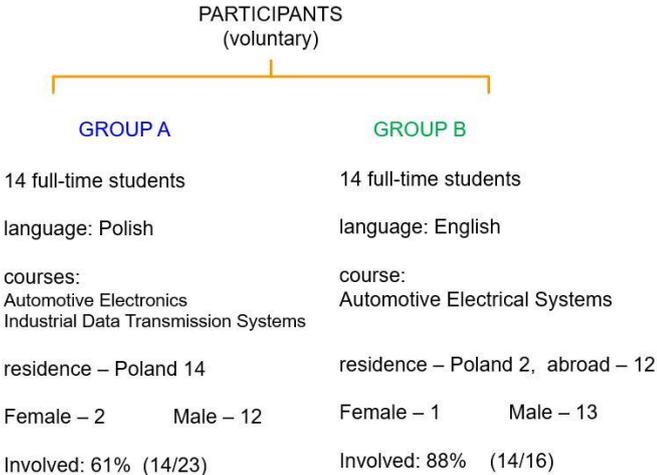

Fig. 3 – Overvoltage protection test.

The test question was similar to the previous one - the students had to select all correct variants to protect the transistor Q1 from high-voltage spikes. Incorrect answers are D and E. The test took approximately 10 minutes to complete.

Two groups of fourteen full-time students were selected to participate as shown in Fig. 4. Of the students involved in the experiment, sixteen studied in Poland and twelve of them were international students.

PARTICIPANTS
(voluntary)

GROUP A

14 full-time students

language: Polish

courses:
Automotive Electronics
Industrial Data Transmission Systems

residence – Poland 14

Female – 2   Male – 12

Involved: 61% (14/23)

GROUP B

14 full-time students

language: English

course:
Automotive Electrical Systems

residence – Poland 2, abroad – 12

Female – 1   Male – 13

Involved: 88%   (14/16)

Fig. 4 – Two groups of students participating in experiment.

The experiment was carried out in the summer semester of academic year 2020/2021. All participation was voluntary. Interestingly, more students in the group B (88%) decided to participate. The students took the web-delivered elective course *Automotive Electrical Systems* while others completed online core courses such as *Automotive Electronics* or *Industrial Data Transmission Systems*.

Results

In order to compare the impact of both the teaching methods mentioned above on students' performance the data were obtained from the group test scores as shown in Fig. 5.
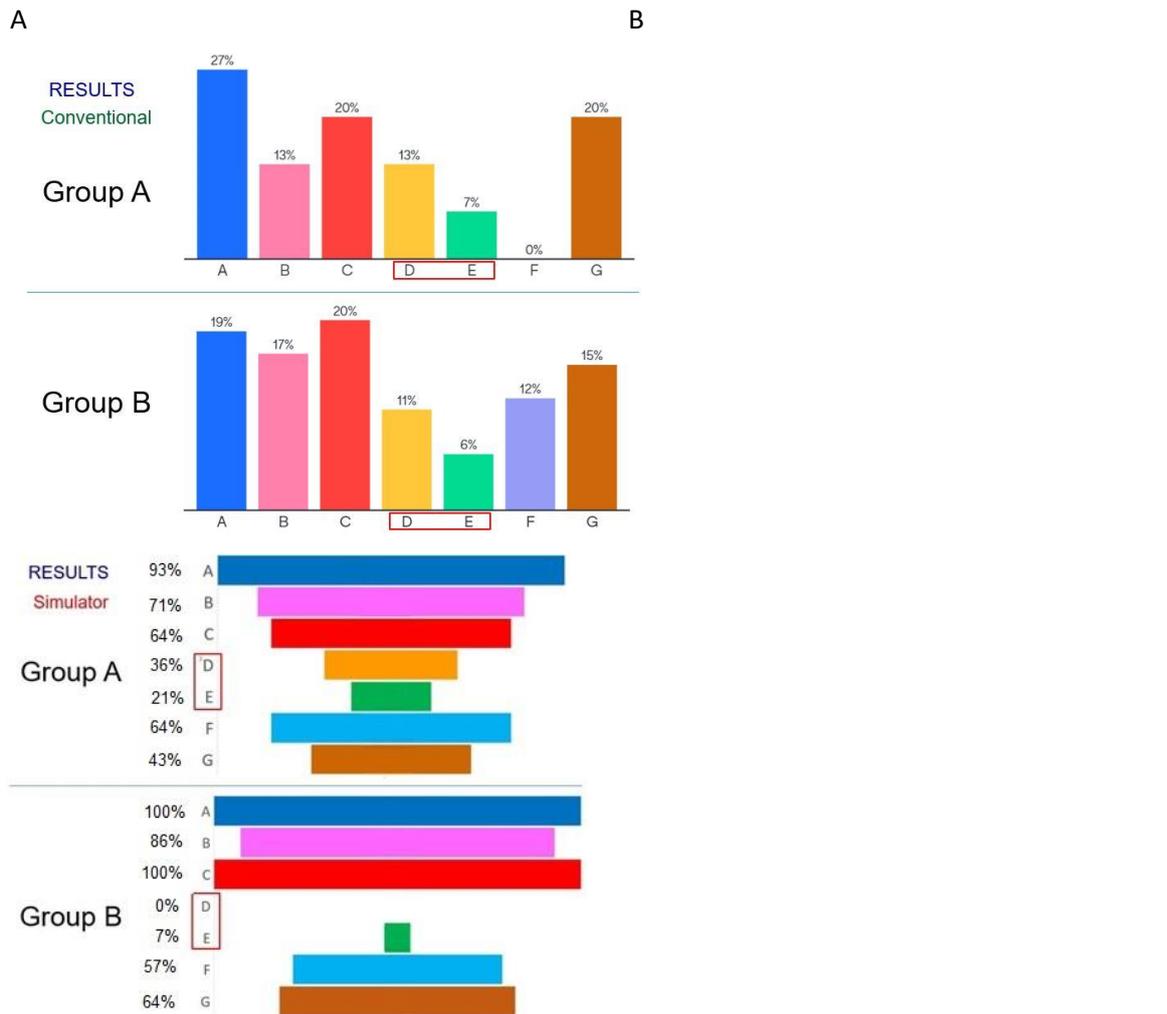
Fig. 5 – (a) Mentimeter test scores after conventional lecture delivered online (b) test scores after lecture supported with online circuit simulator.

The results of the self-assessment test (Fig. 5a) show that the percentage of the students in the group B who selected the wrong answer D is similar to the percentage of students who selected some correct answers – B, F and G. An interesting case is that nobody chose the answer F in the group A. This answer is very similar to the incorrect connection represented by E in Fig. 3. Nevertheless, 7% of students selected E as correct.

Good progress in the test scores after the lecture supported with Multisim online simulator is shown in Fig. 5b. Group B performed very well. The performance of the group A can be considered as relatively satisfactory because of the lowest percentage of selected incorrect answers D and E. The data on

performance suggest that all students can perform better if a conventional lecture is supported with laboratory activities also in the virtual format.

Conclusions

Distance learning process can be based on conventional methods like remotely delivered lectures or it can involve modern teaching tools such as online circuit simulators. The aim of the study was to investigate differences in learning outcomes of electrical engineering students who were exposed to both the teaching strategies within one semester. The results show a positive impact of activities supplemented with online circuit simulation on students' performance. Hence, online circuit simulators can be considered as modern teaching tools making the learning process more enjoyable, efficient and effective. However, the experiment was carried out for the first time and only two little groups of students were tested. Such a test continued in the next academic years with a greater number of participants would enable more meaningful conclusions to be drawn.

Online circuit simulators are an example of modern teaching tools capable of providing electrical engineering students with safe and successful science experiments especially in the field of high voltage technology. A virtual laboratory based on a free online simulator has several advantages, which include unlimited access, improved safety, cost saving and the ability to repeat the experiments. Students can build and simulate circuits right on their computers or phones, correct mistakes when the designed circuit is wrong or the performed simulations do not go as planned. That creates a positive learning experience. The application of online circuit simulators is not limited to distance learning only. Such simulators could be used to familiarize students with real laboratory equipment before they enter a laboratory room to perform experiments. Furthermore, the simulators can help students complete their homework, projects, master thesis and other assignments.

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3.9. Witold Kędzierski, Monika Jamioł, Jacek Wawrzykowski, Marta Kankofer: Application of Tutoring in Teaching Basic Subjects to Veterinary Students with Problems with Progress in Studying and Motivation

Witold Kędzierski

Department of Biochemistry, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, 20-033 Lublin, Akademicka 12

0000-0001-7532-805X

Monika Jamioł

Department of Biochemistry, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, 20-033 Lublin, Akademicka 12

0000-0002-1984-6407

Jacek Wawrzykowski

Department of Biochemistry, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, 20-033 Lublin, Akademicka 12

0000-0002-2219-0701

Marta Kankofer

Department of Biochemistry, Faculty of Veterinary Medicine, University of Life Sciences in Lublin, 20-033 Lublin, Akademicka 12

0000-0003-3053-0742

HIGHLIGHTS:

− Teaching in small groups helps beginners in vet studies
− Teaching in small groups causes lack of anonymity

KEYWORDS:

veterinary medicine; chemistry; biochemistry; innovative teaching;

Introduction

Candidates for veterinary studies come from different cities and schools what gives in result very heterogenous group with regard to basic chemistry knowledge. What they have in common? In accordance to our long lasting experience bad emotions and experience about chemistry from secondary school. Moreover, beginners have to face with different way of studying as compared to secondary school. Studying for matura required key words, tests rather than thinking. Studying for chemistry and biochemistry at high school especially veterinary medicine requires the ability to understand, to integrate facts and to solve problems. It is important to switch on logic instead of mechanic memorization and remembering. Many students, overloaded with new subjects and tasks, have problems with following the expectations of teachers. They are afraid to ask for help and within big group of classmates they disappear also for teachers. This situation rises failure and frustration. From teacher point of view big groups of students are not convenient because they are not able to pay attention to every student. Anonymity is the main enemy.

Moreover, beginners are disappointed by many didactic hours in theoretical subjects instead of practical work with patients. This even deepen frustration and lack of good emotions which are necessary for friendly atmosphere during studying.

Years of experience show that veterinary studies should start with basic theory including chemistry which is the basis for biochemistry. It is a great challenge for academic teachers to convince beginners to change their experience and to trust in the need for chemistry/biochemistry knowledge for practicing veterinarian (Woods et al 2005) . Beginners have problems with simple laboratory skills which may further be necessary for simple reactions done in field. Moreover, they have problems with calculations how to dissolve the solution, how to calculate the dose of medicine for bigger or smaller animal, how to recalculate percentage of solutions for disinfection etc. This is regular professional activity. In addition, they have to understand that Mendeleev table brings a lot of information about biological meaning of elements which are present in living cells (either as physiological compounds or poisons) and participate in biochemical reactions but their participation is as far as the location in this table may allow.

All these aspects result in failure in both formative and summative assessment (Webster and Riggs 2006). Additional work in one subject is followed by failure in others. As shown by our observations,

students of 1st and 2nd year are not able to plan their day in an effective way. Failure decreases motivation and increases stress. The role of teacher is to help such students. Of course the condition is that student understands the situation and wants to cooperate.

The aim

Our aim was to help selected students who had problems with progress in chemistry and biochemistry what resulted in repeated failure in passing exams.

Four teachers from our didactic team participated in Masters of Didactics programme and decided to participate in this study. They selected students with problems in chemistry within 1st year and biochemistry within 2nd year of veterinary studies.

Students accepted the participation in new form of classes in small group. They realized regular programme of mentioned subjects but in the way adjusted to their level of knowledge as well as by use of available teaching tools which increased their motivation.

Individual discussion was main tool. Students were shown how to study in efficient way and were subjected to flipped classroom method. It means that students obtained the topic of next classes and supplementary materials for self-studying one week before the next meeting. They were aware that they had to come to the classes prepared to discuss the planned issues. In addition during checking their knowledge the system of competition was introduced both as individual points for positive answer for each student and two groups gathering points together – resulting in raising responsibility for others.

Teachers explained new and already known topics in more logic way which allowed for better remembering and understanding parts of material the same obtaining intellectual satisfaction. Virtual cases which were prepared previously within the frame of European project (www.vetvip.eu) were used to present the knowledge in integrated and more interesting as in books way (Alsharif et al. 2006; Kankofer et al. 2016).

What is more, topics from a more difficult area of the subject, which were previously reported as unclear by the students, were discussed in small groups. For this purpose, the students' task was to prepare a

presentation on a given topic with prepared questions for their colleagues. This allowed the teacher to assess the students' ability to work independently and appropriately on the topic. It also enabled different points of view to be explored and key issues to be highlighted. Students learned from each other, but had a mentor in the form of a teacher/tutor who supervised the activities and provided support. Thanks to such classes, students could feel the role of a teacher. Receiving the feedback from both peers and tutor allowed them to look at the learning process more broadly and more committed and pay attention to the relevant points in a given field of knowledge. The effect was to initiate reflective learning, instead of just learning by heart. Nevertheless, this formative approach was supplemented with the measurement what the learner has achieved. Short ten-minute tests, before or after the classes, were carried out with the use of different kind of tools or platforms online.

Results and discussion

Majority of participants (WK 5/5; MJ 2/4; JW 6/8; MK 7/7; = 83,3%) passed required exams. Moreover, students claimed that this way of teaching helped them to introduce new way of studying and organization of time. During the course, students used professional vocabulary more efficiently and foreign students generally had a better use of the language of instruction. Besides, students who had not been active before became more open to contact and were not afraid to say directly that they did not understand some issues. Moreover, the foreign students found out that Polish-speaking students also have problems with learning basic subjects, thanks to which they got rid of their complexes. Additionally, they found that chemistry and biochemistry are not as difficult as it had previously been imagined. In general, students were positive about the individual approach to the classes. They stated that meetings in small groups, joint discussion and discovering different points of view allow them for effective memorising. Additionally, working together on a given topic improved concentration, forced to analyse and draw conclusions. These skills are extremely necessary in the work of a veterinarian, who has to combine facts and make diagnoses.

Mainly individual contact with students resulted in their better performance. At the beginning it required hard work of teacher to convince them to talk and to participate in the discussion. They were ashamed to talk having in mind that they have no appropriate knowledge. Together with time this barrier was broken and students started to feel more comfortable and safe what resulted in better cooperation. Students deepened their knowledge and skills in chemistry and biochemistry what resulted

in better performance in further studies. They understood the role of basic knowledge in continuous learning and in veterinary profession. They also improved their social competences.

The competition was good motivation in two ways – students obtained own intellectual satisfaction when answer was positive as well as they felt better than others. Moreover, gathering points for the group raised responsibility for others and awareness of being worse than others.

As added value they appreciated efforts of teachers.

The implementation of new teaching methods together with the development in computer technologies may be responsible for the increase in teaching quality (Lane 2008). Attention should be paid not only to motivation of students but also motivation of teachers in deepening their knowledge and pedagogic skills. Important position of basic sciences like chemistry and biochemistry in veterinary field practice is already well documented (Sweeney 1999). These subjects may serve as example of how to study clinical reasoning and integrate clinical symptoms based on integration of metabolism (Rivarola and Garcia 2000; o`Neill 2000) and the same may help convert mechanic memory into logic one.

Conclusions

In conclusion, tutoring way of teaching of vet students makes this process more effective as anonymity is lost and students are opened for contacts - at this level with teacher but in the future with owners of animals. Programme of studies requires individual work with students as many topics require deep explanation and for some students it is too difficult to understand it by themselves. The preparation from secondary school has great meaning for further progress.

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3.10. Maciej Bożek:

Benefits of portfolio method in teaching complex applied psychology problems.

University of Silesia in Katowice, Faculty of Social Sciences , Grażyńskiego 53, Katowice 40-126, Poland, ORCID 0000-0002-2701-7107

HIGHLIGHTS:

- Portfolio method seems to work very well together with personalised tutoring.
- Classical form of portfolio is good answer to the digital fatigue that students experience.
- Portfolio is great main method for teaching complex problems that need to be reviewed later.

KEYWORDS: Tutoring, Portfolio Method, Forensic Psychology, Court Expertise, Expert Wintess

Introduction to the concept

In forensic psychology we are faced with serious problem concerning both the scientific and didactic aspect of our field. On one side we have a problem of small samples (and it is very hard to root for them to get bigger as it means more crimes got committed), on the other we have a problem with law and cultural peculiarities of applying certain theoretical constructs to our expert witness accounts. This proves very challenging for the whole design of didactics process. The eye-opening experience that the author of this article was able to get from "Master of Didactics" program, pushed him into developing a mixed approach that consist of using the portfolio method to strengthen the process of learning amongst the students of 3-year psychological specialization in University of Silesia in Katowice, Poland. The aim of this article is to present the boarder audience with the account of successful implementation of this approach.

The subject of expert opinion on veracity of witness statement as a challenge for teaching process.

The first thing I need to address is the high impact of the knowledge thought to students in the course I applied portfolio method on. Forensic expert accounts that involve the use of techniques like Statement Validity Assessment or Reality Monitoring often have tremendous impact on the verdict itself. The cases they traditionally appear involve crimes against person sexual integrity. Given the common lack of other material evidence, the witness statements are oftentimes the critical component of the judge decision. Students acknowledge this burden, and to my satisfaction approach the subject with necessary involvement and diligence. However due to the nature of the knowledge that needs to be acquired they traditionally reported fallowing problems with the course subject:

- Lack of structure in the knowledge – important things concerning similar aspects of the problem were seeded through the whole course.
- Personal feedback for each student was lacking the substance and scope necessary to make the student feel comfortable with what he is supposed to work on to boost his skills in this matter.
- Team projects such as making the assessment of presented court script containing the real court interrogation, were hard to draw conclusions for.

Classically the portfolio method is more common for learning environments that provide students with opportunity to devise some kind of a product, be it a work of art or a working part of a computer code. I found out that it also has the potential to fill the gaps that my students have been concerned about when attending the traditionally devised course. It is worth stressing that portfolio method is moderately old concept, with rich history and stories of success in higher education, hover there is no universally accepted classification[21], this guides the author of this text to provide general picture of the exact usage of the said method.

Traditional design of the course and what was modified

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In order to understand how the portfolios were implemented I need to quickly paint a picture of how the course was traditionally structured. It began with lectures that gave the general idea about the methods of assessing the veracity of witness statements and then students were thought the critical tools to implement and at the end they were asked to perform a real analysis on historical material. As I said before – the huge downside of this approach was the inevitable complementary information on different part of the material there were given to the students at different times. Now it would be easy to think that students like to use computers and a lot of learning tools like "Notion" allow for adding information to historical notes. The problem was, that students remarked on how computer aggregated data tend to get lost inside the many disks and pen-drives, and they would rather have some form of paper form for subject as important as this one. This was initial impulse that gave me the idea of benefits that portfolio would give my students. First of all, they would be able to add things in different places of the portfolio making the knowledge more freeform and thus easier for cognitive system to sort and store. Secondly, I would have full control on the notes they are taking and I could catch critical misunderstandings of the material that could lead to the future defective Court Expert Statements – this was certainly something to look forward too.

Because of this I've decided to modify the course to be based around tasks that yield results in written in paper – and I've changed the scoring for the course so it is based only on the portfolio-based parameters. Then I had to change each and every part from simple lecture or training exercise to something they could actually do in one lesson module, and on top of that it would be a learning outcome all in itself. I must admit that doing this is neither easy nor fast, and despite great zeal I had many moments of doubt along the way, nevertheless I prevailed and went through with it. Even the part with the boring lectures was switched to interactive learning experiences that involved real life situations. As a illustration – the first lecture by the old standard touched on the subject of preparing the child witness for the testimony (to make him feel safe and comfortable), before it was done only in the form of lecture, now students were divided into working groups – received materials that are prepared by psychologist for families and kids that will testify at court and on top of that a mock case file that involved a kid with certain psychological parameters and situation. Each group had a task to familiarize themselves with the whole concept based upon the material and prepare their own guidelines for this very specific kid. The outcome of the exercise was suppressing because the catch was that oftentimes the general guidelines are not fit for particular case and it falls onto the expertise of the court psychologist to provide the child with individualized approach – the students learned this by

experiencing the process and were asked not only to attach their guidelines but also to write a 3 paragraphed self reflection on it.

How self reflection that is a part of portfolio strengthens the feedback process

The reflection that students gave as byproducts of different exercises allowed for two very important processes that were up to this point very hard to do without portfolio method:

- Putting students into smaller workgroups based on their reflections in order to provide them the opportunities for seeing other points of view and thus learn even faster.
- Giving very personalized feedback touching upon the student fears and confidences. The honesty of the reflections made it possible to really connect with students on whole other level.

The course had general higher attendance rate, higher marks from the students, higher self reported positive outcomes. Generally, even when it was still in active phase the significance of portfolio was evident. Students were happy that after they graduate, they will have a physical object that they can always look up in order to get through their doubts. The self reflection made it also a much more personalized experience. In my faculty for most of the students it was first time that somebody ask them to reflect on their knowledge and later had the time and will to talk their doubts through with them. This was especially evident for the final project that involved the preparation of mock court statement based on true data. This was divided into subset of different smaller tasks, but the last of them was actually writing the statement and signing it by hand. I also informed students that the consequences of sloppiness will be at least as severe as they would be in court. This motivated them to produce far greater works than their predecessors. The final reflection was not about the work itself but about the problem itself and this led to some very intense tutoring moments, as the encouragement of communication between student and a teacher is documented as a strength of portfolio method[22].

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[22] De Fina, A. (1992). Portfolio Assessment: Getting Started. New York: Scholastic Professional Books.

At the end of the course all students retrieved their portfolios. This shows that the physical form has its merits, and on top of that lecturer can easily add something special to the portfolio as a thank you gift for the student hard work. The students can vote on what this special thing can be, in this story it was personalized plan of improvement based on the key areas that student need to work on. This was greatly appreciated by students and harmonizes with the increased motivation. By the end of the course, I did see that students wanted to learn other aspects of the forensic psychology in the same way, so the plan of teaching psychological diagnosis in forensic setting in all aspects with the use of portfolio was devised. Student would build his portfolio from the first year of his specialization all the way till the last subject, and with this his identity, confidence, carefulness and expertise. As of now serious work needs to be done in order to scientifically measure the learning outcomes that this method provides in this specific context. If the method will be identified as having stable positive impact on the amount of knowledge acquired the author of this manuscript will work on preparing guidelines for implementation in the field of law education, namely for the professionalization of persecutors and judges teaching program.

Given the importance of the subject I think the portfolio method is the right approach. It gives form and structure to build around. I would advise all practitioners of higher education to think about their course and the needs of their students. There are no silver bullets in teaching and every subject needs individualized approach, but for those courses and for those branches of knowledge that we know students will have doubts in application because the possible severity of their outcomes, the material folder storing all the knowledge, all the memories of the talks with a teacher they respect and all their reflection, may just give them enough confidence when they will need it the most. There is growing evidence that due to the familiarization of students with new media platforms, portfolio can be transferred to virtual space with good results[23]. This is certainly a direction that is worth looking for keeping in mind the possibility of broadening the use of portfolio method on all diagnosis and problem-based classes that psychology students are thought.

Conclusion

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In regards to implementing the portfolio method on very practically oriented courses it is not only beneficial to the development of the students themselves but also to the development of the course. In current times we experience rapid changes with growing speed of technological development, courses must stay up to date with students' cognitive needs and habits and to use them and build on them rather then trying to circumvent them. The hidden value of portfolio is the continuous feedback loop from the students – as a teacher when using a portfolio, you will be constantly reminded how young people absorb knowledge and develop skills. In the case of forensic psychology, it is very important to remember that most of our graduates will work with polish justice system, the need to work on local examples, national resources and current law status cannot be over-emphasized. The system of higher education in Poland needs to acknowledge that having educated and specialized graduates needs effort dedicated to teaching, as methods such as portfolios are very time consuming. For the best national interest, it would be advisable to consider good educational practices as mandatory in higher education, and provide both resources and framework to implement this.

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3.11. Adam Kubiak:

Software dependency and impossible duties – less discussed consequences of the "emergency remote teaching"

Institute of Philosophy, University of Rzeszow, Al. Rejtana 16C 35-959 Rzeszów, Poland,
ORCID: 0000-0002-4153-0468

HIGHLIGHTS:

- Measures taken during pandemic increased dependence of certain software solutions
- The Crisis' mismanagement led to overburdening not prepared and not trained staff
- The "new normal" approach normalizes the situation instead preventing the repetition of failure

KEYWORDS:

remote teaching, privacy and data security, free software, hidden work, crisis management

Introduction

The purpose of this paper is to address certain issues arisen during the shift to remote teaching/learning during the COVID-19 induced lockdowns. While papers debating the distance-learning are growing, particular issues are rarely signalled. The focus there is put on:

- the area of the technology itself and its providers using the pandemic opportunities to entangle the public institutions in their software "walled gardens" creating a critical chain of dependencies,
- avoidable and unavoidable institutional failures which were (and are) present during the pandemic dependent solutions taken by political and educational institutional actors,
- certain dangers and possibilities connected with the post-pandemic "new normal" in the field of education.

The presentation shown during the conference and discussion arisen around it touched many other topics debated in multiple papers (e.g., Plebańska, Szyller, Sieńczewska 2020; Długosz, Foryś, 2020).

The context

It's hardly possible to address the state of the matter while ignoring the context in which these matters have grown. The pandemic situation and the actions taken during the crisis shouldn't be treated as "unexpected" or "surprising". The necessity for social distancing and taking *some* according measures was clear long before such actions were eventually taken – an effect of political choice of denial and taking actions only if forced. Polish educational system as a whole went into functional lockdown in the March 2020 while necessity of taking such action (or at last: preparation for) was rather clear in the January (if not December of 2019).

Moreover, while considering the effects of this situation, it's hard to miss the fact that all of the education institutions were already in the state of disarray because of continuous efforts to meet ever-changing demands of the actual politics of the responsible Ministry. These factors, produced the situation while the entities usually slow to react, were put into chaos because of the state in which they met this situation. While considering that, it is no surprise that sudden demands to shift the routines and measures of teaching and management to the "online" without any meaningful preparation was challenging. The fact that they were able to somewhat adapt with relatively acceptable outcome is more than impressive feat by itself.

Choices, strategies and failures

For the sake of clarity, the pandemic situation may be modelled as general consecutive four phases:
- **the shock phase**, while the institutional frame had suffered serious problems, sometimes effectively ceasing to exist and teachers, educators and mainly lower administrative staff acted as untrained and unprepared "first responders"
- **the accommodation phase**, when the institutions and higher administrative staff were able to respond for the general situation, e.g. responses from the Ministry at the time, and the "first-responders" were able to create more or less effective modes of operation,
- **the normalization phase**, while after the initial response, the state of the affair, had become normalized as a "temporary normal", at this point institutional actors were able to take back control of the image of the crisis, silence dissident and critical voices, and enforce on the actors at lower levels solutions preferred by the authorities,

- **the post-normalization phase** ("new normal"), at this point the crisis situation became normalized as "expected" with routines and strategies evolved from the experience already in place (regardless of efficiency), the agency taken from the low-level actors ("trenches") in the phase **3** has been reduced even more; this is the phase we are experiencing until the next crisis occurrence.

Please consider that this model functions only as a handful representation. It intentionally lacks elaborated by (e.g.) the FEMA/CDC phases (mitigation, preparation and recovery) because they never were present in the first place in the spoken area, and secondly, the analysed situation has no meaningful point of resolve. Outside of the scope of this model are political, economic and social/cultural issues and consequences.

During two first stages the educators, along lower level of administration, were put in peculiar situation which was often referred as "left alone" (Kwiatkowska 2020, Skura 2021). In practice that not only meant having not been supported, but also being additionally burdened by duties and responsibilities outside of scope of the usual educator or manager training. They extend from giving additional educational and mental support for the students, additional managerial duties including reworking the courses "on the fly", taking additional and not supervised training, up to effectively acting as network privacy and security technicians, data managers and so on. This situation motivated voices of concern encouraging for actual "delay – dismiss – sabotage" actions (Barret-Fox 2020). The rationale for such being avoiding the situation while temporary, high-risk, dangerous measures taken during the "shock phase" would be normalized and then institutionally enforced as "normal".

Moreover – amount of unpaid, hidden work and responsibilities led to inevitable mistakes for which educators having some degree of competence with using online tools (and particularly those enthusiastic about their educational potential) were prone. These mistakes were associated with habits of using and consumption of the online media leading to usage of dangerous for privacy and data security platforms (e.g., Twitter, Facebook, Google, Discord or Skype).

While being (hopefully) educated *consumers* of the media themselves, often successfully using particular elements of them in their work, educators were and are not aware of extend of influence on user and data harvesting present on these services, for which they have become suddenly fully responsible not

even realizing the issue and extend of (e.g.) legal obligations and responsibilities affiliated with such activities. The case of technical, legal, security and well-being issues regarding the "online class" is maybe most trivial example.

The educators aware of these problems were able to take some of the measures to mitigate parts of the problem by using server-less, encrypted, protecting privacy of participants services (like e.g., Jitsi in the case of conferencing software). Also considering problems with the end devices used by students, their type (portable or not computer, smartphone, tablet) relative computing power, existing or not interfaces, type of governing software (e.g., Operating System) and limitations. Effectively becoming not only educators in the actual subject field but also taking the role of IT consultants and technicians if necessary.

Such efforts, however, were effectively wasted in the second and third phase when the institutions started to react to the mentioned issues in somewhat organized fashion. Unfortunately – that meant implementing the particular commercial solutions regardless of their quality, security or even ability to actually serve as intended education platform. The issue being long standing problem affiliated with the (at least) three decades of continuous attempts to commercialize and effectively dismantle public services, including educational ones (Demirijan 2013, Giroux 2011, Mccafferty 2010, Whitty, Power 2002). As stressed by e.g., Ivancheva and Swartz (2020) the pandemic "exceptional state" further consolidates not only presence, but also the economic and political power of certain corporations. What is worth mentioning, these decisions were taken often despite of presence of actually deployed and working solutions, including Open-Source implementations.

The awareness of this problem, even worse: the awareness that it **is** a problem – is still almost non-existent, which is not specifically Polish issue. Regardless of existing European Union software strategy the matter is largely ignored. Concerned voices are usually dismissed by "compliance with GDPR" excuse without recognizing that such protection is very weak, selective and largely outdated.

Moreover, the cost of compliance with the enforced software solutions, both at the hardware and software level was also, and still is, solely put on the shoulders of the educators and students. That including maintaining the security of said platforms – a task challenging for skilled professionals – **and** the legal responsibility for it. That situation led not only to the strong dependence on not system-

agnostic software delivered by private company outside any possibility for public audit, but also makes educators, students and their guardians, willing or not, practical metadata donators by proxy for said company, not mentioning the inevitable financial burden attached to it. On top of it the actual responsibility for the (e.g.) data security was delegated to the personnel not only not trained for the task, but also not able to effectively perform it, nor protected against potential damages.

Outline of the conclusion

The post-pandemic "new normal" left educators and managerial staff, with more duties and less possibilities to perform them well. The entrenchment of commercial software solutions in the educational institutions and affiliated with them corporation-like management routines and mindset, will inevitably raise the financial burden of maintaining the institutions and effectively lowering the quality of delivered "educational product".

While damage in the discussed area is already done and significant change in foreseeable future is rather not something which can be expected, there are still matters which could be corrected and at least some of negative effects are still possible to mitigate. This, however, needs a collective action of the institutional leadership to create pressure on the deliverers of particular services and products, and the governmental bodies themselves. The short list of primary concerns might consist of (but is not limited to):

- **restoring or institute necessary redundancy** both in the personnel and the material resources
- **enforce interoperability and system-agnostic implementation** of delivered products on the provider(s),
- **enforce public audits** (beyond the usual "GDPR-compliance") on the implemented services,
- **separate responsibilities**, burdening the educators with the (e.g.) security duties is far beyond reasonable request and impossible in practice

This short list, obviously, does not address deeper problems mentioned before which are beyond the reach of the institutions and educators themselves relying on the *stricte* political decisions.

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3.12. Gertruda Gwóźdź-Łukawska, Monika Potyrała:

Distinguish (yourself) someone else - active math learning

Gertruda Gwóźdź-Łukawska

Lodz University of Technology, Centre of Mathematics and Physics, Al. Politechniki 11, Łódź, Poland, 0000-0001-6496-8385

Monika Potyrała

Lodz University of Technology, Centre of Mathematics and Physics, Al. Politechniki 11, Łódź, Poland

HIGHLIGHTS:

- − Jigsaw as a method of solving tasks
- − STAD online
- − Augmented reality not only in math
- − Peer teaching by swapping problems

KEYWORDS:

jigsaw, active learning

Active methods in math

Being a math teacher this is a very huge challenge to encourage students to be active in class and outside. There are at least two ways to do it.

The first one uses modern active didactic methods, which correspond to individual predispositions and develop not only math knowledge but soft skills as well.

The second way is to organize these methods in one consistent system of points and budges, just as in a gamification process.

The article presents some applications of active methods implemented in math and shows how these methods can be organized in a complete didactic system. We believe it will become an inspiration to practice.

Variety of active methods

Nowadays we have a wide range of active methods of teaching. We can distinguish some simple tools, which may be implemented almost spontaneously (Peer teaching, Think-Pair-Share, Peer instruction, Test questions) and time-consuming methods which require a lot of preparation from the teacher (Jigsaw, Carousel brainstorm, Design thinking, PBL). Both types are worth of using and appreciated by students.

The tool has to be suitable for the course and for the group. That is why usually using a given method is a challenge and pretty often a well-known method is just an inspiration how to activate students. The teacher has to be creative conducting his/her course. Below we give examples of unusual use and making combinations of typical active methods.

Jigsaw & Quiz

Jigsaw is a method which is usually used to present each group of students a piece of knowledge. When students from different groups meet together they have all the puzzles needed to create a picture. We used this method to look for solutions of math tasks. Moreover, we combined it with peer teaching and mobile quizzes.

Students were divided into groups. Each group got calculations of different kind of limit of a sequence. The main task was to become an expert – to discover (having some examples) how to deal with a given type of limits and prepare how to "sell" this knowledge to others. After that, working in groups of experts in each type of limits students were supposed to explain their teammates how to deal with the problem which obviously made them take the responsibility for their own learning ([2]).

Everything was verified by a mobile quiz in the end and the best solutions were awarded.

Observations:

– the method is time-consuming (teacher has to prepare examples of calculations), but students are involved in the topic much more than usual;

– the teacher should be a facilitator of the process of understanding the problem and creation of the solution;

– the teacher should be ready to react for students' actions according to his/her intuition;

– sometimes it is good to have not one, but two experts responsible for explanation of a given part of the material;

– it is good to sum up after all;

– the final mobile quiz makes the process really attractive.

STAD & Presentation

Student Teams - Achievement Division – STAD is an activity where students work in groups, but each student is responsible for his/her colleagues' progress. It was a new experience to practice this method in online teaching.

Students were working in groups. They had to find extrema of a function of two variables. The tasks were different for each group. According to the idea of STAD it was in the interest of each student to prepare him/herself and prepare each member of the group to talk about the solution of the task. Why? After a given time students were randomly chosen from groups to present the solution.
The group with the best presentation (selected by voting) was awarded.

Observations:

– the number of groups cannot be large, because the teacher should be able to visit each group and stimulate to solve the task;

– the teacher should support students to take care about the progress of each member of the group (asking questions, giving additional tasks…);

– it was an opportunity for students to work together, to try peer teaching and think it over how to present the solution ([1]);

– students can develop soft skills: how to present, how to explain solutions

Mini-project & Rubrics

There are many possibilities of implementing mini-projects. For sure, each teacher has many ideas what to do in the matter of his course. This time we were looking for the topic which will give students a lot of fun. That's why our choice was Augmented Reality.

The student's task was to create a virtual subject (with Graphics 3D App which uses GeoGebra and AR), a kind of avatar of the subject that really exists. To do this well, one has to know math formulas for solids and surfaces. After all it was necessary to present the virtual world during classes. We wanted the project to develop students' math skills and soft skills of being a presenter as well.

To assess the project (by the group) the rubrics method was used. Complexity, precision, clarity, legibility of the presentation were awarded.

Observations:
- students were very enthusiastic, in spite of the fact that it was a complementary activity many of them decided to prepare the project and present it;
- the idea of working with AR may be useful not only in math, it is valuable as a method of visualization ideas or theory; for example it can be used to underline the most difficult parts of the material (to remember better) or to prepare a poster as a base to presentation;
- an additional value is the rubrics method – students learn how to assess.

Peer teaching & Check-task

Peer teaching is a very wide concept and may be used in many situations. We decided to practice how to calculate derivatives. First of all, students had to write a formula of an arbitrary, a little bit complicated function. In pairs they had to swap their functions. Then one student became a teacher for the other (reciprocal peer tutoring [3]). After finishing the task the roles were changed.
According to the teachers observations and a check-task the best students-teachers were awarded.

Observations:

- the presence of the teacher-facilitator was essential for students (they needed hints about the derivatives);
- students were really involved in the process, they were discussing math problems;
- the role of the teacher was absolutely new for most of the students and usually it was a huge challenge;
- there was a surprise element - students were surprised that the function that they created was a task for them – they had to make the colleague's solution correct;
- additional value was that students who had just learned how to find the derivatives were able to explain it in other words then the teacher, who usually does it for years.

<u>Essay, Infographic, Video, Top 5</u>

Another method implemented in math classes was… an essay. It was about integrals and the topic was: My favorite (integral). Students had to find their unusual integral, be able to explain why it was exceptional and calculate it of course. It could be nothing typical, that is why it was a real challenge.
We tried preparing an infographic as well. This time the topic was: Sequences and their limits. Students found it a very good idea to prepare a graphic which shows how to calculate different types of limits. Mutually, they had to learn a lot to prepare this graphic.

Sometimes it is difficult to make students to be precise. Especially if they had to speak something out or write down. A video is very helpful then. A student can think it over before recording and is able to express much more then in writing exercise. Our students were asked to prepare a video about logic. It is much easier to explain if the sentence is truth in a video than for example in a letter.

This year we had a third edition of a students' conference about math applications MathUp. Students were the presenters and their talks were unusually interesting. They could choose the topic themselves and it was obvious that they were really keen on it. An additional task for listeners was to indicate the Top 5 lectures. The justifications were really surprising and comprehensive.

Each of the method described above cares not only about the knowledge, cognitive skills but the soft skills as well. Of course to encourage students more and more the system of points and budges is integral.

System of points and badges

As a supplement to the methods mentioned above it is good to create all the teaching as a complex system with activities and awards. All that assumes a kind of grading of the activities and a reasonable way of rewarding.

If a course is gamified then an integral part of that is to award points to activities. Points are collected and can be added to the tests/exam under specific conditions. Active students can increase their marks. It is also a good way of motivating students who "play" almost continuously to collect the points and by accident they get the knowledge.

It is also valuable to award students in another way. Not all the activities are directly connected to getting the knowledge. They can also reinforce a group work, presentation skills, fast way of finding information etc. Summing up – students can be just active in learning/asking questions. In such a case students can be awarded with badges. Those badges can be published at students profiles and give extra privileges to the owners.

Jigsaw & Quiz

After a group learning and exchanging information in a jigsaw method all the students take a quiz which involves all the materials given by the lecturer. Mobile quiz is preferred to get the results at once. The winners of the quiz are awarded with a suitable number of points.

While reading the materials students may by obliged to analyze them before they are ready to share the knowledge as experts. That is the reason why it is suggested to award for those analytical skills students of that group which in general explained the topic best. That means they can get a badge which for example can let them use a computer program to help to find solution during the test.

During the second part of jigsaw students have to present what they have learned. That is why we can also award them for the best presentation skills. Such a badge can enable exchanging the way of passing the exam from the written to the oral one.

STAD & Presentation

In a STAD method students have two goals to reach: solve the problem and present it to the others. That is why it is good to give them points for good solutions – all groups which solve the problem can be awarded; and the winners (emerged in students' voting) can be given also a badge.
It depends on the teacher what privilege students awarded with badge will get. As an example, it can be a possibility to look into their notes during the test or exam.

Mini project & Rubrics

As our mini projects involve all students not only in preparing but also in grading the others' presentations, it is good to give them very precise rubrics. Then the best project can be selected and some points can be given to the winners, but we can also rate students at various criteria. And – according to the criteria – we can choose students who are best at each of them. For those students badges can be given. The privileges can correspond the criteria, so for best form of presentation students can for example change one of the written topic during the exam into the presentation. The most accurate and precise calculations can give a badge with the right to make one mistake without any consequences during the exam and so on.

Peer teaching & Check-task

To measure the results of peer teaching a check-task after all is given. Correct solutions of the task are awarded with points.

Thanks to the teacher's observations badges can be granted. Those students who are best teachers deserve the badge. The privilege may allow them to pass the test task with a billing error under the condition that they explain it to everybody.

Summary

Collecting points is an element of gamification which increases students' motivation. Because of emotions, friendly rivalry and being appreciated they become involved in the didactic process. It depends on the teacher what is the power of a single point and what are the conditions under which the points can be swapped for the better mark (test or exam mark). It is a good practice to discuss with students these regulations. Such a discussion is an additional factor of increasing motivation. Students willingly follow their own ideas so it is more likely to engage students when they approve or even come up with those ways of awarding.

We recommend to use system of badges to appreciate development of soft skills or little manifestations of activity. It is very important to notice and award all these actions in order to strengthen them. Moreover, students should have a possibility to submit privileges and propose how to assign privileges to the budges. It is also a good idea to let the students design the look of budges. In our course it was a specified math task concerning the knowledge they got during the lecture. In such a case students can also collect points for preparing those badges.

All the possibilities of increasing final grade and privileges mentioned above should be well thought out and adjusted to the group and to the form of teaching (face-to-face, e-learning, etc.). We believe that we managed to present some ideas, which may become an inspiration when conducting courses.

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