international medical education

MDPI

Article

Linking Knowledge Transfer and Competency Development: The Role of Lectures in a Family Medicine Curriculum

Catherine Bopp, Aline Salzmann, Sinan Durant, Melanie Caspar, Sara Volz-Willems, Johannes Jäger and Fabian Dupont *

Department of Family Medicine, Saarland University, 66424 Homburg, Germany
* Correspondence: fabian.dupont@uks.eu

Abstract

(1) Background: Medical education is moving from a cognition-based to a competency-based model in Germany. Traditional learning activities (LAs) are questioned. Some stakeholders criticise traditional LAs for not facilitating deep learning or operational competency transfer required in practical contexts. This qualitative study aims to take a closer look at the role of lectures in competency-based medical education from a student's point of view. **(2) Methods:** Three semi-structured group interviews were held with students from the family medicine curriculum in the summer semester of 2021. Questions focused on the three lectures in this family medicine curriculum and on students' experiences with lectures in general. One additional expert interview was held with one of the lecturers. The video-recorded interviews were transcribed verbatim and analysed using content analysis. **(3) Results:** Interview participants highlighted entertainment, the provision of a social and physical learning environment, and the completion of knowledge from books and educational websites as important roles of lectures. Lectures on demand were used by interviewees for time- and space-independent repetition. Lecturer-dependent qualitative differences between lectures were identified by interviewees. Important differences were the extent of interaction, as well as the enthusiasm and preparation of the lecturer. **(4) Conclusions:** Even though literature suggests that lectures may be a less effective learning activity, under certain circumstances, several aspects make them an essential element of modern curriculum development. By raising interest in a subject, providing a space for discussion and social interaction, interactive lectures appear to be a helpful link between knowledge acquisition and practical training of competencies.

Keywords: motivation; education; medical; undergraduate; learning; family practice; qualitative research

Academic Editor: Hideki Kasuya

Received: 23 June 2025
Revised: 18 August 2025
Accepted: 27 August 2025
Published: 3 September 2025

Citation: Bopp, C.; Salzmann, A.; Durant, S.; Caspar, M.; Volz-Willems, S.; Jäger, J.; Dupont, F. Linking Knowledge Transfer and Competency Development: The Role of Lectures in a Family Medicine Curriculum. *Int. Med. Educ.* **2025**, *4*, 33. https://doi.org/10.3390/ime4030033

1. Introduction

Already over 100 years ago, William Osler postulated the need for a more patient-centred and skill-based medical education: 'Medicine is learned by the bedside and not in the classroom' [1]. To this day, this message still holds, ensuring that not only theoretical knowledge but also practical skills, clinical reasoning, and professional behaviour are needed in real patient care. By linking operational knowledge transfer to competency development, the tradition of bedside teaching is continued while adapting it to modern educational frameworks. This is why many countries' current governmental bodies require medical education to move from a cognition-based to a competency-based curriculum [2]. The Association of American Medical Colleges (AAMC) implemented a competency- and

outcome-based approach in medical education (CBME) [3]. A similar approach is currently being developed in Germany: The national competency-catalogue for undergraduate medical education (NKLM) [4]. The underlying idea of the NKLM is to align the undergraduate medical curriculum to teaching formats and assessment methods with competency-based outcomes. NKLM implies changes in lecture design by, for example, promoting case-based discussions, adding interactive elements such as audience response systems and linking theoretical content to practical application. For complex skills, situated learning offers a complementary approach. The focus lies on applying previously learnt knowledge in everyday situations. It suggests learning to be an active experience of activities in a real situational context and team [5]. This often includes the social context, which can, for example, be provided by a Community of Practice (CoP), a group of individuals who are interested in the same topic and gain more knowledge by exchanging and interacting regularly [6]. Combined, these elements ensure a consistent competency-based structure to teaching.

Many institutions struggle with implementing change. Changing the concept of medical education and building the right framework for competency-based learning may come with many challenges, such as limited resources, insufficient faculty training, or resistance to change rooted in tradition. The whole process must be approached from different angles. It often implies a new understanding of the role of a teacher. Literature suggests a transition from a knowledge transmitter to a coach who guides students' learning during learning activities [7]. Recently, the efficacy of traditional learning activities (LAs) such as lectures has been questioned more and more [8]. Many educators are in doubt whether problem-solving skills or the ability to transfer knowledge can be effectively learned in a traditional classroom setting. For this reason, some universities, for example, the University of Vermont, have totally replaced lectures in their undergraduate curriculum. At other universities, only some selected lectures remain to build a framework and foundation for subsequent learning [8].

When creating or redesigning a study program for Family Medicine (FM), all the above-mentioned issues must be addressed to develop a state-of-the-art curriculum.

During the design process of the new competency-based Family Medicine (FM) curriculum at Saarland University (UdS), lectures were initially not included in the curriculum. This decision is based on the Self Determination Theory (SDT), aiming to purposefully foster independent asynchronous learning and autonomy, and thereby promoting intrinsic autonomous motivation [9]. In SDT, intrinsic motivation describes actions that are being performed for their inherent satisfaction and the interest in gaining more knowledge. Intrinsic motivation can be fostered by high levels of autonomy, relatedness and competence. Factors like reward or punishment account for extrinsic motivation [9].

Instead of lectures, students were provided with podcasts, screencasts, articles, and formative multiple-choice question sessions on a central learning homepage.

Additionally, students participated in on-site simulation-based seminars, in which they could train patient management in primary care, with simulated patient cases. One group consisted of six to eight students. A team of two students was confronted with a professional actor, simulating a realistic FM patient case, while their peers were watching and giving feedback on the performance afterwards. Structured feedback was provided by the staff (expert witness) and the professional actor.

The implementation of the FM curriculum started as a pilot project in October 2020. 92 students took part in the winter semester 2020–21. The pilot project was accompanied by quantitative and qualitative studies about students' motivation and learning behaviour based on SDT [9–11]. During evaluations, many students reported that although they were generally satisfied with the provided LA, they missed having lectures in the FM curriculum.

The feedback concerning the lack of lectures within the new curriculum surprised many educators at the university, as attendance was generally very low in the preceding years. As a reaction to students' feedback on the curriculum design, lectures were reintroduced in the following semester (summer semester 2021). This was accompanied by a research project to better understand the need for lectures in highly experienced digitally native students. Reintroduced lectures were structured as students suggested by preliminary results from initial data collection. They all included real-life examples and question-and-answer (Q&A) sessions for active participation.

Students were provided with three online live lectures, held by three different general practitioners. The three main subjects from the curricular modules addressed the topics: abdominal pain, febrile infection, and back pain. The lectures were video-recorded for online on-demand supply.

This study aims to better understand the role of lectures from a student's perspective in a competency-based curriculum at UdS.

2. Materials and Methods

2.1. Study Design

This study follows an explorative qualitative approach, using semi-structured interviews as the source of data for qualitative content analysis [12]. The semi-structured interviews were chosen as the best fit to enable a detailed exploration of the students' perspective and offer probe flexibility while ensuring the coverage of key topics.

2.2. Participants and Setting

In the winter semester of 2020, the new competency-based blended learning curriculum in FM at UdS started as a pilot project. The project was accompanied by explorative qualitative and quantitative research projects [10,11]. On 25 September 2020 (BU234/20), ethics approval was granted.

The pilot project accompanying interviews were held on 18 December 2020 and 7 January 2021. These interviews, conducted to find out more about motivating elements in a curriculum, provided first insights into students' perspectives on lectures and helped to develop the new lecture format in FM. The intended sampling size was two to five students for each of the group interviews. Three following group interviews were held on 24 July 2021. The interviews focused on the experiences in lectures in general and in the newly implemented lectures in the FM curriculum. To broaden the perspective on lectures, one additional semi-structured expert interview was conducted with one of the lecturers on 27 May 2022, who was randomly selected and invited via email. Based on simple random sampling, the students participating in the summer semester 2021 were invited out of a list of pseudonymised email addresses via email.

2.3. Data Collection

The group interviews took place online in the form of Zoom meetings. All participants verbally agreed to the video recording and the use of data for analysis and pseudonymised publication. The moderator was C.B., and the co-moderator was A.S. (doctoral students at FM at UdS). The interview was concluded with a three-minute summary of the interview and asked to correct misunderstandings or to add missing aspects (member checking). The interviews were transcribed verbatim.

2.4. Data Analysis

The interviews were analysed line-by-line by one main coder (C.B.) using an inductive open-coding strategy (based on summary content analysis by Mayring) with MAXQDA2020

software 4.2 [13]. Revaluation of the codes took place continuously as a circular process by CB and in two investigator-triangulation sessions with C.B. and two additional coders, F.D. and M.C., on 22 July and 7 September 2022.

3. Results

In the interviews, it became clear that students perceive many different types of lectures. Participating students listed both positive and negative elements of the FM lectures and other lectures they had attended before. Using an inductive approach, we summarised the possible functions of lectures into three main categories: **The entertaining role, providing a social and physical learning environment, and the theory-complementing role of lectures.**

3.1. Study Population

The group interviews were held with two, three and four students. From the 111 students participating in the summer semester 2021, 21 were invited via email. In a first round on 6 June 2021, 12 students were invited. Participants could choose from three appointments. Out of these 12 students, five agreed to participate. In a second round (14 June 2021), nine more students from the semester were randomly selected and invited. Another four agreed to participate.

3.2. The Entertaining Role of a Lecture

Participants in the interviews generally evaluated the FM curriculum's lectures positively, particularly highlighting their entertaining character (*interview 2, pos. 24*). This perception was closely linked to opportunities for interactive participation, which many described as beneficial for both engagement and learning outcomes. One interviewee said: '*(. . .) I liked that one could participate interactively, and I benefit a lot from answering questions, and it is more fun if one gets included [in the lecture].*' (*Interview 2, pos. 6*). The inclusion of questions and opportunities for involvement appeared to increase students' enjoyment and motivation during the lectures.

A recurrent theme was the role of varied communication tools in maintaining students' attention. Interviewees reported that integrating diverse elements—such as explanations, playful elements, and digital tools like Slido (an audience interaction app)—helped them stay focused, especially in familiar or previously covered content areas (*Interview 3, pos. 29*). This effect was particularly noted during online lectures, where maintaining concentration was reported as more challenging. The use of interactive quizzes and Q&A sessions within the online format was perceived as an effective strategy to counteract distraction and enhance attentiveness (*Interview 3, pos. 29*), (*Interview 2, pos. 35*).

The extent to which a lecture was perceived as entertaining seemed to depend heavily on the lecturer's delivery. Key attributes mentioned included enthusiasm, authenticity, and a high degree of preparation. Participants emphasised that even intrinsically interesting topics could be perceived as dull if poorly presented, whereas less engaging content could be made compelling through effective delivery (*Interview 2, pos. 42*). This underscores the personal influence of the lecturer in shaping the learning experience. From the lecturer's perspective, there was a strong emphasis on one's own responsibility to actively engage students during one's lecture. It was noted that students are perceptive to whether a lecturer is genuinely invested in their teaching, suggesting that emotional and professional commitment play a significant role in fostering attention and motivation. '*I think as a lecturer, you should exhaust all means to keep student's attention. And I am convinced, (. . .) that students feel if the one presenting is supporting [his lecture] and if he is presenting it [his lecture] with body and soul.*' (*Interview with the lecturer, pos. 38*).

3.3. Provision of Social and Physical Learning Environment

In addition to making lectures entertaining, participants appreciated it when lecturers made the content personally relatable. This sense of relatedness appeared to support engagement and reassurance among students. For instance, when lecturers shared their own early experiences and learning struggles, some students felt more understood and supported. One interviewee described feeling reassured when a lecturer admitted, '*When I myself was still a beginner, I didn't know this either.*', emphasising the value of such personal reflections (*Interview 3, pos. 64*).

This strategy also seemed to positively influence students' self-esteem. Several participants interpreted the lecturer's effort and preparation as a sign of appreciation toward the students, which enhanced their sense of being valued. One student explained that the attention to detail in preparation and use of high-quality equipment signalled commitment and respect from the teaching staff (*Interview 1, pos. 36*).

Situated learning was also emphasised as a key factor in making lectures more impactful. One participant recalled the pre-pandemic setting of in-person lectures in hospital buildings, where the physical presence of lecturers coming directly from the wards created a strong sense of authenticity and relevance to medical practice. This spatial and contextual embedding was seen as enhancing the educational experience (*Interview 3, pos. 34*).

Beyond content delivery, participants highlighted the social functions of live lectures. Opportunities for spontaneous interaction—both with lecturers and fellow students—were described as crucial elements of the learning environment. While digital tools like Q&A apps offered some degree of interactivity, they were perceived as insufficient substitutes for direct interpersonal contact. As one student noted, '*eye contact is already an important way of interaction,* ' which was largely absent in online formats (*Interview 3, pos. 33*). The value of informal peer exchange was also emphasised. Meeting before or after lectures enabled students to discuss questions and share insights—opportunities that are often missing in online settings. One participant stated, '*we are at least 10, 20 or sometimes 30 min together [. . .] and when questions arise you can talk to each other and discuss things. This is what I miss the most [in online formats].*' (*Interview 3, pos. 38*).

From the lecturer's perspective, two distinct student behaviours were observed in terms of social interaction: a larger group of passive participants, referred to as "*pure consumers,*" and a smaller group actively seeking interaction and collaborative engagement (*interview with the lecturer, pos. 21*). This distinction underscores the need for flexible teaching formats that can accommodate diverse student needs regarding interactivity and participation.

3.4. The Theory-Complementing Role of Lectures

Interview data suggest that students expected lectures to provide added pedagogical value beyond what is accessible through textbooks or online learning platforms. Specifically, they appreciated lectures that offered practical applications, illustrative examples, and structured approaches to clinical reasoning. One participant emphasised the importance of this distinction, stating that it was beneficial when lectures did not simply '*spell out what you can read on your own*' (*Interview 2, pos. 18*). Instead, sessions that incorporated multimedia materials—such as videos or audio clips—and demonstrated diagnostic reasoning were perceived as particularly effective in supporting learning. In addition to enriching theoretical content, lectures were seen as instrumental in helping students contextualise and integrate fragmented knowledge. Online resources were often described as highly detailed but lacking a coherent framework, especially with regard to family medicine (FM). Lectures, by contrast, were valued for offering an overarching perspective on how to approach clinical problems from an FM point of view (*Interview 1, pos. 34*). This integrative

function was frequently contrasted with the specificity and volume of online materials, which some students found overwhelming and insufficiently focused.

Lectures also served an important curatorial function by highlighting clinically relevant content and exam-focused topics. Given the breadth of available digital content, students relied on lectures to help prioritise and filter information. As one student noted, '*a lecture can set a better focus*' than platforms that offer '*like 1000 learning cards*' without clear guidance on common or high-yield material (*Interview 2, pos. 57*).

These expectations were echoed by faculty. One lecturer described deliberately beginning a session with a video of a real-life consultation to emphasise that the material was grounded in clinical practice, rather than being '*something passive from the shelves*' (*Interview with lecturer, pos. 38*). Such approaches were perceived as not only engaging but also more authentic in conveying the complexities of real-world medicine.

3.5. Repetition with On-Demand Lectures

The shift toward digital teaching formats during the COVID-19 pandemic introduced new possibilities for combining lecture modalities. Universities increasingly implemented both synchronous (live) and asynchronous (on-demand) formats, each serving different pedagogical functions. Live lectures were valued for enabling real-time interaction, active participation, and situated learning experiences (*Interview 3, pos. 34; pos. 38*).

At the same time, many students expressed a preference for hybrid approaches that offered both live engagement and the ability to revisit content asynchronously. One participant praised a model in which lectures were conducted live but also made available for later review: '*I liked the solution from dermatology, being live at the lecture, so you can ask questions, and afterwards the current one gets uploaded*' (*Interview 1, pos. 7*). On-demand recordings were perceived as especially useful for reviewing complex material, exam preparation, and flexible time management. As another student observed, being able to rewatch lectures enhanced retention and understanding (*Interview 3, pos. 21*).

Overall, the findings suggest that students value lectures not only as a source of clinical insight and content curation but also as a multimodal learning resource. A combination of live and on-demand formats appears to best support diverse learning needs and preferences, enabling both interaction and individual asynchronous repetition (see Table 1).

Table 1. Different forms of lectures and their characteristics mentioned by interview participants.

	Live on-Site	**Live Online**	**Online on Demand**
Advantages	- Most possibilities of interaction (e.g., eye contact) - Exchange with fellow students - Situational atmosphere	- Digital possibilities of interaction (e.g., Q&A session) - Possibility to participate actively but remain anonymous - Flexibility in space	- Variable speed - Repeatable any number of times (good for repetition) - Flexibility in time and space
Disadvantages	- Loss of time (journey and waiting periods)	- High level of distraction (missing social control, many distractors at home) - Lack of digital skills among some teachers - Lack of technical equipment and unstable internet connection	- No verbal exchange or eye contact

3.6. Summary of the Results

Lectures can serve multiple functions by promoting engagement, enabling social learning, and deepening theoretical understanding. A hybrid format combining live and

on-demand elements seems to be favoured, as it balances interactivity with flexibility and review opportunities.

4. Discussion

4.1. The Entertaining Role of Lectures

In line with Self-Determination Theory (SDT), intrinsic motivation arises when learners engage in an activity out of genuine interest and enjoyment, rather than for external rewards [9]. Interactive and engaging elements—such as real-time quizzes or embedded quiz questions within lecture videos—can create more dynamic learning experiences that maintain students' attention and cognitive engagement. Empirical studies now demonstrate that embedded quizzes significantly enhance comprehension and retention. For instance, embedded quiz questions improved student performance and active processing during video lectures [14]. Moreover, when students perceive lectures as mentally stimulating rather than passive, this may not only foster enjoyment but also trigger deeper processing and better knowledge retention [15].

Most importantly, such experiences may serve as an entry point into self-regulated learning by increasing a learner's willingness to invest effort beyond the classroom. In this sense, lecture engagement supports not only short-term attentional focus but may also reinforce long-term intrinsic motivation for professional development.

4.2. The Provision of Social and Physical Environment

Our findings suggest that lectures can serve as socially rich and cognitively situated learning environments even outside clinical settings. This aligns with broader trends in health professions education, where situated learning has been increasingly applied to design and evaluate educational interventions and understand social learning processes [16]. When lecturers embed theoretical knowledge in real-life examples—such as diagnostic processes or common clinical scenarios—they help students mentally rehearse professional roles and problem-solving strategies.

Beyond the lecture content itself, students highlighted the importance of the social and physical environment in which lectures take place. Informal peer exchange before, during, and after lectures contributes to the emergence of a Community of Practice (CoP) where knowledge is co-constructed and shared [17]. This collective experience can foster not only cognitive understanding but also social competencies such as communication and teamwork—both of which are central to medical professionalism. Lectures, therefore, may serve as arenas for both knowledge construction and professional identity formation.

4.3. The Role of the Teacher

The lecturer's preparation, enthusiasm, and authenticity were consistently described as decisive factors shaping the perceived quality of a lecture. These characteristics appear to influence not only knowledge transmission but also students' emotional engagement and role identification. When students experience a teacher as committed and invested, it signals value and respect for their learning journey—an effect previously associated with enhanced intrinsic motivation [18,19]. Furthermore, a well-structured and thoughtfully delivered lecture allows students to cognitively organise and connect new information, thus facilitating deeper learning. This contextualisation of knowledge beyond surface-level outcomes aligns with broader goals of modern medical education, where developing understanding and clinical judgment is just as important as acquiring facts. The teacher's role, therefore, extends into shaping the learner's professional self-concept and perceived self-efficacy—key drivers of sustained engagement and competence development.

4.4. Lectures in the Context of Competency-Based Medical Education

The diverse roles of lectures identified in this study gain particular relevance in the context of CBME. CBME aims not only to impart knowledge, but to cultivate a range of competencies—including clinical reasoning, communication, collaboration, and lifelong learning [2].

Our findings suggest that lectures that illustrate diagnostic reasoning, provide real-world clinical examples, and help students prioritise and synthesise content are well aligned with the principles of CBME. These features support the integration of knowledge, skills, and attitudes—rather than treating them as separate domains. Furthermore, combining live teaching with on-demand formats offers flexibility and learner autonomy, which are essential elements when implementing CBME models.

When implemented thoughtfully, lectures may contribute meaningfully to bridging the gap between knowledge acquisition and the development of professional competence. They support not only cognitive learning but also socialisation, motivation, and identity formation—central pillars in CBME.

4.5. Limitations

This study reflects the experiences of a small, randomly selected group of students within the FM curriculum at UdS. Despite random sampling, relevant perspectives may have been missed due to the limited sample size. Interviews were led till theoretical saturation. Additionally, peer moderation by fellow students may have influenced responses through social desirability or familiarity.

The study took place during the SARS-CoV-2 pandemic, a period marked by significant shifts in medical education. These changes likely shaped students' views on teaching formats. While some literature suggests that preferences for flexible, digital learning will persist beyond the pandemic, such assumptions require further validation [20,21].

Future research should include larger, more diverse samples and could include a Delphi method to validate shared priorities regarding the role of lectures in CBME—e.g., preferred formats, required flexibility, and valued lecture elements such as interactivity or clinical relevance.

5. Conclusions

This study indicates that lectures can play a meaningful and complementary role in CBME when they are intentionally designed to support specific educational goals. Rather than relying on lectures for broad content delivery, educators should use them strategically—e.g., to model clinical reasoning, structure complex knowledge, or facilitate diagnostic decision-making processes.

Blended formats that combine live sessions with on-demand access may be particularly effective in accommodating diverse learning needs, supporting both flexibility and structured progression. Furthermore, lectures can foster professional identity formation when they create space for reflection, contextualisation, and learner engagement.

However, it is important to note that students' perceptions, while valuable for curriculum development, do not necessarily correlate with measurable learning outcomes. Future curriculum planning should therefore integrate student feedback with evidence from learning analytics and performance assessments to evaluate the actual impact of lecture formats on competency development.

Author Contributions: Course implementation, C.B., A.S., S.V.-W., F.D., and J.J.; conceptualisation, C.B. and F.D.; methodology, C.B. and F.D.; software, C.B.; validation, C.B., M.C., and F.D.; formal analysis, C.B., A.S., M.C., and F.D.; writing—original draft preparation, C.B. and F.D.; writing—review

and editing, C.B., A.S., S.V.-W., M.C., S.D., F.D., and J.J.; visualisation, C.B.; supervision, J.J. All authors have read and agreed to the published version of the manuscript.

Funding: The Department of Family Medicine holds active educational and research cooperation with IMPP (a national government agency for medical and pharmaceutical state exam questions), AMBOSS (a digital editing house), and the Association of Statutory Health Insurance Physicians (a regional body in Saarland of public health insurance physicians). There were no influences on the study's question design or analysis. C.B. received funding from the university graduate international program (GRADUS). A.S. received funding from the national scholarship foundation (Studienstiftung des deutschen Volkes) for their participation at the WONCA world conference in 2021 (digital).

Institutional Review Board Statement: The study was conducted in accordance with the Declaration of Helsinki and approved by the Ethikkommission der Ärztekammer des Saarlandes (ethics committee-Chamber of physicians-Saarland) on 25 September 2020 (BU234/20).

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The data provided in this work are available from the corresponding author upon reasonable request.

Conflicts of Interest: The Department of Family Medicine holds active educational and research cooperatives with IMPP (a national government agency for medical and pharmaceutical state exam questions), AMBOSS (a digital editing house), and the Association of Statutory Health Insurance Physicians (a regional body in Saarland of public health insurance physicians). There were no influences on the study's question design or analysis.

Abbreviations

The following abbreviations are used in this manuscript:

CBME	competency-based medical education
CoP	communities of practice
e.g.	example given
FM	family medicine
NKLM	national competency-based catalogue of learning tasks for medicine
Pos.	position
Q&A	question and answer
SDT	self-determination theory
UdS	Saarland University (Universität des Saarlandes)

References

1. Stanford Medicine Website: 10 Osler-Isms to Remember in Your Daily Practice. Available online: https://med.stanford.edu/stanfordmedicine25/blog/archive/2014/10-Osler-isms-to-Remember-in-Your-Daily-Practice.html (accessed on 13 October 2022).
2. Frank, J.R.; Snell, L.S.; Cate, O.T.; Holmboe, E.S.; Carraccio, C.; Swing, S.R.; Harris, P.; Glasgow, N.J.; Campbell, C.; Dath, D. Competency-based medical education: Theory to practice. *Med. Teach.* **2010**, *32*, 638–645. [CrossRef] [PubMed]
3. Association of Amierican Medical Colleges Website. Available online: https://www.aamc.org/about-us/mission-areas/medical-education/cbme (accessed on 13 October 2022).
4. Nationaler Kompetenzorientierter Lernzielkatalog Medizin Homepage. Available online: http://www.nklm.de/menu (accessed on 13 October 2022).
5. Stein, D. *Situated Learning in Adult Education*; ERIC Clearinghouse on Adult, Career, and Vocational Education: Columbus, OH, USA, 1998.
6. Lave, J.; Wenger, E. *Communities of Practice: Learning, Meaning and Identity*; Cambridge University Press: Cambridge, UK, 2004.
7. Biemans, H.; Nieuwenhuis, L.; Poell, R.; Mulder, M.; Wesselink, R. Competence-based VET in the Netherlands: Background and pitfalls. *J. Vocat. Educ. Train.* **2004**, *56*, 523–538. [CrossRef]
8. Schwartzstein, R.M.; Roberts, D.H. Saying goodbye to lectures in medical school—Paradigm shift or passing fad. *N. Engl. J. Med.* **2017**, *377*, 605–607. [CrossRef] [PubMed]
9. Deci, E.L.; Ryan, R.M. Self-determination Theory. In *Handbook of Theories of Social Psychology*; Pam, A.W.K., Van Lange, A.W., Higgins, E.T., Eds.; SAGE Publications: London, UK; Thousand Oaks, CA, USA; New Delhi, India, 2011; pp. 416–436.

10. Aline Salzmann, C.B.; Volz-Willems, S.; Jäger, J.; Dupont, F. Motivation to Study in a Family Medicine Curriculum (Year 5) at Saarland University. *Z. Allg.* **2022**, *98*, 143–147.
11. Bopp, C.; Salzmann, A.; Volz-Willems, S.; Jäger, J.; Dupont, F. The role of providing structure in a Family Medicine curriculum for undergraduate medical education. *Z. Für Allg.* **2022**, *11*, 396–401.
12. Hopf, C. Qualitative interviews: An overview. In *A Companion to Qualitative Research*; Flick, U., von Kardorff, E., Steinke, I., Eds.; SAGE Publications: London, UK; Thousand Oaks, CA, USA; New Delhi, India, 2004; pp. 203–208.
13. Mayring, P. Qualitative content analysis. In *A Companion to Qualitative Research*; Flick, U., von Kardorff, E., Steinke, I., Eds.; SAGE Publications: London, UK; Thousand Oaks, CA, USA; New Delhi, India, 2004; pp. 266–269.
14. Rice, P.; Beeson, P.; Blackmore-Wright, J. Evaluating the Impact of a Quiz Question within an Educational Video. *TechTrends* **2019**, *63*, 522–532. [CrossRef]
15. Schunk, D.H.; Pintrich, P.R.; Meece, J.L. Theory, research, and applications. In *Motivation in Education*; Pearson Higher Ed.: London, UK, 2014.
16. O'Brien, B.C.; Battista, A. Situated learning theory in health professions education research: A scoping review. *Adv. Health Sci. Educ. Theory Pract.* **2020**, *25*, 483–509. [CrossRef] [PubMed]
17. Woodruff, J.N.; Vela, M.B.; Lee, W.W.; McConville, J.F. Enhancing the Graduate Medical Education Clinical Learning Environment Through Community of Practice Forums. *Acad. Med.* **2024**, *99* (Suppl. S1), S20–S27. [CrossRef] [PubMed]
18. Prananto, K.; Cahyadi, S.; Lubis, F.Y.; Hinduan, Z.R. Perceived teacher support and student engagement among higher education students—A systematic literature review. *BMC Psychol.* **2025**, *13*, 112. [CrossRef] [PubMed]
19. Carbonneau, N.; Vallerand, R.J.; Fernet, C.; Guay, F. The role of passion for teaching in intrapersonal and interpersonal outcomes. *J. Educ. Psychol.* **2008**, *100*, 977. [CrossRef]
20. Rose, S. Medical student education in the time of COVID-19. *JAMA* **2020**, *323*, 2131–2132. [CrossRef] [PubMed]
21. Sandars, J.; Correia, R.; Dankbaar, M.; de Jong, P.; Goh, P.S.; Hege, I.; Masters, K.; Oh, S.-Y.; Patel, R.; Premkumar, K. Twelve tips for rapidly migrating to online learning during the COVID-19 pandemic. *MedEdPublish* **2020**, *9*, 82. [CrossRef] [PubMed]