



## Regular Article

# Reflections on acquired university teaching skills gathered over 20 years at Swedish and Norwegian universities

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## ABSTRACT

This article is a self-analysis of how I have developed my higher education pedagogy during my 20 years as a teacher at universities in Sweden and Norway. My higher education pedagogical development has been gained through course development, course management, and students' active learning methods, such as problem-based learning and the case method. This self-analysis examines and evaluates my educational experiences and knowledge development around interpreting teaching tasks. Working with students' active learning methods, such as problem-based learning and the case method with small groups of students and following them over time, is the pedagogical work I have the best experience with. Working with students' active learning methods allows me to follow the development of the student's knowledge during the interaction with them.

## 1. Introduction

University pedagogy (Kukulska-Hulme et al., 2020) is the scientific field that focuses on knowledge of learning theories, teaching methods, student learning in higher education (Alexander et al., 2019), and the development of education, programs, and courses (Boyadjieva & Ilieva-Trichkova, 2019; Szadkowski, 2019). In recent years, university pedagogy has shifted towards self-motivation and active learning (Michelsen & Aamodt, 2007; Norwegian Board of Technology, 2012; 2018). The reason for a change in this direction is that students need to be prepared for problem-solving (Al-Samarraie et al., 2020) and reasoning to develop the ability to apply theoretical knowledge in practice (Fossland, & Ramberg, 2016). Norwegian national guidelines for pedagogical improvement in higher education (Tømte et al., 2019) highlight the importance of using motivational, activating, and varying forms of education (Lanestedt, 2018; Ministry of Education and Research, 2017; The University of Norway, 2017; 2018). Further, The Norwegian government's report (2017) (Ministry of Education and Research, 2017) shows that the learning environment must be characterised by didactic solutions (Atoeva, 2020) that emphasise a higher degree of interaction between teacher and students and preferably in student-active teaching forms (Ministry of Education and Research, 2016; Munna & Kalam, 2021; The Norwegian Agency for Quality Assurance in Education- NOKUT, 2017). The NIFU report (Støren & Nesje, 2018) showed that using student-active learning forms (Munna & Kalam, 2021) has increased somewhat but is still unsatisfactory. This

trend should be encouraged, as using student-active learning forms (Aksela & Haatainen, 2019; Almulla, 2020) has a significant positive impact on the quality of teaching so that the competence of newly graduated candidates will meet the needs of Norwegian society requiring high-quality health care services (Saunes et al., 2020). Higher education must be dynamic (Aagaard & Lund, 2019) with an active selection of didactics that re-examine traditional teaching (Ministry of Education and Research, 2019). Universities are responsible for providing the society with highly skilled professionals (Tang, 2020) who can meet today's rapidly changing practices (Habibi & Zabardast, 2020). Digital technology (Konttila et al., 2019) conquers the welfare profession, and places demands on digital literacy of present and future labour. Rapid and continuous digital technology development also requires professional expertise to be developed throughout a working lifetime (Larsson & Teigland, 2019). Learning technology enables the digitisation of different forms of teaching that enable flexible and lifelong learning (UNESCO Institute for Lifelong Learning, 2020). It has emerged under current pandemic-related restrictions that digital technology has become an all-encompassing rescue to keep education alive on all levels (Toader et al., 2021). The Norwegian government's investment and national focus on digitalisation for learning is an essential contribution to educational quality (Ministry of Education and Research, 2016). One of the main messages from the DIKU Report 2019 highlights the importance of rethinking the design of teaching rooms to ensure that teaching and learning activities can be carried out in more varied and flexible ways (Kofeod & Ørnes, 2019). For instance, case-based learning

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(Guo et al., 2020) involves students working in smaller groups with the guidance of a teacher in a structured way; and enables student's ability for horizontal and vertical problem solving and for a credible way of reflecting on everyday clinical situations; case-based methodology helps the student to improve already lectured/acquired knowledge and to integrate knowledge from several lectures and courses. Recent research shows that student-active learning (Cole et al., 2021) forms benefit from developing critical thinking, problem-solving, reflection, communication, self-managing, and decision-making ability (Abbasi et al., 2018; O'Regan et al., 2016; Oliveira et al., 2016; Prince, 2004). Furthermore, student-active learning conducted using a digital input structure showed better achievement of the learning objectives and better examination results than traditional teaching methods. This article is a self-analysis of how I have developed my higher education pedagogy during my 20 years as a teacher at universities in Sweden and Norway.

## 2. My acquired higher education teaching experiences

My teaching experience at universities spans over 20 years in Sweden and Norway. As a new employee, I have taken the mandatory 15 ECTS in Higher Education. I am a teacher in biology and chemistry and have studied courses in pedagogy and didactics for around 30 ECTS. I am employed in nursing programs and have master's and doctoral education in nursing. In the nursing programs, I was and am involved in teaching, course responsibility, and curriculum development within a wide range of courses divided into theoretical, preclinical, and clinical courses. My first job was as a very progressive innovative health sciences faculty at a small university. During my first five years as an employee, I underwent inter-training in problem-based learning -PBL (Egidius, 1991; 1999a; 1999b, 2009). The reason was that I was dealing with students who had clinical courses. These students gathered at least once per 7.5 ECTS on campus to work through different case scenarios in small groups. For PBL groups, the task was for the students to process a suitable problem formulation and then find answers collaboratively with the help of course literature. As a teacher, I followed the same group of students through the process.

In this way, I could observe the progression of the group's development. My role as a teacher was passive, and I observed the process with subsequent feedback to the group. This method met with much resistance from both students and teachers. My faculty changed PBL to Case Method -CM (Egidius, 1991; 1999a; 1999b, 2009).

### 2.1. Case method (CM)

The CM methodology was developed at the Department of Economics at Harvard University and later transferred and redesigned for health care education and specifically for the clinical courses by Henry Egidius at Lund University (Egidius, 1999a). The method is used at several universities in Sweden, such as the University of Umeå, Kristianstad University College, Karolinska Institute, and Gothenburg University in nursing and medical education both as a teaching and exam method (Sundfeldt, 2007). Case methodology is a student-active pedagogical method that provides training in clinical problem-solving and has, therefore, been proven helpful in clinical teaching. The method requires that the students are prepared for the systematic and structured way of analysing complex situations, to argue objectively, to understand others' ways of experiencing and perceiving, and to tolerate alternative ways of interpreting and alternative ways to act in it (Frostermark-Pålsson, 2001). The case methodology should: deal with a reality-based situation of something that has happened. For example, the situation can consist of a specific clinical situation or problem that is needed to be problematised, analysed, and a probing decision to be made. In the situation, there are several people involved who have different roles and interests during events; the problem is that there is no right or wrong answer; the basis for learning is the student's activity - the process is based on a critical approach. Further, the students learn

how to deal with complex situations in practice but also to find solutions, argue, and present their opinions and suggestions for action. The teacher's role is to serve as a facilitator in the exchange between students (Egidius, 1999a; Sundfeldt, 2007)

Case method will follow the working process described by Egidius (Egidius, 1999a) : 1) All the facts about the case are presented (that is, the facts we know) along with the case description. More facts could be collected during the process, such as anamnesis, current health status, results from health examinations such as blood samples, blood pressure, temperature, pulse, x-ray, specific clinical scenarios, and specific medical examinations 2) The current problem/s that require action will be identified and ranked. Primarily we will focus on what the patient is looking for. 3) Why have problem/s arisen will be explained. 4) Discussing consequences will be made with ranking problems, prognosis, and predictions. If no actions are taken for each problem, from everything (including risk for mortality) to nothing. 5) Different actions will be presented and ranked (such as changes in nutrition, activity, therapy, medications, surgery, and sick leave). 6) Discussions will be made about the effects of chosen action/s and other consideration aspects.

During the sessions, the teacher asks: What is the case about? Why is the patient experiencing difficulty? What are the facts? What is it that has caused these difficulties? What do we usually know when such difficulties arise? What do we know usually happens when the difficulty persists? What should the patient do? What other measures could be considered in the short and long term, and why? What are the pros and cons of the measures? What are the advantages and disadvantages of choosing one approach to solving difficulties? What are essential aspects (for example: biological, somatic, psychological, social, ethical, legal)?

CM is a structured analysis of a preselected care situation. In CM, teachers have an active leading role with the responsibility to involve the students actively in the discussion. The method appealed to me, and I could directly interact with the students and observe how their analytical skills developed. I could observe good and progressive critical thinking in students. I adopted the method both in teaching and research. Because CM teaching in smaller groups (up to 12 students) is costly for universities, it has been replaced with teaching in large groups (up to 500 students) over time. I have always missed working with CM in smaller groups and have always warmly advocated the method when given the opportunity.

Furthermore, I have also been involved in teaching and course responsibility for fully online courses. In addition to teaching and course responsibility, I am a supervisor and examiner for theses at the bachelor's, master's, and doctoral levels. Every time I applied for a new position or promotion; documented reporting of my teaching experiences was an important component. It is noteworthy that the demand for pedagogical training and competence decreases the higher one goes in the academic hierarchies.

For me, as a teacher at the university level, my annual work plan is divided into two essential parts: one is research time, and the other is pedagogical tasks. The research time varies depending on the hierarchical academic level. As a first amanuensis, you are automatically allocated 30% research time and 40% professorship in Norway. About 7% is set aside for administrative work; the rest is pedagogical work. Pedagogical work is further detailed in course responsibilities (campus, distance, or online courses), teaching (campus or digital, small, or large group), examination (individual or group, classroom exam or home exam), and supervision (in clinical practice or thesis). Each teaching hour is calculated according to the institution's approved new cycle number; for example, 1 h of teaching on campus generates three (bachelor's level) to four (Master's level) hours in my work schedule. One hour of digital asynchronous (recorded) training generates 6 h of work time. Supervision of a master's thesis of 60 ECTS generates a 30-h work plan or supervision of doctoral student genres 60 h per year in my work plan.

Early in my career as a college teacher, I became aware of the importance of academic degrees for teachers. Evaluation by the

University and Higher Education Council in the early 2000s resulted, for example, in two nursing programs at the bachelor's level losing the right to graduate due to a lack of teaching staff who defended their dissertations. One university took drastic measures and fired all teachers who lacked a Ph.D. As I enjoyed working as a university lecturer, I decided immediately after this incident to start my Ph.D. studies to secure employment.

At one of the universities where I worked, the ambition was to highlight pedagogical work and introduce excellence in pedagogy. It was about each teacher documenting their pedagogical competence, student evaluations, and peer reviews. Internal training was also offered for our employees. Anyone who meets the criteria must apply to be evaluated as an excellent teacher. A commission of one and external auditors is mentioned. Accepted candidates receive unofficial recognition as excellent teachers and a particular salary increase.

### 3. Cases from my teaching practice

Students studying for practical professions such as nursing must write an essay of 10 ECTS. If they are studying further education, an in-depth essay of between 10 and 15 ECTS and, at the master's level, an essay of between 30 and 60 ECTS.

To be able to write your thesis, you need to take courses in the philosophy of science and methodology. These courses have low attendance at the lectures and external evaluation grades. In the open-ended answers, one could read the students' criticism of scientific courses and exam papers as they considered themselves future clinical practitioners. They could not see any benefit from these courses. Every time you read these comments, you wonder how we could have missed the point that research and practice go hand in hand and the importance of being critical of sources of knowledge. Low evaluation grades mean that many colleagues cannot manage and teach these courses after a while. Between 2016 and 2020, I was a teacher in charge of a master's course in the scientific method (7.5 ECTS) for students in a master's program in reproductive health. I became worried and curious when I was given course responsibility for these courses. I worried about future negative evaluations that could negatively affect my reputation and career. At the same time, I was curious because I wanted to investigate the problem and if I could try another strategy. My starting point was that when I was a student at their level, I had difficulty understanding all the abstract scientific terms and how a scientific method works practically. When I got the course manager, I asked my new faculty what degree I could pedagogically lay out the course as I believed it should be. The student cohort consisted of 40 students in total. My boss at the time said I was free to do as I pleased because she thought the course was beyond help.

#### 3.1. My experiences in a pedagogical development work

When I became responsible for the course, the scientific method, and gained the freedom to design it as I wanted based on the resources I was given, then I decided first to run the course as it was to get a picture of what works and what does not. I replicated the schedule and invited the same lecturers to the course as they were engaged before. The only difference was that I would take over all teaching, focusing on the qualitative method. I decided to attend all the lectures to form my opinion of what happens in the classroom during lessons. That is, how the lecturers are adapted to the master's level and the students' commitment and attendance. These observations were the basis for planning a new arrangement. You are reasoning about the proven experience - how your experiences have possibly been documented and shared with others. As for the structure of the various lectures, they have been laid out at the right level. But the telling examples would illustrate the abstract terminology. In addition, the lectures were compact and spanned 6 h each day. Students' attendance at the lectures in Norway is voluntary. It could be ascertained that attendance was around 5%. Of the students present, a few more students disappeared after the first

break. At least four students remained during the lectures. One of the internal lecturers was very disappointed when she saw only four students and left in the classroom. Of the few students in the classes during the ongoing course, I could note that most were more focused on their phones than the presentation. When I debriefed with students, they said they didn't understand anything. With this experience, I withdrew to reflect and devise a new pedagogical plan for the next round of the course. In the next round of courses, I introduced workshops in case of seminars with a maximum of five students per group. Teaching would be spread over four weeks. I decided that each lecture day starts with a 45-min lecture followed by workshops for about 1.5 h, lunch, lectures for 45 min, workshops for 1.5 h, and a final 30 min to end the day.

Each workshop is introduced with detailed oral and written guidelines. I went between the working groups during the workshop and was available for all questions. The exam later showed a higher average grade in the entire class, and the course evaluation was graded 4 out of a maximum of 5. It was the first time in my career that a scientific methodology course received a grade higher than three. The success in the evaluation was repeated for the next three years until I left course responsibility.

#### 3.2. Connection of my reasoning in light of reflective teaching by Dewey

According to Dewey (Dewey, 1933, 1938), the teacher's reflection process occurs when teaching situations require solving new strategies. I have chosen to reflect on my teaching skills based on Dewey's three attitudes open-mindedness, responsibility, and wholeheartedness. Problem-solving requires the teacher to step back and analyse experiences. The reflection process is the holistic way of many sources of understanding involving intuition, emotion, and passion. The teacher needs a head and heart, reasoning, and emotional insights.

##### 3.2.1. Open-mindedness

Open-mindedness means actively listening to several sides, giving full attention to recognising possible faults, and focusing entirely on alternative solutions (Dewey, 1933, 1938). The reflective process includes self-questioning why and what is done. Open-mindedness involves listening and accepting both strengths and weaknesses in one's perspective. Case method sessions were for me each time a new experience in that the case was new or I was working with a different group composition. There was always something new, even when I worked with groups, I met overtime during the training. As for me, I presented the same case to different groups, emphasising different phases depending on how friendly the group in front of me was. In principle, I have stayed longer in the first phase of identifying possible problems for vulnerable groups. As for knowledgeable groups, I have held them back from processing cases far too quickly. Then I chose to stay longer and analyse possible solutions to problems but their impact analysis depending on which one is chosen and in which order. In each phase of independent knowledge resources in the group, it was vital that I did not give the correct answer but that the students analysed the case, gave suggestions and analysed case with supplementary reflective questions from my side. The shareable reasoning that is communicated is used to build on the discussion. This interaction was for me a confirmation of how the students communicated their understanding of the case method.

##### 3.2.2. The responsibility

The responsibility rests on reflection regarding the unexpected learning results by asking questions for whom and in what way the result is expected or unexpected and for whom (Dewey, 1933, 1938).

Using the case method with the same group over three years in the bachelor's program has gradually developed me as a teacher leading seminars, telling students what to do, or seeking knowledge. After the second session, I gradually give the students roles as secretary and chairman. Then all students shuffle these roles until everyone has tried



them. When they are done, we start all over again with the distribution of roles. The distribution of roles contributes to students being given a responsibility they must shoulder. It is noticeable that even students who fear standing before others, leading, talking, and writing on the board slowly gain better self-esteem. It is vital to contribute to and oversee this transformation. For me, it is pure empowerment of the students' active learning. After each finished case session reflection round, all students express their surprise at deal learning and how analytical ability is developing. Students studying in the second or third year tell me that they also used the analytical method of the case in their clinical practice. I am delighted to hear this because I know the case method has been incorporated into their study technique.

In contrast to the more experienced students, I often meet first-year students who have difficulty understanding or adequately preparing for case method sessions. Some students even express that the method gives them nothing at all. They want to continue learning in the same way they have done at the high school level. This particular feedback makes me curious as to why they express their displeasure. Although I sometimes feel stressed by these comments, I wonder if I can further improve my strategy by implementing the case method.

Furthermore, I think about what I can change and clarify in the instructions regarding preparations for the next lectures. Since I have 20 years of experience working pedagogically, I try to pick out successful examples and then find out what I can reuse or do I need to get ideas from several successful sessions. Only when I have implemented them can I get a feeling if my new strategy has reached the students.

### 3.2.3. Wholeheartedness

Wholeheartedness implies constant ongoing evaluation of own assumptions and beliefs that result in actions from different perspectives. The teacher strives to learn something new and tries to understand how their learning affects students (Dewey, 1933, 1938). When I receive criticism from students that my case structure was unsatisfactory, I would like them to clarify this if possible. If the negative feedback comes across as sloppily generalised and unsubstantiated to offend some sensibilities, I usually do not initiate any radical changes to my plan. But if the feedback is specified, I review my setup and try to figure out how to refine it to convey the message successfully. The strategy is like detective work, for me to figure out different strategies for passing methods and how the well should work. Although I am delighted with my lecture structure, I will not know how successful it is until I try it out in student sessions. Sometimes I have to run the same setup thrice to assess self-critically whether this requires revision or not.

## 4. Conclusion

After studying courses in pedagogy and working for 20 years at a university, I have accumulated quite a wealth of pedagogical experience. For me, immediate interaction with the student is vital in pedagogical work. Through this interaction, I can assess how to adapt my information to reach the message. Immediate feedback from the students is enough for me to move on to the next step in my performance. It is a circular process with constant progress but varying speed. The student's motivation is a substantial contributing factor in the rate of progression at which the goals are to be achieved. In addition to interacting with the students, I need dialogue with colleagues and collegial feedback. That way, I can get new tips and ideas and get it to point out what I should improve. Taking responsibility for keeping up to date with pedagogical developments by reading the latest reports and attending seminars or conferences is an essential part of my contribution to becoming the educator I want to be. If I had to choose, I would have wanted to work only with small groups of students and follow them over time. Working in such a constellation allows me to follow the progress of the student's knowledge. This type of teaching has become very rare in recent years due to cost. The most cost-effective forms universities prefer are lectures in large groups where teachers unilaterally convey

information without any opportunity to interact with students.

## CRedit authorship contribution statement

**Zada Pajalic:** Idea, Conceptualization, Writing – original draft, Writing – review & editing.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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