



How Experienced Teachers Teach Lifelong Learners

Bolding, M.

Published in:

Book of Proceedings for the 52nd Annual Conference of the European Society for Engineering Education

Link to article, DOI:

[10.5281/zenodo.14254826](https://doi.org/10.5281/zenodo.14254826)

Publication date:

2025

Document Version

Publisher's PDF, also known as Version of record

[Link back to DTU Orbit](#)

Citation (APA):

Bolding, M. (2025). How Experienced Teachers Teach Lifelong Learners. In J. D. Zufferey, G. Langie, R. Tormey, & B. V. Nagy (Eds.), *Book of Proceedings for the 52nd Annual Conference of the European Society for Engineering Education: Educating Responsible Engineers* (pp. 341-350). SEFI. <https://doi.org/10.5281/zenodo.14254826>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

How Experienced Teachers Teach Lifelong Learners

DOI: 10.5281/zenodo.14254826

M. Bolding¹

DTU Learning Lab, Technical University of Denmark
Kongens Lyngby, Denmark

Conference Key Areas: *Continuing education and life-long learning. Building the capacity and strengthening the educational competences of engineering educators.*
Keywords: *Upskilling teachers, teaching approaches*

ABSTRACT

Educating professionals in continuing higher education significantly differs from educating students in traditional university programs. This study aims to investigate the pedagogical approaches of experienced teachers. The insights gained are intended to inform the development of an upskilling program for novice teachers in lifelong higher education, thereby enhancing their didactical skills in this unique educational setting.

This research employed six semi-structured interviews with experienced teachers within a Diploma of Leadership Program, analyzed through a grounded theory approach. The study presents two principal findings: First, teachers who pay close attention to their students' practices often use more experimental teaching methods. Second, the analysis revealed three distinct teaching roles adopted by teachers: Facilitator, Coach, and Challenger. These roles underscore the multifaceted nature of teaching in continuing higher education. While all teachers act as facilitators, coaches, and challengers, they do so to varying degrees.

The conclusions suggest that developing a program to support teachers in lifelong learning contexts should focus on expanding their awareness of educational impacts and outcomes, incorporating experiential learning techniques, and recognizing the value of a diverse learning community.

¹ M. Bolding
mboa@dtu.dk

1 INTRODUCTION

Educating professionals in formal continuing higher education is distinct from teaching students in conventional university programs. Exceptional teaching combines self-awareness, relational skills, and subject expertise to foster critical thinking and problem-solving within a dynamic, supportive learning environment (Cohen et al 2010, Sherman et al 1987). This study aims to explore the teaching methodologies that contribute to becoming an exceptional teacher.

The research question is: How do skilled teachers teach, and what is their reasoning behind their approaches? And assuming the teachers are not all exceptional, looking for differences might help us identify possible lines of progression: What differences do we observe among the teachers?

The findings from this study are intended to guide the creation of an upskilling program for new teachers in continuing higher education, enhancing their teaching capabilities in this specialized educational context.

The study involved teachers from the Diploma of Leadership program, which awards 60 ECTS. To be admitted to the program, students must have an educational background at least equivalent to that of a business academy degree, in addition to two years of relevant work experience. The participants are professionals for whom the integration of practice and theory constitutes the core of the program. The analysis indicates that teachers who successfully blend theory with practice through experiential learning also demonstrate a profound understanding of how to align their teaching with the professional practices of their students.

1.1 The professionals

In the evolving landscape of continuing higher education, the adult learner emerges with distinct characteristics that set them apart from students in regular higher education. These adults, as lifelong learners, come with a rich background of experiences, responsibilities, and goals. They seek education not just for the sake of learning but for practical uses that can boost their careers and professional growth. They participate in different social practices simultaneously, as learners in continuing education and as professionals at work. For them, learning is more than just academic success; it's about improving their practical skills and how they perform in their jobs (Knowles et al. 2020; Knowles 1978, Purwata et al 2022, Illeris 2017).

To join the Diploma of Leadership Program, candidates need at least two years of work experience in their field, along with the necessary academic background. The knowledge and real-world experience these learners bring into the classroom play several vital roles: It deepens theoretical discussions, form a concrete foundation for hands-on learning activities, and demonstrates how theoretical ideas are relevant and useful in real-world practice. Thus, emphasizing the connection between theory and practice is crucial for ensuring that what is learned in the classroom can be effectively applied in professional contexts (Hajian 2019).

1.2 Transformative learning

Transformative learning turns training into a powerful tool for change, opening new ways of seeing one's work, increasing self-awareness, and broadening the scope of possible actions. Illeris defines transformative learning as "all forms of learning that result in changes in the learner's identity." (Illeris 2013 pp.67). This perspective shifts

the focus towards critically evaluating traditional teaching methods to ensure that learning experiences are relevant and can be directly applied in real-life situations (Mezirow 1997, Kitchenham 2008, Illeris 2013).

Transformative learning involves making tacit knowledge and assumptions explicit, subjecting them to critical scrutiny within theoretical frameworks. It is the teacher's role to foster a learning environment that encourages the exploration and questioning of these underlying beliefs and knowledge.

For adult learners in continuing higher education, collaborative and experiential learning methods are particularly effective. They connect theory with practice and improve the application of classroom learning in professional settings. These methods utilize the vast experiences of adult learners, prompting them to share their insights, question their preconceptions, and collaboratively build knowledge with peers. Experiential learning allows learners to test new ideas and methods in a supportive, reflective space. This practical approach not only deepens their understanding of the subject but also boosts their ability to use this knowledge effectively in their work (Deslauriers et al. 2019, Kolb et al. 2001, Hansman 2001, Wenger-Trayner et al 2014, Mezirow 1990, Gokhale 1995; Kim and Pak 2002).

1.3 Teaching for transformation

Teaching adult learners in continuing higher education presents unique challenges for teachers. While they may design learning activities and possess a deep understanding of the theoretical aspects of a course, less experienced instructors might struggle to establish credibility and authority in classrooms filled with experienced professionals (Holton et al. 2001, Kugel 1993, Eschenbacher 2020, Gravett 2004, Foote 2015, Hatlevik 2018).

A key issue is whether teachers, especially those with limited practical experience in a specific area, can create an environment that supports transformative learning. I argue that these educators can do so. As learning professionals, they can organize collaborative and experiential learning activities that draw on the learners' own experiences and knowledge, fostering a group exploration of practices.

2 METHODOLOGY

2.1 Interviews

To explore how skilled teachers teach, and their reasoning behind, semi-structured interviews were conducted with six teachers from the Diploma of Leadership Program. The head of studies compiled a list of six teachers, representing a diverse mix across the program, and all were invited to participate in the interviews, which they accepted. The group consisted of four women and two men, a blend of both external and internal hires. Their teaching experience ranged widely, from three to over fifteen years, and besides teaching the Diploma of Leadership Program, their professional activities spanned research, teaching in other areas, and consultancy.

The interviews were conducted in a random sequence and analyzed accordingly. The semi-structured format allowed for an in-depth exploration of the teachers' viewpoints, following their train of thought naturally. An interview guide served as a comprehensive checklist, ensuring that by the end of each session, all relevant

topics pertaining to the study were discussed. The questions were crafted to shed light on their teaching practices, and were as follows:

- Who typically participates in your teaching sessions?
- If I were to open the door to your classroom on a random day, what would I observe?
- In what ways do the students rely on you?
- How do you prepare for your teaching sessions?
- Could you briefly discuss your teaching career?
- How have you yourself acquired competences to teach lifelong learners?
- If you were mentoring a new teacher in lifelong learning, how would you approach it?

Interviews were recorded on a mobile device and subsequently transcribed using the transcription feature in Microsoft software. The transcriptions were carefully read, coded, and analyzed. To ensure a thorough understanding, the recordings were listened to again, with additional notes taken to enhance the initial analysis as needed.

2.2. Analyzing interviews

The analytical process adhered to the principles of grounded theory (Corbin and Strauss 1990, Corbin and Strauss 1996), ensuring a rigorous examination of the data. To keep a detailed record of each interview, quotes were systematically organized into a program theory matrix (Dahler-Larsen 2018, Frye and Hemmer 2012). This approach provided a structured and comprehensive overview of each interview.

In this study, program theory was utilized to organize and analyze quotes and insights from each interview, with the goal of clearly demonstrating what teachers do and the reasons behind their actions. First, each interview was analyzed separately to treat them as unique stories, ensuring they were understood on their own before comparing them. This step provided a clear picture of each teacher, including how they plan and execute their teaching and the reasoning behind, as shown in table 1. To answer the second half of the research question, 'What differences do we observe among teachers?' the interviews were compared. First, common themes were identified, and then fundamental differences among the teachers were examined based on patterns.

I... (activity)	In order to... (Intention)	The effect in classroom is...	Outcome
Collect, develop and tell stories that illustrate theory	Help the students to understand theory and connect it to practice	Theories become mental tools that the students find meaningful and useful	In practice, the manager must make decisions on a reflected basis

Table 1: A section of a program theory matrix based on an interview with a teacher

3 PRESENTATION AND DISCUSSION

How do skilled teachers teach? Initially, data from the various interviews were compiled to outline the teachers' actions in preparing for and conducting their

teaching. The data presented in this section, and illustrated in figure 1, details the teachers' activities in both the preparation and execution of their teaching.

The Interviews were coded and condensed. Across interviews, activities fell within four overarching categories:

- Activities to foster a safe and fruitful learning environment
- Activities to link theory and practice
- Activities to facilitate students learning process
- Activities to manage classroom

In addition to these categories, the interviews revealed insights into how teachers prepare, perspectives on teaching roles and how they would mentor new teachers entering the field of teaching lifelong learners.

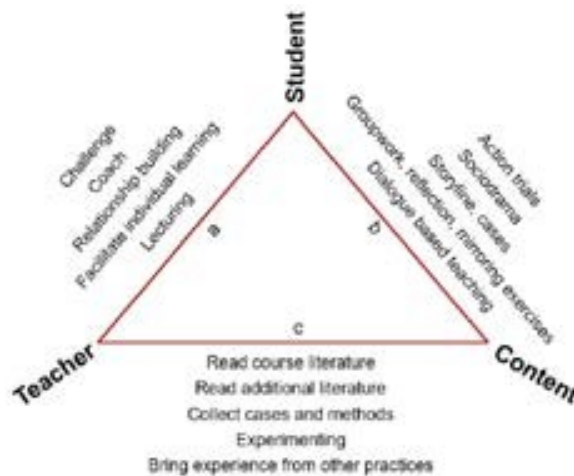


Fig. 1. Overview of activities teachers carry out related to teaching

Figure 1 represents a comprehensive summary of all the activities discussed individually by the teachers. It depicts the activities conducted by teachers, as identified across interviews, to a) establish a learning environment and define roles, b) ensure student engagement with the content, and c) prepare and evolve their teaching. These activities are arranged according to an intuitive understanding of complexity, increasing from the centre outward.

Differences among teachers manifest in their actions and motivations. The following discussion includes a quantitative analysis of their teaching rationale and a qualitative examination of the differences among teachers.

3.2 Diverse approaches to teaching, quantitative differences

The interviews revealed that teachers have unique traits and engage in various activities, prompting an exploration of these differences. Revisiting the program theories pinpointed variations in activities and revealed an unexpected trend in teachers' views on effects and outcomes (program theories' columns 3 and 4 as in table 1).

All teachers described numerous activities linked to the four main themes identified in the program theory. However, there was a clear distinction in how they discussed

the immediate effect of these activities in the classroom and the expected outcomes in students' professional practice.

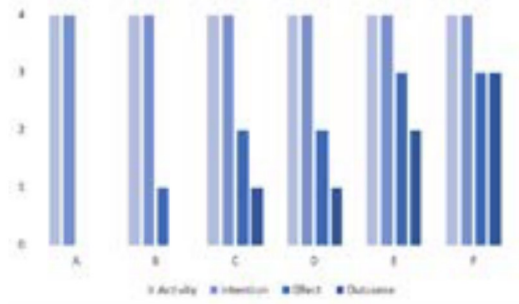


Fig. 2. A numerical representation of the six program theories for each of the teachers A–F.

The chart shows that teachers, labeled A through F, each discussed the four main themes (y-axis). Teachers B, C, D, E, and F talked about the classroom effects to different degrees. Additionally, Teachers C, D, E, and F shared their thoughts on how these activities could influence the students' professional practices.

When comparing the information from Figure 1, Figure 2, and the records from each teacher, it became clear that teachers who focused more on the effects and outcomes tended to use more advanced teaching methods, such as storylines, sociodramas, and action learning.

This analysis suggests that three distinct teaching practices emerge from the data: facilitator, coach, and challenger. The challenger role is observed more frequently among educators who emphasize student outcomes in their practice.

3.3 Characterizing teaching practices –qualitative differences

The six teachers exhibit variations in their approaches, as shown by their activities, how they link theory with practice, the role they assume as teachers, and the value they place on the learning community. These differences are discussed in section 3.3 - 3.6 and summarized in table 2.

All teachers used dialogue and group work in their teaching strategies. However, experiential learning methods like storyline, sociodrama, and case-based teaching were mainly used by teachers C, D, E, and F.

Experiential learning allows learners to gain knowledge and skills through direct experiences. It emphasizes active involvement, tackling real-world problems, and reflecting on these experiences to deepen understanding. This process encourages learners to act, reflect, learn, and apply, thereby building vital skills. Storyline and sociodrama enable participants to engage with real issues in an interactive way, enhancing problem-solving, critical thinking, and adaptability. These methods also help link theory to practice, uncover tacit knowledge, and experiment with new ways of thinking and acting in a safe space (Kolb et al 2001, Lewis and Williams 1994).

While all teachers introduced trial actions, they vary in execution. Teachers A and B ask participants to share their experiences. In contrast, Teachers E and F prompt reflection with questions like "What happened? Did it change anything?"

There is a noticeable difference in how teachers use these learning activities. Although all teachers incorporate elements of the three approaches, the extent and

manner of their usage vary greatly. This suggests a link between a teacher's approach to learning and their choice of activities.

3.4 Linking theory and practice

Teachers A and B frequently use a deductive approach, beginning with theory and then inviting students to provide practical examples to illustrate the theory. In contrast, teachers C, D, E, and F prefer an inductive approach in their classrooms. For example, one of them organizes a role-play that immerses students in scenarios related to their leadership practices. This activity helps students see how different strategies can result in varied outcomes and approaches. At times, the teacher steps in as a challenger, pushing students to consider and assess different ways of acting.

The shift from deductive to inductive teaching enables students to not only understand and apply theories but also to address real-life challenges using theoretical knowledge. This method transforms theories into practical tools for making well-informed decisions. As one teacher put it: "Theories become valuable mental tools for students, guiding their decisions in leadership."

Thus, while some teachers focus more on theory, others emphasize the practical application of theoretical concepts.

3.5 The role of the teacher and the learning community

A teacher mentioned: "I sometimes teach very small classes and feel that I can't provide the same quality as when teaching slightly larger classes." This comment sheds light on the difficulties of teaching very small groups. It underscores an inherent understanding of the advantages that arise when students share their knowledge, experiences, and viewpoints in class.

Teachers universally value the input students bring to the learning environment. The diversity of perspectives enriches classroom discussions, serving either as conversation partners in small groups or as a mini society that helps delve into various dilemmas, ideas, and responses. Not surprisingly, teachers who utilize interactive methods like sociodrama and case studies particularly cherish and recognize the significance of a dynamic learning community.

3.6. Classroom management

Teachers have distinct teaching styles, which extends to their approach towards classroom management. All teachers recognize their duty to foster a safe and engaging learning space. They set up a clear didactical contract, define the learning objectives, and establish rules for teamwork and communication.

Some teachers focus more on asserting their credibility and control, while others strive to ensure that every student has equal opportunity to delve into both theory and practice, valuing the varied perspectives and experiences of all students.

Teachers E and F, in particular, face challenges when students struggle to work together or when some students dominate the discussions. They share concerns like "He takes up too much space" and "I mentally keep track of participation to make sure I involve everyone equally." For these teachers, it is crucial to bring into play the diverse perspectives and experiences of all students, acting as a sort of playmaker.

All the interviewed teachers use elements of facilitating, coaching and challenging. However, the reasons, extent, and ways they do it, differ greatly. The three teaching practices as facilitator, coach and challenger are summarized in the table below.

	Teacher as facilitator	Teacher as coach	Teacher as challenger
Focus	Ensure students meet the course objective	Foster the development of each student	Empower students as active practitioners
Teaching approach	Deductive lectures, dialogue-based, group work and time for reflection.	Inductive case studies, storylines, sociodramas, and mirroring exercises.	Experiential Action learning activities
Learning community	Students are viewed as a uniform group.	Each student is addressed individually.	Release of the learning community potential
Classroom management	Establish legitimacy	Clarify didactical contract	Bring diverse perspectives forward

Table 2. Overview of differences between teaching practices.

Table 2 summarizes differences in how teachers approach the students, the content, and the classroom.

4 CONCLUSIONS

Teaching lifelong learners in continuing education demands an approach that takes the participants' professional mindset and applicative perspective into account. This study aimed to answer the questions: How do skilled teachers teach, and what is their reasoning behind their methods? What differences do we observe among teachers?

We have observed quantitative and qualitative differences among the interviewed teachers and identified three distinct approaches where teachers take on the roles of facilitator, coach, or challenger, respectively. While all teachers exhibited elements of these roles, they varied in the extent and way they implemented them. Teachers who are attentive to the participants' practices also challenge participants and leverage the knowledge and experience of the learning community.

The study aims to inform the next phase in creating a training program for new teachers within continuing higher education at an engineering university. Teachers were asked not only about their teaching methods but also how they would guide a newcomer to continuing education. One experienced teacher suggested: "You need to first thoroughly understand yourself and your content." Beyond this, all participants highlighted the importance of watching peers, experimenting, providing mentorship, and building a professional community among teachers. Based on this study's findings, a training program could include expanding understanding of the effects and outcomes of teaching, incorporating experiential learning, and leveraging the benefits of a diverse learning community.

REFERENCES

- Corbin, J.M., and Strauss, A. "Grounded theory research: Procedures, canons, and evaluative criteria." *Qualitative Sociology* 13, no. 1 (1990): 3-21.
<https://doi.org/10.1007/BF00988593>
- Corbin, J., and Strauss, A. "Analytic ordering for theoretical purposes." *Qualitative Inquiry* 2, no. 2 (1996): 139-150. <https://doi.org/10.1177/107780049600200201>
- Cohen, A. and Porath, M. "Exceptional educators: Investigating Dimensions of their practice." *Transformative Dialogues: Teaching & Learning Journal* 4, no 2 (2010).
- Dahler-Larsen P. "Evaluering af Projekter - og andre ting, som ikke er ting". 2 ed. Odense: Syddansk Universitetsforlag, 2018.
- Deslauriers, L., McCarty, L. S., Miller, K., Callaghan, K., and Kestin, G. "Measuring actual learning versus feeling of learning in response to being actively engaged in the classroom." *Proceedings of the National Academy of Sciences of the United States of America* 116, no. 39 (2019): 19251-19257.
<https://doi.org/10.1073/pnas.1821936116>
- Eschenbacher, S. "Transformative learning and the hidden dynamics of transformation." *Reflective Practice* 21, no. 6 (2020): 759-772.
<https://doi.org/10.1080/14623943.2020.1821631>
- Foote, L. S. "Transformational Learning: Reflections of an Adult Learning Story." *Adult Learning* 26, no. 2 (2015): 84-86. <https://doi.org/10.1177/1045159515573017>
- Frye, A. W. & Hemmer, P.A. "Program evaluation models and related theories: AMEE Guide No. 67". *Medical Teacher* 34 no.5 (2012): 288-299.
<https://doi.org/10.3109/0142159X.2012.668637>
- Gokhale, A. "Collaborative Learning Enhances Critical Thinking." *Journal of Technology Education* 7, no. 1 (1995). <https://doi.org/10.21061/jte.v7i1.a.2>
- Gravett, S. "Action research and transformative learning in teaching development." *Educational Action Research* 12, no. 2 (2004): 259-272.
<https://doi.org/10.1080/09650790400200248>
- Hajian, S. "Transfer of Learning and Teaching: A Review of Transfer Theories and Effective Instructional Practices." *IAFOR Journal of Education* 7, no.1 (2019): 93-111. <https://doi.org/10.22492/ije.7.1.06>
- Hansman, C. A. "Context-Based Adult Learning." *New Directions for Adult and Continuing Education* 2001 no 89 (2001): 43-52. <https://doi.org/10.1002/ace.7>
- Hatlevik, I.K. R. "Transformativ læring. Hva er det, og hva kan det bidra med i lærerstudenters kompetanseutvikling?" *Uniped* 41, no. 4 (2018): 384-400.
<https://doi.org/10.18261/issn.1893-8981-2018-04-02>
- Holton, E.F., Swanson, R.A. and Naquin, S.S. "Andragogy in Practice: Clarifying the Andragogical Model of Adult Learning." *Performance Improvement Quarterly* 14 no. 1. (2001): 118-143. <https://doi.org/10.1111/j.1937-8327.2001.tb00204.x>

- Illeris, K. "Transformativ Læring og Identitet". Frederiksberg: Samfundslitteratur, 2013
- Illeris, K. "Peter Jarvis and the understanding of adult learning." *International Journal of Lifelong Education* 36, no. 1-2 (2017): 35-44.
<https://doi.org/10.1080/02601370.2016.1252226>
- Kim, E. and Pak, S.. "Students do not overcome conceptual difficulties after solving 1000 traditional problems." *American Journal of Physics* 70, no. 7 (2002): 759–765.
<https://doi.org/10.1119/1.1484151>
- Kitchenham, A. "The Evolution of John Mezirow's Transformative Learning Theory." *Journal of Transformative Education* 6, no. 2 (2008): 104-123.
<https://doi.org/10.1177/1541344608322678>
- Knowles, M. S. "Andragogy: Adult Learning Theory in Perspective." *Community College Review* 5, no. 3 (1978): 9-20. <https://doi.org/10.1177/009155217800500302>
- Knowles, M.S., Holton III, E.F., Swanson, R.A., SWANSON, R., & Robinson, P.A. "The Adult Learner: The Definitive Classic in Adult Education and Human Resource Development." 9th ed.. London: Routledge, 2020.
- Kolb, D. A. Boyatzis, R.E. and Mainemelis, C.. "Experiential Learning Theory: Previous Research and New Directions." In *Perspectives on Thinking, Learning, and Cognitive Styles*. 1st Ed London: Routledge, 2001.
- Kugel, P. "How professors develop as teachers." *Studies in Higher Education* 18, no. 3 (1993): 315-328. <https://doi.org/10.1080/03075079312331382241>
- Lewis, L.H. and Williams, C.J.. "Experiential learning: Past and present." *New Directions for Adult and Continuing Education* 1994 no. 62 (1994): 5-16.
<https://doi.org/10.1002/ace.36719946203>
- Mezirow, J. "How critical reflection triggers transformative learning." In J. Mezirow & Associates (Eds.), *Fostering critical reflection in adulthood: A guide to transformative and emancipatory learning* (pp. 1–20). San Francisco: Jossey-Bass, 1990.
- Mezirow, J. "Transformative Learning: Theory to Practice." *New Directions for Adult and Continuing Education* 1997, no 74 (1997): 5-12.
<https://doi.org/10.1002/ace.7401>
- Purwati, D., Mardhiah, A., Nurhasanah, E. and Ramli, R. "The Six Characteristics of Andragogy and Future Research Directions in EFL: A Literature Review." *Elsya: Journal of English Language Studies* 4, no. 1 (2022): 86-95.
<https://doi.org/10.31849/elsya.v4i1.7473>
- Sherman, T. M., Armistead, L. P., Fowler, F., Barksdale, M. A. and Reif, G. "The Quest for Excellence in University Teaching". *The Journal of Higher Education* 58 no.1 (1987): 66–84. <https://doi-org.proxy.findit.cvt.dk/10.1080/00221546.1987.11778228>
- Wenger-Trayner, E., Fenton-O'Creevy, M., Hutchinson, S., Kubiak, C. and Wenger-Trayner, B. (Eds.). "Learning in Landscapes of Practice: Boundaries, identity, and knowledgeability in practice-based learning." (1st ed.). London, Routledge, 2014.