

Inkluderet studier i forskningsoversigten: Erhvervsskoler

	Titel	Abstract
1	<p>Danmarks Evalueringsinstitut (2013). Sammenhæng mellem skole og praktik : evaluering af skoler og virksomheders arbejde med at understøtte sammenhæng i tekniske erhvervsuddannelsers hovedforløb. Danmarks Evalueringsinstitut. http://www.eva.dk/projekter/2012/sammenhaeng-i-tekniske-erhvervsuddannelsers-hovedforlob/hent-rapporten/sammenhaeng-mellem-skole-og-pratik/download</p>	
2	<p>Abdel-Wahab, M. (2012). Rethinking Apprenticeship Training in the British Construction Industry. <i>Journal of Vocational Education and Training</i>, 64(2), 145-154. https://doi.org/http://dx.doi.org/10.1080/13636820.2011.622450</p>	<p>The British government continued intervention to support apprenticeship training across the economy has been notable in recent years. The construction industry is the only sector to retain a levy/grant scheme (that supports training including apprenticeships) since 1964, yet it still faces the problem of skills shortages. This article thus reviews the issues pertaining to apprenticeship training in the construction industry, namely: nature of the industry, demand/supply and employer engagement. It is argued that continued over-reliance on construction employers to offer work placement opportunities does not present a plausible way forward for supporting apprenticeship training given the deeply entrenched poor training culture in the industry. Policymakers thus need to move away from an elusive concept of employer engagement and consider alternative means for the provision of apprenticeship training. Exploring the application of Virtual Learning Environments (VLEs), in particular workplace simulation, in addition to the active engagement of experienced workers and trade unions, presents possible alternatives for supporting apprenticeship training. Unless policymakers are prepared to consider alternative ideas for apprenticeship training the construction industry is likely to continue experiencing skills shortages that can potentially impede its future development. (Contains 8 notes.)</p>

3	Akkerman, S. F., & Bakker, A. (2012). Crossing Boundaries between School and Work during Apprenticeships. <i>Vocations and Learning</i> , 5(2), 153-173. https://doi.org/http://dx.doi.org/10.1007/s12186-011-9073-6	<p>In vocational education, there is an ongoing discussion about problems occurring in school-work transitions and in relating school and work-based learning processes. Apprenticeships have been identified as valuable learning and working trajectories for making successful transitions and relations between school and work. However, they have been mostly located as activities taking place solely in the workplace with hardly any attention for what students do and learn during release days at school. Deploying the theoretical notion of boundary crossing, we conducted a study in Dutch senior secondary vocational laboratory education, investigating the actions and interactions taking place between school and work during apprenticeships, taking into account both the cognitive and identity-related challenge of students' boundary crossing. Specifically, we conducted workplace visits and analyzed how apprentices' experiences at work are discussed and reflected upon with students and teachers at school. The findings reveal that what students are expected to learn in work practices is largely rendered invisible by the technology-mediated, scripted and socially distributed nature of their work. They are educated as lab technicians doing much manual work, but become more operators of machines in the workplace. The release days seem to provide initial ways to explicate and reflect with the teacher on what is going on in work, but they can be exploited more fully for vocational learning. Based on the results we discuss how school and work institutions can mutually feed each other in facilitating apprentices' learning.</p>
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4	<p>Aksu, G., & Koruklu, N. (2015). Determination the Effects of Vocational High School Students' Logical and Critical Thinking Skills on Mathematics Success. <i>Eurasian Journal of Educational Research</i>, 59, 181-206.</p> <p>https://search.proquest.com/docview/1720064199?accountid=14468</p>	<p>Problem Statement: One of the main goals of education is to nurture individuals who know and improve themselves; who is well educated and have scientific perspective; who have developed communal coherency level; who are active, democratic and respectful to human rights. At the present time, according to an up to date mentality in mathematics education which is agreed on, the idea of learning mathematics by doing and experiencing rather than learning pure mathematical knowledge has come into prominence. In this process, there are many significant skills such as how to generate mathematical formulas, how to reach generalizations, how to reason will be developed</p> <p>Purpose of the Study: In this study the direct and indirect relationships between Mathematics success of vocational high school students and their attitudes towards the course, critical thinking tendencies and logical thinking skills were analyzed.</p> <p>Method: The research was conducted with 479 first grade students who study at various departments of Aydin Vocational High School at Adnan Menderes University. SPSS 19.0 and AMOS 16.0 packaged softwares were used for the analysis of the gathered data in the study.</p> <p>Findings: According to the test which analyses the direct relations among the variables, it was concluded that there was a positive and significant relation between students' critical thinking tendencies and Mathematics course success grades; positive, medium level significant relation between their attitudes towards Mathematics course and Mathematics course success; positive, medium level significant relation between students' critical thinking tendencies and their attitudes towards Mathematics course; positive, low level significant relation between their critical thinking tendencies and logical thinking skills. The results also showed that according to the test which analyses indirect effects among the variables, it was found that although the direct effect (0.014) of critical thinking on success was not statistically significant, the indirect effect (0.305) formed from the attitudes toward the course was significant. This result indicates that attitudes towards the course had an exact mediation role between critical thinking and Mathematics success. Moreover, the direct effect (0.793) of logical thinking upon success was</p>
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		<p>statistically significant. Besides, indirect effect (0.031) formed from attitudes was also statistically significant. However, the intensity of this indirect effect decreased according to the first situation. This indicated that attitudes had a partial mediation role between logical thinking and success. Conclusion and Recommendations: The results showed that the students' attitudes towards to the course have to be positive in order to be successful in Mathematics course. Success grades in Mathematics can be increased by using methods which direct students to think critical and develop these thinking strategies. Improvement in Critical thinking tendencies and logical thinking skills which will enable the students to look at everything from different aspects and will give them opportunity to discover where the formulas and rules came from and how they emerged, can improve the academic success rates of Mathematics which is regarded as a difficult and scary course.</p>
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5	<p>Al-Ali, S. (2014). Are Lecturers Transferring the Necessary Skills Needed for the Workplace? The College of Technological Studies, Kuwait--A Case Study. <i>Journal of International Education and Leadership</i>, 4(2), 1-9. https://search.proquest.com/docview/1895977667?accountid=14468</p>	<p>In the related literature, many authors and observers have confirmed that there has been a considerable gap between what is learned in the classroom and the real- life context of vocational and technical students' present and future workplaces. This unpleasant situation mostly occurs in developing countries where lecturers in vocational and technical education have limited knowledge and experience with real practice in industry. Therefore, their experience is limited to the confines of their institutions. This paper examines whether lecturers take into consideration those fundamental skills required by industry in their classes. In other words, do lecturers know the skills needed for today's workplace? The study also examines the degree of industrial involvement in formulating vocational and technical curriculum, such as the types of knowledge, skills and attitudes that need to be stressed in the classroom. This study consisted of: a review of related literature; a questionnaire that was distributed to a sampling of lecturers at the College of Technological Studies; as well as personal interviews with the head of the department, dean of the Industrial Liaison Office, and the department's trainees' supervisors within local industry. This paper concludes that lecturers must emphasize and develop the needed knowledge, skills, and attitudes required by industries in their course instruction. Otherwise these industries, particularly in Kuwait, will continue to heavily depend on expatriates as "skilled" workers for years to come.</p>
6	<p>Andersen, G. K. (2015). Hvor blev vandhullet af? : en undersøgelse af et pædagogisk, innovativt udviklingsprojekt på en Social og Sundhedsskole. <i>Reflexen</i>. https://journals.aau.dk/index.php/reflexen/article/download/1188/982</p>	

7	<p>Andersson, P., & Köpsén, S. (2018). Maintaining Competence in the Initial Occupation: Activities among Vocational Teachers. <i>Vocations and Learning</i>, 11(2), 317-344. https://doi.org/http://dx.doi.org/10.1007/s12186-017-9192-9</p>	<p>Contemporary work-life changes rapidly, and vocational education and training (VET) teachers need to keep up-to-date with changing knowledge demands and technological developments. This article concerns VET teachers' continuing professional development (CPD) related to the specific vocations for which they teach. The aim is to analyse VET teachers' participation in various types of activities designed to make them become more knowledgeable in relation to industry currency. The study draws on a socio-cultural perspective on practice and learning. Theory concerning adults' participation in education is also used in analysing drivers of and barriers to participation in learning activities. The analyses are based on survey data from 886 Swedish VET teachers relating to their participation in different activities, barriers/drivers concerning participation in these activities, perceived effects (outcomes) of participation in terms of professional development, and teachers' background. Reading professional texts was the most common CPD activity among those VET teachers participating in the study. Reading, and work in the VET teacher's former/initial occupation were the two activities where variation in performing them could be explained to the highest degree. The study particularly highlights the importance of boundary crossing between school and work-life for maintaining and developing the industrial currency of VET teachers' competence. Active membership and engagement in the community of practice of the initial occupation is important for participation in CPD activities closely related to this community.</p>
8	<p>Andresen, R. S. (2010). Hvordan kan beskrivelse og refleksjon over erfaringer i praksisfeltet bidra til å utvikle begynnende yrkeskunnskap hos elever på yrkesfag? : Høgskolen i Akershus. http://idtjeneste.nb.no/URN:NBN:no-bibsys_brage_16829 https://hdl.handle.net/10642/769</p>	

9	<p>Arinaitwe, D., & Sannerud, A. R. (2019). Analysing the Interplay Between Institutional-Based and Workplace Learning. <i>Scandinavian Journal of Vocations in Development</i>, 4(1), 109-135. https://doi.org/10.7577/sjvd.3249</p>	<p>Learning and working are two significant social networks in preparing individuals for future life. An understanding of learning in the workplace can inform how we organize institutional learning in order to produce competent and relevant vocational education and training (VET) graduates for the world of work. This paper explores the existing collaborative activities in the masters in vocational pedagogy (MVP) study program at Kyambogo University in Uganda and their linkage with workplaces. Two research questions were posed. (1) What collaborative activities are there in the MVP program that allow for learning in vocational teacher training institutions (VTIs) and workplaces? 2) How is knowledge constructed amongst the participating actors? The questions were investigated through in-depth, semi-structured interviews with purposively sampled participants. An analysis of the documents from the MVP project, including program reports, collaborating stakeholders meeting minutes and students' theses, was done. The findings revealed that field expeditions and action research (AR) projects were the key activities incorporated in the MVP program to support the back and forth learning from workplaces. Through interactions and sharing practices, these activities promoted learning by solving problems encountered at work and by doing real life tasks.</p>
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10	<p>Armatas, C., & Papadopoulos, T. (2013). Approaches to Work-Integrated Learning and Engaging Industry in Vocational ICT Courses: Evaluation of an Australian Pilot Program. <i>International Journal of Training Research</i>, 11(1), 56-68.</p> <p>https://doi.org/http://dx.doi.org/10.5172/ijtr.2013.11.1.56</p>	<p>Evaluation of a government-sponsored program for promoting work-integrated learning (WIL) in information communication technology (ICT) courses offered to vocational education students is discussed in this paper. The program provided the opportunity to incorporate WIL in the curriculum which had not previously been a feature of these ICT courses. Three broad approaches identified were work placements, industry projects and industry interaction (including industry guest speakers, networking events and exhibitions). Common challenges identified across the nine programs evaluated included the considerable resources required to recruit and engage industry partners and issues preparing students for WIL. All the program staff interviewed (N = 17) identified cost, time and effort as impediments to delivering WIL in their course, but acknowledged the many benefits for all participants in having such a program. Lessons for program design, effectiveness and sustainability drawn from the evaluation point to future possibilities for continued collaboration between vocational education providers of ICT courses and industry partners in the area of work-integrated learning.</p>
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11	<p>Mogstad Aspoy, T., & Nyen, T. (2017). Short-Term Benefits, Long-Term Harm? Alternative Training to Apprenticeships in Norway. <i>International Journal for Research in Vocational Education and Training</i>, 4(4), 306-324.</p> <p>https://search.proquest.com/docview/2011265820?accountid=14468</p>	<p>Many countries with apprenticeship-based systems of VET face a shortage of apprenticeships. Some countries, including Denmark and Norway, address this supply-demand mismatch by offering alternative school-based routes to vocational qualifications for students not able to secure an apprenticeship. Other countries offer no alternative routes, but focus instead on pre-vocational education and training to prepare students for apprenticeships. This paper discusses the effects on the VET system of a recent Norwegian attempt to organise alternative training primarily as workplace training. Unlike the more established Danish system of alternative training, which relies primarily on school-based training in learning centres, Norway has attempted to make alternative training as similar to apprenticeship-based learning as possible. Most training in the pilot projects takes place in the work environment of a company, rather than in vocational schools. Our paper shows that the students in the pilot projects experience many of the learning and motivational benefits offered by workplace learning in general, and apprenticeships in particular. In certain circumstances, such schemes can improve the chances of completing VET despite for young people without an apprenticeship. However, such training schemes also generate important dilemmas. In particular, there is a risk that full-scale implementation of a system of alternative workplace-based training could reduce the number of new apprenticeships, potentially undermining the apprenticeship model on which Norwegian VET is based.</p>
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12	<p>Baxter, L., Mattick, K., & Kuyken, W. (2013). Assessing health care students' intentions and motivations for learning: the Healthcare Learning and Studying Inventory (HLSI). <i>Advances in Health Sciences Education</i>, 18(3), 451-462.</p> <p>https://doi.org/http://dx.doi.org/10.1007/s10459-012-9383-y</p>	<p>Inventories that measure approaches to learning have revealed that certain approaches are associated with better academic performance. However, these inventories were developed primarily with higher education students on non-vocational courses and recent research shows they fail to capture the full range of healthcare students' intentions and motivations for learning. To develop a new inventory measuring approaches to learning that addresses these shortfalls and is relevant to students on vocational courses in healthcare. In depth interviews with healthcare students were performed to understand the full range of healthcare students' intentions and motivations. The data were used to create a draft inventory, which was reviewed by interview participants and then tested with medical students. The final inventory was piloted with 303 healthcare students across six disciplines. Exploratory factor analysis was used to identify groups of related items within the inventory. The research produced a 32 item scale based on rich qualitative data, with a four factor structure and good internal consistency. A desire to link theory and practice was a distinctive feature of healthcare students. The new inventory contains nuanced items that enable a better understanding of their common and distinctive intentions and motivations. This study suggests that healthcare student populations have some unique intentions and motivations for learning and therefore require a bespoke inventory to ensure that important aspects are not missed. It offers a new tool for meaningful future research, the Healthcare Learning and Studying Inventory (HLSI).</p>
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13	<p>Behle, H. (2017). Developing Vocational Competences during Secondary School? <i>European Journal of Training and Development</i>, 41(1), 39-49. https://doi.org/http://dx.doi.org/10.1108/EJTD-07-2016-0057</p>	<p>Purpose: Using the example of an amalgamated secondary school qualification (International Baccalaureate Career-related Programme-- IBCP), in which both vocational education and training (VET) and academic subjects are taught, the paper aims to discuss the use of skills and knowledge gained during the IBCP for post-secondary school activities. Design/methodology/approach: The paper uses mixed method data based on a survey of 57 IBCP graduates and qualitative interviews with 20 IBCP graduates. Findings relate to the role of the IBCP in the careers decision-making process, the skills and competences students gained during their IBCP and its transferability to their current activity. Findings: After their IBCP, more than half of all observed students had entered higher education. Whilst a few students did not engage actively in the career decision-making process, some were pro-active and used different sources to gain information. However, a large group of students used their time during the IBCP to test various occupational ideas and, thus, used their VET to further the careers decision-making process. Most students reported that they could transfer the skills and competencies they had gained during their secondary school to their current activity. Originality/value: The paper calls for a renunciation of the ambivalent signals an amalgamated secondary school degree can provide. IBCP students signal both an increased productivity because of an increased level of vocational skills and a lower level of academic achievement. These signals, however, allow students to enter a highly diverse higher education system, especially in vocational courses.</p>
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14	Berner, B. (2010). Crossing Boundaries and Maintaining Differences between School and Industry: Forms of Boundary-Work in Swedish Vocational Education. <i>Journal of Education and Work</i> , 23(1), 27-42. https://search.proquest.com/docview/742868006?accountid=14468	This article discusses forms of "boundary-work" in school-based training for industrial work or, put another way, discourse and practices that cross, blur or reinforce boundaries between school and industry. The discussion builds on two ethnographic studies, one conducted in the 1980s and one in 2006, to provide insights on continuity and change in an activity system with two partly conflicting <i>raison d'etres</i> : one linked to the educational mandate of the school and the other to industrial demands on the school. Two forms of boundary-work are used by teachers and students to make sense of everyday activities and define school-based vocational training. The "reaffirmation" of boundaries and of schooling specificity involves taking the fostering and educational aspects of education seriously; the "reconstruction" of workplace experiences provides instructional practices that link schooling to work. Various manifestations of these forms of boundary-work are analysed, as are tensions and developments over time.
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15	<p>Bisgaard, J. (2018). Praktikkens didaktik: hvordan styrkes lærlinge og studerendes engagement og læring i praktik?</p>	<p>Projektets forskningsfelt er praktikforløb i vekselluddannelser, hvilket er et fælles-træk for erhvervs-, erhvervsakademi- og professionsbacheloruddannelser i Danmark. Øvrig forskning og undersøgelser af praktik viser dog, at trods tradition for og bred anvendelse af praktikforløb forekommer der i nogle praktikforløb forskellige udfordringer, der begrænser lærlinges og studerendes engagement og læring. I nogle tilfælde i en sådan grad, at lærlinge og studerende vælger at afbryde deres uddannelse. Projektet undersøger derfor, hvilken didaktisk praksis der styrker lærlinges og studerendes engagement og læring, når de er i praktik. Med afsæt i forskellige cases, hvor lærlinge og studerende samt deres praktikvej-leder er blevet interviewet og observeret i deres daglige arbejde, analyseres hhv. praktikkens didaktik og læring i praktik. Første del af analysen resulterer i min model for praktikkens didaktik. Den illustrerer, hvordan praktikkens didaktik tager afsæt i arbejdet med autentiske arbejdsopgaver, og at den enkelte arbejdssituation derfor er sammensat af fokusområderne: læringsmål, deltager- og vejlederforudsætninger, rammefaktorer, sammenhænge og koblinger, metodesammensætning og vurdering. Modellen illustrerer derudover, hvordan disse didaktiske fokusområder ofte hver for sig er under fortsat udvikling og samtidig danner en gensidig relation i den enkelte arbejdssituation. Yderligere illustrerer modellen, hvordan analysen har vist, at der ofte er en gensidig relation mellem den enkelte arbejdssituation og praktikstedets læringsmiljø, der ligeså er under fortsat udvikling bl.a. pga. lærlingens eller den studerendes deltagelse i sit praktikforløb. Dernæst viser første del af analysen, hvordan praktikforløb ofte er sammensat i en løst koblet struktur, hvor lærlingen eller den studerende veksler dels mellem arbejdsopgaver, der giver bred forståelse af praktikstedet, vs. arbejdsopgaver, der giver mulighed for udvikling af specialiserede rutiner, samt problemløsnings- og innovationserfaringer; dels arbejde med lav risiko ved fejl vs. opgaver med høj risiko ved fejl; dels arbejde med høj tydelighed i forventninger til arbejdsproces og arbejdsresultat samt få delelementer vs. arbejdsopgaver med mange delelementer og forskellige muligheder i opgaveløsningen og</p>
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		<p>resultatet; og dels arbejdsprocesser med tæt vejledning og direkte vurdering vs. arbejdsprocesser med større grad af selvstændig udførelse og selvvurdering. Anden del af analysen viser først, hvordan lærlinges og studerendes arbejde med hhv. samlede arbejdsforløb, rutineopgaver, problemløsningsopgaver samt innovationsprocesser danner afsæt for forskellige læringsprocesser og deraf følgende forskellige læringsresultater. Ved at arbejde med samlede arbejdsforløb har lærlingen eller den studerende således mulighed for at få indsigt i ellers skjulte dele af praktikstedets arbejdsprocesser og udvikler derigennem helhedsforståelser, der kan styrke lærlingens eller den studerendes vurdering af sit daglige arbejde. Modsat vil lærlinge og studerende ofte ved gentagende arbejde med rutineopgaver udvikle specialiserede rutiner, der gør, at hun/han kan anvende komplicerede procedurehandlinger i mødet med erhvervets eller professionens faste opgaver. Dernæst vil arbejdet med problemløsningsopgaver ofte give anledning til, at lærlingen eller den studerende opsøger viden og vejledning, der anvendes i arbejdet med at løse problemet. Ved aktiv deltagelse i problemløsningsopgaver har lærlingen eller den studerende således mulighed for udvikling af tavs viden i form af tav, håndslag og situationsfornemmelse. Desuden har lærlingen eller den studerende, især hvis arbejdet med problemløsningsopgaven følges op af en refleksion over arbejdet, mulighed for at udvikle forståelse af, hvordan viden og andres erfaringer har relevans for lærlingens eller den studerendes arbejde og derigennem udvikle refleksive erfaringer. Yderligere viser analysen, at lærlinge og studerende til tider arbejder med mindre udviklingsprocesser i løbet af deres praktikforløb, og hermed har lærlinge og studerende mulighed for at arbejde med innovationsprocesser, hvor der med afsæt i en problemstilling i praktikstedets praksis arbejdes med hhv. konvergente og divergente arbejdsprocesser, hvor igennem hun/han udvikler forståelse af problematikken, udvikler ideer, der afprøves, og på forskellig vis medvirker til at udvikle den fælles praksis på praktikstedet. Igennem arbejdet med innovationsprocesser, der suppleres med en refleksion, der giver lærlingen eller den studerende forståelse af sin egen</p>
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		<p>læring, har hun/han således mulighed for udvikling af reflekseive innovationserfaringer. Dernæst viser anden del af analysen, hvordan lærlinge og studerende ofte sideløbende med arbejdet med de forskellige typer af arbejdsopgaver også ofte deltager i det gensidige engagement i praktikstedets praksisfællesskab. Således viser analysen, at lærlinge og studerende ofte har en overordnet interesse for arbejdet inden for erhvervet eller professionen, som de er ved at blive en del af, og deltager således ofte sammen med de øvrige deltagere på praktikstedet i en gensidig interesse for den fælles praksis på praktikstedet i løbet af deres praktikforløb. Samtidig medvirker lærlinge og studerende igennem deres praktikforløb til både at opretholde og videreudvikle praktikstedets fælles praksis og opnår derigennem med denne kombination ofte en gensidig anerkendelse i forhold til de øvrige deltagere på praktikstedet. Herved udvikler lærlinge og studerende sig ofte fra at blive anerkendt som nytilkommen legitim deltager i praktikstedets praksisfællesskab i retningen af at blive anerkendt som mere erfarne deltagere. Dog viser analysen, at lærlinge og studerende oftest ikke opnår den fulde anerkendelse som fulgyldig deltager, da lærlingen eller den studerende enten er på forskellige praktiksteder i løbet af sin vekselluddannelse, og/eller fordi hun/han efter afslutning af uddannelsen ønsker at søge videre fra praktikstedet i retningen af en anden arbejdsplads eller i retning af videreuddannelse. Yderligere viser analysen, at deltagelsen i det gensidige engagement dog ofte styrker lærlingens eller den studerendes engagement i sit praktikforløb, mens et manglende gensidigt engagement i de øvrige deltagere på praktikstedet omvendt kan medvirke til, at lærlingen eller den studerende i mindre grad engagerer sig i sit praktikforløb og i stedet engagerer sig i andre fællesskaber, herunder andre dele af vekselluddannelsesforløbet. Derudover viser denne del af analysen, hvordan udviklingen af lærlingens eller den studerendes anerkendelse ofte udvikles parallelt i forskellige sociale fællesskaber, der ligeså er under fortsat udvikling, og som lærlingen eller den studerende deltager i parallelt med sit praktikforløb. Via deltagelsen i sit praktikforløb lærer lærlingen eller den studerende således at deltage i sin individuelle</p>
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		<p>delta-gelsesbane på tværs af forskellige sociale fællesskaber og anerkendes ofte for sin deltagelse. Denne individuelle læring suppleres yderligere af, at lærlingen eller den studerende ofte vurderer det, der læres i de forskellige fællesskaber, hun/han er engageret i, ud fra sin forudgående viden og sine forudgående erfaringer, holdninger og værdier. Dermed viser analysen, at lærlinge og studerende igennem deres deltagelse i forskellige fællesskaber og herunder praktikstedets praksisfællesskab potentielt kan udvikle en individuel læring, der kan tilpasses og kobles til situationer på tværs af forskellige fællesskaber. Slutningen af anden del af analysen viser derudover, hvordan lærlinges og stude- rendes deltagelse i deres praktikforløb kan medvirke til udvikling af problematisk læring, dels i form af at lærlingen eller den studerende udvikler manglende selv-tillid og selvværd, dels ved at hun/han udvikler sikkerhedsmæssigt problemati-ske erfaringer, og dels ved at hun/han udvikler samfundsmæssigt problematisk læring. Omvendt sluttet denne del af analysen m d at påpege, hvordan deltagel-sen i praktikforløb, hvis der rettes nogen grad af fokus mod dette i dagligdagen i praktikforløbet, kan medvirke til, at lærlingen eller den studerende: dels lærer at tænke og agere selvstændigt, dels udvikler helhedsforståelser, rutiner, problem-løsningserfaringer og innovationserfaringer og dels lærer at medvirke til både opretholdelse og udvikling af erhvervet eller professionen. Således er der potenti-ale for, at lærlinge og studerende i deres praktikforløb lærer mere end blot udfø-relsen af en række af forskellige arbejdsopgaver og deltagelse i praksisfællesska-bet på et praktiksted, men også udvikles som person og som erhvervs- og profes-sionsudøver. Analysen er sammensat så det løbende fremhæves, hvordan lærlinges og stude- rendes engagement og læring på forskellig vis kan styrkes. Den gennemgående konklusion i afhandlingen er således, at lærlinges og stude- rendes engagement og læring styrkes, når de forskellige involverede deltagere, herunder praktikvejlede-ren og lærlingen eller den studerende selv, gensidigt engagerer sig i hhv. forbere-delsen af praktikforløbet, den daglige sammensætning af arbejdsopgaverne i praktikforløbet og i sammensætningen af de didaktiske fokusområder i den enkel-te</p>
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		<p>arbejdssituation. Analysen viser således, at det bidrager til at styrke lærlinges og studerendes engagement og læring, når der i forberedelsen af et praktikforløb udpeges en praktikvejleder, som medvirker til, at lærlingen eller den studerende afklarer sine interesser med hensyn til sit praktikforløb, så disse ikke fremstår som diffuse og medvirker til, at disse interesser indgår sammen med evt. nationale læringsmål og de øvrige involveredes interesser i sammensætningen af en oversigt over praktikforløbet. Analysen viser dernæst, at det styrker lærlinges og studerendes engagement og dermed deres læring via arbejdet med forskellige opgaver, hvis lærlingen eller den studerende afklarer og tilkendegiver sin interesse for forskellige arbejdsopgaver, og at praktikvejlederen har mulighed for at medvirke til, at denne interesse inddrages i opgavefordelingen på praktikstedet sammen med de øvrige faktorer, der også øver indvirkning på sammensætningen af et praktikforløb. Analysen viser også, at det styrker lærlinges og studerendes engagement og læring, at de forskellige didaktiske fokusområder i den enkelte arbejdssituation løbende sammensættes, så f.eks. læringspotentialet og dermed læringsmålet er tydeligt for lærlingen eller den studerende; at der tages hensyn til relevante deltagere og vejlederforudsætninger; at rammefaktorer f.eks. i form af tid eller adgang til viden og vejledning tilpasses; at relevante sammenhænge og koblinger med forudgående erfaringer eller viden fremhæves; at vejledningsmetoden tilpasses, herunder at lærlingen eller den studerende får mulighed for at arbejde selvstændigt, når deltagerforudsætningerne er til dette; og at vurderingen af arbejdsprocessen og arbejdsresultatet tydeliggøres for lærlingen eller den studerende, herunder at lærlingen eller den studerende får mulighed for selv at vurdere sit eget arbejde samt i nogle situationer får mulighed for at reflektere over, hvad han/hun har lært i arbejdet med sin arbejdsopgave. Løbende gennem analysen vises også, hvordan praktikstedets læringsmiljø i form af praktikstedets transferklima, vurderingsklima og det gensidige engagement mellem de øvrige deltagere i praktikstedets praksisfællesskab danner forskellige muligheder og</p>
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		<p>begrænsninger i med hensyn til lærlingens eller den studerendes engagement og læring. Konklusionen er her, at det ofte styrker lærlingens og studerendes engagement og læring; dels at møde et læringsmiljø, hvor der er åbenhed over for, at lærlingen eller den studerende videreudvikler sin forudgående viden og erfaring; dels møder et vurderingsklima med rummelighed over for fejl, og hvor disse ses som et potentiale for læring; og dels får mulighed for at deltage i det gensidige engagement i praksisfællesskabet på praktikstedet. Samtidig viser analysen, at lærlingens eller den studerendes engagement i sit praktikforløb og her-under deltagelsen i praksisfællesskabet på praktikstedet medvirker til udviklingen af læringsmiljøet på praktikstedet, og hun/han medvirker således også selv i udviklingen af de forskellige muligheder og begrænsninger, der er med hensyn til engagement og læring i et praktikforløb. Afhandlingen afsluttes med en diskussion af afhandlingens analyse i forhold til øvrige perspektiver, der potentielt kunne anvendes i analysen af praktik.</p>
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16	<p>Black, S., & Yasukawa, K. (2013). Disturbing the Pedagogical Status Quo: LLN and Vocational Teachers Working Together. <i>Pedagogies: An International Journal</i>, 8(1), 44-59.</p> <p>https://doi.org/http://dx.doi.org/10.1080/1554480X.2013.739277</p>	<p>When language, literacy and numeracy (LLN) teachers work together with vocational teachers as a team, not only do students improve their course outcomes in terms of completions and employment, but the pedagogical practices of both teachers can change and improve. In this article, we begin to explore some of the issues and provide examples of pedagogical changes, linking them with research on interdisciplinary teacher teams in other education sectors that draw on activity theory, and higher education studies of "academic literacies". This article draws on a recent national study of the integration of LLN in the delivery of vocational education and training (VET) courses in Australia in which interviews with over 50 VET teachers and managers provided insights into the pedagogies that emerge when LLN teachers and vocational teachers work as a team. Particularly significant is the relative status of the teachers working together and the cultural and historical practices that enforce or challenge this. Pedagogical changes are encouraged in situations where teachers have equal status and their respective specialist disciplinary expertise is in a relationship of "horizontal" diversity to each other.</p>
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17	<p>Blake, D., & Gallagher, D. (2009). Examining the Development of the Victorian Certificate of Applied Learning and Its Implications for Schools and Teacher Education in Australia. <i>Journal of Applied Learning in Higher Education</i>, 1, 49-71.</p> <p>https://search.proquest.com/docview/2101884151?accountid=14468</p>	<p>The Victorian Certificate of Applied Learning (VCAL) is a very successful senior secondary school qualification introduced in the Australian state of Victoria in 2002. Applied learning in the VCAL engages senior students in a combination of work-based learning, service-learning, and project-based learning and aims to provide them with the skills, knowledge, and attitudes to make informed choices regarding pathways to work and further education. The program has enjoyed rapid growth and its system-wide adoption by Victorian secondary schools, Technical and Further Education (TAFE) institutions, Registered Training Organizations (RTOs), and Adult and Community Education (ACE) providers has broadened significantly the range of senior schooling pathway options for young people. This paper will examine reasons for developing an applied learning senior secondary certificate and its rapid growth in Victoria since 2002. The authors draw on a number of case studies to profile the unique nature of applied learning in the VCAL, including its dimensions of service learning, work-based learning, and project-based learning. These case studies are also used to discuss a number of implications that have emerged from the use of applied learning in the VCAL, including approaches to teaching and assessment that will support applied learning and the development of new partnerships between VCAL providers and community partners. Finally, the paper considers significant implications the VCAL has created for teacher education in Victoria by discussing the new Graduate Diploma of Education (Applied Learning) developed by Deakin University.</p>
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18	<p>Boersma, A., ten Dam, G., Volman, M., & Wardekker, W. (2010). 'This baby...it isn't alive.' Towards a community of learners for vocational orientation. <i>British Educational Research Journal</i>, 36(1), 3. https://search.proquest.com/docview/204870385?accountid=14468</p>	<p>The aim of this study is to contribute to the innovation of pre-vocational education, in particular, students' orientation at possible future occupations. From our theoretical understanding, vocational orientation that makes sense to students requires them to be part of a 'community of learners for vocational orientation'. In such a community, students are stimulated to learn deliberately while participating in vocational practices. In this article we distinguish four parameters to define a community of learners for vocational orientation. We then present the results of a collective instrumental case study into teaching-learning processes in four classes in two pre-vocational secondary schools. Data were collected through classroom observations, a series of interviews with teachers and students. The interviews focused on eight 'critical incidents' recorded during classroom observations. The results show that the parameters 'shared learning' and 'meaningful learning' are more manifest in the teaching-learning process than 'reflective learning' and 'a focus on transferable learning outcomes'. The article concludes with a discussion of the limits of working in simulated work situations in school for realizing effective pre-vocational education. [PUBLICATION ABSTRACT]</p>
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19	<p>Boersma, A., ten Damm G., Wardekker, W., & Volman, M. (2016). Designing Innovative Learning Environments to Foster Communities of Learners for Students in Initial Vocational Education. <i>Learning Environments Research</i>, 19(1), 107-131. https://doi.org/http://dx.doi.org/10.1007/s10984-015-9203-4</p>	<p>In this study, the concept of "community of learners" was used to improve initial vocational education. The framework of a 'community of learners for vocational orientation' that we present offers both a theoretical understanding of teaching-learning processes in initial vocational education and heuristics for the design of innovative learning environments for optimising these processes. In a design research study, we investigated if, and how, learning environments designed on the basis of these heuristics fostered communities of learners for vocational orientation, in which students experience to learn in a shared, meaningful, reflective and transfer-oriented way. We examined students' perceptions of the learning environment and their learning activities during eight curriculum units specifically designed to foster the communities of learners. During almost all of the units that we designed, students found themselves learning in a more shared, meaningful, reflective and transfer-oriented way than during regular units. We conclude that the proposed heuristics had been useful starting points for the design of innovative learning environments that foster communities of learners for vocational orientation. In addition, we show how the heuristics can be elaborated for a particular school, based on practical and pedagogical content knowledge of teachers, as well as students' perceptions of the learning environment and their learning activities.</p>
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20	<p>Breen, A., & Rekdahl, M. C. (2019). Bedriftenes perspektiver og behov når elevene er i yrkesfaglig praksis.</p>	<p>Vocational education (VET) requires collaboration between schools and workplaces in order to get a coherent education of good quality. The Norwegian vocational education has a model of four years where students complete two years of education at school, and the remaining two years as an apprenticeship in a company. The subject Vocational indepth learning is introduced to strengthen the transition between school and companies, and gives the students an opportunity to train in companies during the two first years in school. Previous studies show that cooperation between school and companies is random and has potential of improvement. Previous studies focus on the perspective of schools and students. In this article, we enquire the companies' perspectives and needs. We have investigated the companies' reasons to receive students and the students influence on the work places. Our findings show that the main motivation for receiving students is to ensure recruitment. We also find that the presence of the students affects the working environment and may lead to higher work satisfaction for the mentors. Within certain areas, the students also contribute to development of the employees.</p> <p>publishedVersion</p>
21	<p>Baartman, L. K., & De Bruijn, E. (2011). Integrating Knowledge, Skills and Attitudes: Conceptualising Learning Processes towards Vocational Competence. <i>Educational Research Review</i>, 6(2), 125-134. https://doi.org/http://dx.doi.org/10.1016/j.edurev.2011.03.001</p>	<p>Current research focuses on competence development and complex professional tasks. However, "learning processes" towards the integration of knowledge, skills and attitudes largely remain a black box. This article conceptualises three integration processes, in analogy to theories on transfer. Knowledge, skills and attitudes are defined, reconciling different research perspectives. Low-road integration is hypothesised to occur through practice towards automatisisation. High-road integration requires reflection on the task besides practice. Transformative integration requires critical (self)reflection and openness to change. A model of different professional tasks is presented, offering hypotheses regarding different integration processes, which provides a basis for further empirical research. (Contains 2 tables and 1 figure.)</p>

22	<p>Baartman, L. K., Kilbrink, N., & de Bruijn, E. (2018). VET Students' Integration of Knowledge Engaged with in School-Based and Workplace-Based Learning Environments in the Netherlands. <i>Journal of Education and Work</i>, 31(2), 204-217.</p> <p>https://search.proquest.com/docview/2034277796?accountid=14468</p>	<p>In vocational education, students learn in different school-based and workplace-based learning environments and engage with different types of knowledge in these environments. Students are expected to integrate these experiences and make meaning of them in relation to their own professional knowledge base. This study focuses both on "what" types of knowledge students learn in these environments and "how" they integrate these different types of knowledge. Individual and group interviews were conducted with students, teachers and workplace supervisors in a vocational programme in the Netherlands. Results show that students recognise the importance of vocational knowledge learned in school-based learning environments while they are in the workplace and vice versa, and continuously contextualise knowledge to make it applicable for new circumstances. Also, students learn differently at school due to their experiences in the workplace.</p>
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23	<p>Caruso, V., Cattaneo, A., & Gurtner, J. L. (2016). Learning Documentations in VET Systems: An Analysis of Current Swiss Practices. <i>Vocations and Learning</i>, 9(2), 227-256. https://doi.org/http://dx.doi.org/10.1007/s12186-016-9149-4</p>	<p>Swiss vocational education and training (VET) is defined as a dual-track system where apprentices weekly alternate between vocational school and a (real) workplace. At the workplace, they have to keep a learning documentation throughout their training, in which they are expected to regularly document their professional development. The actual use of this documentation remains limited, however, and its potential for learning is clearly underexploited. The study presented in this paper sheds light on the current practices and issues related to the use of such a learning documentation in the Swiss VET system. Semi-structured interviews (N = 29) were conducted with representatives of all the main actors of the Swiss VET system for various professional domains (Industrial & Handicraft, Commerce, and Health & Social Care). The study shows that although they all tend to see the potential of the learning documentation, the different actors of VET do not share a same conception of the aims and functions, both within and across professions. Based on their answers, possible improvements for this tool are discussed, and suggestions are made to enhance its use as a boundary object throughout the training.</p>
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24	<p>Choo Chan, B. (2007). Activity-Based Approach to Authentic Learning in a Vocational Institute. <i>Educational Media International</i>, 44(3), 185-205.</p> <p>https://search.proquest.com/docview/62051229?accountid=14468</p>	<p>With emphasis on developing competence in students, an activity-based learning environment, inspired by constructivist and situated learning theories, was piloted in the Institute of Technical Education (ITE) to improve student learning experience. The new learning environment, developed for a Lifeskills module (Career Development and Planning), requires students to participate collaboratively on authentic tasks using information and communications technology (ICT) tools. This learning environment follows an innovative model (APLUS) to support authentic learning and helps students develop relevant competence. This learning model also builds in learning stages and scaffoldings to help students acquire important learning strategies, basic information literacy skills, metacognitive skills and thinking skills. The participants of the study are second-year "Nitec" (National ITE Certificate) students. The study combined quantitative and qualitative methodologies to examine students' learning experiences in the new learning environment. The findings yielded positive results on both students' and lecturers' experiences. Results from lecturers' experience would provide valuable lessons for other lecturers who wish to implement the activity-based learning approach. (Contains 4 tables and 8 figures.)</p>
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25	<p>Choya, S., & Sappa, V. (2016). Australian stakeholders' conceptions of connecting vocational learning at TAFE and workplaces. <i>International Journal of Training Research</i>, 14(2), 88-103. https://doi.org/http://dx.doi.org/10.1080/14480220.2016.1200237</p>	<p>The quality of curriculum connectivity and integration across educational institutions and authentic practice settings, such as workplaces, is influenced by the conceptions of the different agents. Connectivity is about mediating connections between different situations to meet demands arising from educational institution-based knowledge and the everyday knowledge of the workplace. In this paper, we present findings from an Australian case study on how vocational education and training students, teachers and managers/coordinators conceptualise connectivity between what is learnt in educational institutions and in workplaces where they gain experiential learning. The findings show four main conceptions and suggest that connectivity is experienced on a continuum of linear and progressive circular processes, the latter being more complex yet enriching experiences that offer opportunities to quickly become proficient workers. These findings have implications for models, processes and practices to enhance connectivity and integration of learning in different sites.</p>
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26	<p>Cremers, P. H., Wals, A. E., Wesselink, R., & Mulder, M. (2016). Design principles for hybrid learning configurations at the interface between school and workplace. <i>Learning Environments Research</i>, 19(3), 309-334. https://doi.org/http://dx.doi.org/10.1007/s10984-016-9209-6</p>	<p>In today's knowledge society, there is a demand for professionals who are able to create knowledge across boundaries of disciplines, professions and perspectives. Traditional universities, universities of applied sciences and institutions for vocational education are all challenged to educate these knowledge workers. Accordingly, these institutions are developing competence-based education programmes that promote authentic, self-directed learning and the development of a professional identity. A possible environment for realising this type of learning is the hybrid learning configuration in which learning is embedded in ill-defined and highly-authentic tasks. This study attempted to identify a set of principles that can underpin the design of such a learning configuration at the interface between school and workplace. The research approach consisted of educational design research. Starting from cognitive constructivist and socio-cultural perspectives, a set of initial design principles was developed and evaluated from the perspective of the participants during three consecutive iterations of design and implementation. The process resulted in a set of seven refined design principles which can be used as heuristics to guide the design and development of hybrid learning configurations in contexts that have similar goals and aligned tenets.</p>
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27	<p>Dalby, D., & Noyes, A. (2015). Connecting Mathematics Teaching with Vocational Learning. <i>Adults Learning Mathematics</i>, 10(1), 40-49. https://search.proquest.com/docview/1773215933?accountid=14468</p>	<p>For many vocational students in England, mathematics is now a compulsory part of their programme, yet the inclusion of an academic subject within a vocational course presents challenges. In this paper, an analysis of a series of case studies of vocational student groups in Further Education colleges in England shows how contrasting practices in "functional mathematics" and vocational classes reinforce perceptions that mathematics is an isolated and irrelevant subject. Some mathematics teachers made contextual connections by embedding mathematical problems in vocationally-related scenarios but distinctive socio-cultural features of vocational learning situations were often absent from mathematics classes. Addressing this disconnection requires a pedagogical approach and classroom culture that links mathematics learning with vocational values. The findings suggest that adopting mathematics classroom practices that reflect the surrounding vocational culture creates greater coherence for students and has positive effects on their engagement with mathematics learning.</p>
28	<p>Valero, P., Daugbjerg, P.s., & Svejgaard, K.L. (2014). Praksisnærhed i erhvervsskolens naturfagsundervisning gennem betydelige overgange. <i>Nordic Journal of Vocational Education and Training</i>, 4(1), 1-15. https://doi.org/10.3384/njvet.2242-458X.14v4i1</p>	<p>Praksisnærhed bruges ofte som et princip i undervisningen på erhvervsuddannelserne og begrundes blandt andet i antagelsen om en forbedring af elevernes chancer for at kunne lave en mere effektiv overførelse af viden fra skolekonteksten til erhvervsudøvelsen. I artiklen bruger vi et sociokulturelt perspektiv til at præsentere et nuanceret praksisbegreb, der fører os til at forstå overførelsen som betydelige overgange mellem praksisser. Praksisnærhed som pædagogisk princip bør bygge på klarhed om, hvilke praksisser eleverne bliver inviteret til at deltage i, og hvordan undervisning muliggør forskellige betydelige overgange mellem dem.</p>

29	<p>Doroftei, A. O., Silvam S. M. D., & Araújo, H. C. (2018). Perspectives of young people enrolled in apprenticeship courses in Portugal about learning in work contexts. <i>Studia Paedagogica</i>, 23(2), 77-99. https://doi.org/http://dx.doi.org/10.5817/SP2018-2-6</p>	<p>This paper is grounded in a research project about apprenticeship courses in Portugal. The analysis conducted aims to grasp whether on-the-job learning might constitute an advantage to apprenticeship courses that could contribute to improving the social image of initial vocational education and training (IVET) in Portugal. We want to understand the matter from the standpoints of young apprentices, focusing on their experiences with on-the-job training. The results were analysed within the expansive-restrictive continuum of Fuller and Unwin (2003), adapted to the Portuguese context. The project uses a mixed methods research design. A survey was conducted and semi-structured interviews were held with young apprentices. The survey was carried out online across the nation and resulted in 620 valid and relevant responses. The interviewed apprentices (54) were enrolled at nine training centres near Porto, Northern Portugal. Appraisals in the survey of the work-context training component of the apprenticeship courses were mainly positive. Nonetheless, data from the interviews revealed both expansive and restrictive features of workplaces that influenced learning outcomes. While apprenticeship courses have existed in Portugal for a long time (34 years), the cultural change to employers' views regarding work-based training can be considered to be still in progress. The results of the study support both the perspective that there is still a lot to put in place in order to change the social image of apprenticeship courses and IVET in Portugal through work-context training and also the idea that several ongoing changes are promising.</p>
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30	<p>Dovey, T. (2006). What Purposes, Specifically? Re-Thinking Purposes and Specificity in the Context of the "New Vocationalism". <i>English for Specific Purposes</i>, 25(4), 387-402. https://doi.org/http://dx.doi.org/10.1016/j.esp.2005.10.002</p>	<p>Discipline-specific approaches to English for Academic Purposes (EAP) tend to overlook the purposes of the disciplines themselves and the issue of transferability from academic to professional contexts. This becomes problematic in the context of the "new knowledge economy" and emergent pedagogies in higher education, which are increasingly focused on attributes transferable to workplaces. This paper explores the chain effect of the "new knowledge economy" on the purposes of newly vocationalized courses, on assessment tasks, and on the forms of learning and literacy required. I draw attention to a new set of generalisable skills and ways of thinking that are valued in this context, and to the implications this has for lecturers in the field of EAP. I argue that specific approaches to the development of literacy in these contexts need to focus on the purposes of pedagogies rather than on specific written genres. I suggest that a broader definition of literacy, which recognizes face-to-face interactivity as one of the important communicative modes in this context, is necessary.</p>
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31	<p>Driscoll, D. L. (2014). Clashing Values: A Longitudinal, Exploratory Study of Student Beliefs about General Education. <i>Vocationalism, and Transfer of Learning, Teaching & Learning Inquiry</i>, 2(1), 21-37. https://search.proquest.com/docview/1941331774?accountid=14468</p>	<p>One challenge with general education is the often-clashing goal of vocationalism, or educating for the purpose of a specific career or profession. Through a series of longitudinal interviews spanning a group of 14 students' second and fourth semesters at a public, regional research university, the author examines the intersection of beliefs and values about general education, transfer of learning, and vocationalism, and how these beliefs and values change over time. Findings reveal that for many students, vocationalism creates a single-minded focus on students' career preparation and major coursework and invites disregard for the value of general education courses that do not appear to immediately relate to students' future careers. This devaluing is particularly clear in students' first year; as students enter their sophomore years, they grow to value learning in general. The article concludes with suggestions for university-level and course-specific curricular change to better address vocationalism, value, and the need to transfer learning within general education courses.</p>
32	<p>Duch, H. S. (2013). Blended designs og samspillet mellem teori og praksis i erhvervsuddannelser. <i>Blended Designs</i>.</p>	<p>Samspillet mellem teori og praksis er en af styrkerne og udfordringerne for de danske erhvervsuddannelser. Blended designs kan være én måde at forfine samspillet på. Artiklen indledes med en kort redegørelse for begrebet blended designs. Derefter følger overvejelser over, hvordan teori og praksis forstås. På baggrund af fire cases om blended designs diskuteres samspillet mellem teori og praksis i forhold til vidensformer, lærer- og elevroller samt læring. Artiklen er skrevet med henblik på Diplomuddannelsen i Erhvervspædagogik til fx de obligatoriske moduler Undervisningsplanlægning og didaktik og Pædagogisk videnskabsteori.</p>

33	<p>Ferm, L., Persson, T. D. Svensson, L., & Gustavsson, M. (2018). Students' Strategies for Learning Identities as Industrial Workers in a Swedish Upper Secondary School VET Programme. <i>Journal of Vocational Education and Training</i>, 70(1), 66-84. https://search.proquest.com/docview/2034282331?accountid=14468</p>	<p>The aim of this article is to investigate the learning strategies vocational students use to become part of a work community, and how these strategies are related to the formation of a vocational identity at the workplace. Conducting qualitative interviews, data were collected from 44 industrial programme students from six upper secondary schools. The findings revealed five recurrent strategies used by the students for learning vocational identities as industrial workers. The students took individual responsibility for their own learning, asked questions to gain deeper vocational knowledge, searched for role models in the work community, positioned themselves as a resource to the work community, understood and used humour and jokes in order to become a member of the community. The conclusion is that the students actively develop learning strategies to adapt their behaviour to the norms and ideals of the industrial work community. In the process of develop the vocational identities as industrial workers, the students' vocational habitus is transformed to better fit the industrial work community. The integration of the notions of agency and habitus demonstrates the dynamic nature of students' participation in work communities; simultaneously, the students reproduce social structures that promote vocational identities.</p>
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34	<p>Filliettaz, L. (2013). Affording learning environments in workplace contexts: an interactional and multimodal perspective. <i>International Journal of Lifelong Education</i>, 32(1), 107. https://search.proquest.com/docview/1237124663?accountid=14468</p>	<p>The present article seeks to contribute to reflections about learning in and through practice by addressing some general questions about the role of action and context in work-related training practices. It aims at a better understanding of the conditions under which work-production environments may or may not afford rich learning opportunities to novice workers. How can workplaces produce learning environments for newcomers in a profession? Under what conditions may workplace practices support learning opportunities or, on the contrary, generate obstacles to such opportunities? How can one assist vocational trainers or workplace supervisors to shape adequate learning environments in work-production contexts? To address these general questions, the article adopts a specific theoretical and methodological perspective, linking social theories of vocational learning with concepts and analytical tools borrowed from the fields of sociolinguistics and applied linguistics. It is proposed that an interactional and multimodal approach, based on a fine-grained analysis of discourse and interaction between learners and trainers, may inform about the challenges faced by both learners and trainers in practice-based training programmes. In the present article, these claims are elaborated and illustrated with empirical data gathered in the context of apprenticeship programmes as they are implemented in Switzerland. [PUBLICATION ABSTRACT]</p>
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35	<p>FitzSimons, G. E., & Boistrup, L. B. (2017). In the Workplace Mathematics Does Not Announce Itself: Towards Overcoming the Hiatus between Mathematics Education and Work. <i>Educational Studies in Mathematics</i>, 95(3), 329-349. https://doi.org/http://dx.doi.org/10.1007/s10649-017-9752-9</p>	<p>Preparing students for their lives beyond schooling appears to be a universal goal of formal education. Much has been done to make mathematics education more "realistic," but such activities nevertheless generally remain within the institutional norms of education. In this article, we assume that pedagogic relations are also an integral part of working life and draw on Bernstein's work to address their significant features in this context. However, unlike participation in formal mathematics education, where the discipline is central, workers are likely to be confronted by, and need to reconcile, a range of other valued workplace discourses, both epistemic and social/cultural in nature. How might mathematics education work towards overcoming the hiatus between these two very different institutional settings? This article will argue that the skills of recontextualisation, central to teachers' work, should be integral to the mathematics education of all future workers. It will consider theoretical perspectives on pedagogic discourse and the consequences of diverse knowledge structures at work, with implications for general and vocational mathematics education.</p>
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36	<p>Fjellström, M., & Kristmansson, P. (2019). Constituting an apprenticeship curriculum. <i>Journal of Curriculum Studies</i>, 51(4), 567-581.</p> <p>https://doi.org/http://dx.doi.org/10.1080/00220272.2019.1616115</p>	<p>Apprenticeships are required for many trades and can take different forms. In Sweden, one form can be viewed as a pathway where students complete a three-year-long vocational education in upper secondary school followed by a post-secondary apprenticeship in a particular trade. Another takes the form of vocational training within the framework of upper secondary school through an apprenticeship. This study analyses how a more clearly defined apprenticeship curriculum can provide sufficient knowledge to identify and understand learning outcomes in apprenticeships. A theoretical framework of an apprenticeship curriculum is used in the analytical work. The findings show that educational goals are often overlooked during apprenticeships, and thus a deliberative education is overridden by deliberative learning that stems from and is closely connected to the individual's own perception of what to learn. By constituting an apprenticeship curriculum, this article contributes to an enhanced understanding of how to analyse vocational learning, and thus adds important elements to the research field.</p>
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37	<p>Fjellström, M. (2014). Vocational education in practice: a study of work-based learning in a construction programme at a Swedish upper secondary school. <i>Empirical Research in Vocational Education and Training</i>, 6(1), 1-20. https://doi.org/http://dx.doi.org/10.1186/1877-6345-6-2</p>	<p>Background In many OECD countries an apparent connection is shown between education, the local economy and the local labor market. This connection seems to be stronger and more radical in Sweden, than in other similar countries. The construction program is thereby also a part of this market. Given the needs of the building industry for competent workers and the requirements from specific course syllabuses this paper explores how project-based vocational education contributes to the student's vocational competences. The aim of this study was to describe and analyse students' perceptions of vocational competence gained from a PBVE environment and identify how this competence is constituted. From this broad aim, the following research questions were asked: (1) What kinds of competence are the students able to develop in a PBLE? (2) In what ways do the developed competence and vocational skills relate to the specific course syllabuses? (3) How is the students' vocational competence constituted? Methods Methods adopted for this study are observations over student action in a project based vocational education and focus group interviews with observed students. Results The result indicates a gap between acquired vocational competence at the project and the related learning goals in the course syllabuses. The developed vocational competence seems more adopted to fit the demands of the building industry rather than the intended course goals. Further, the findings indicate that the relationship between learning and support from teachers are strong whereas the room for individual initiative in the learning environment is limited. Conclusions This study highlights the relationship between student action and the complexity in vocational education as a project based vocational education. The project's high complexity affects the students' learning ability to take own decisions in the learning environment. This also affects the students' motivation and ability to develop competences required to fulfill goals in course syllabuses. So, if the students' are supposed to be able to be a part of their own learning the complexity in the task should not be too high. Hence, if the task is to easy the students' will not be challenge enough in order to develop vocational competences.</p>
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38	<p>Fjellström, M. (2017). Vocational learning in a Swedish post-secondary apprenticeship. <i>Empirical Research in Vocational Education and Training</i>, 9(1), 1-15. https://doi.org/http://dx.doi.org/10.1186/s40461-017-0051-6</p>	<p>In Sweden, some occupations require post-secondary apprenticeship, e.g. those who are to become construction workers, while some do not, e.g. those who are to become business and administration workers. Research on post-secondary apprenticeship can be regarded as sparse. To address vocational learning in post-secondary apprenticeship, this explorative study focuses on apprentices in the construction industry. The aim of this study is to identify how vocational learning is constituted within workplace activities. This study aimed to follow up a study of a former class of construction students who participated in project-based vocational education (Empir Res Vocat Educ Train 6:2, 2014). The study included 11 semi-structured interviews, which lasted between 35 and 55 min, and a survey that related to 64 stated learning goals. The findings show that the development of vocational learning is closely linked to performing tasks that challenge the apprentices to think and solve problems. This approach to the performance of tasks enhances productive learning where the payroll system appears to trigger the scope of action. Further, this study shows that, despite differences in the activities that are carried out at different workplaces, the learning outcomes are dependent on personal goals as well as indirect and direct guidance. Although stated learning goals are highly valued, the apprentices, have problems relating to them. Instead, interaction and guidance from more experienced co-workers lead to the development of a learning outcome. As described herein, a vocational learning outcome of post-secondary apprenticeships is complex, and can be understood as being related to individual goals and workplace activities that interact and constitute vocational learning. Thus, this explorative study has identified four main standpoints that afford vocational learning in post-secondary apprenticeship: (a) the importance of guidance in the workplace, (b) the possibility of performing complex tasks, (c) the encouragement to develop new methods, and (d) the possibility of being a part of the building process.</p>
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39	<p>Flämig, K., König, A., & Spiekermann, N. (2015). Potentials, Dissonances and Reform Initiatives in Field-Based Learning and Mentoring Practices in the Early Childhood Sector in Germany. <i>Early Years: An International Journal of Research and Development</i>, 35(2), 211-226.</p> <p>https://doi.org/http://dx.doi.org/10.1080/09575146.2015.1028899</p>	<p>In Germany, the field-based element in the education/training of early childhood educators is given high priority in the development of professional competencies. Nevertheless, Germany lacks a firmly anchored regulatory and curricular framework for early childhood education and care settings as "workplace learning sites" ("Lernort Praxis") and the current approaches towards practical placements have been strongly criticised. Debates have focused on the (inadequate) interface between theory and practice and the overriding influence of the vocational colleges as sites of professional preparation. The examination of existing regulations regarding practical placements shows that the practice sites and the mentors who work there receive too little attention. Beyond this, the education/training of (early) childhood educators is dominated by the vocational colleges--not least because the two places of learning (i.e. the college and the workplace) are assigned to different authorities and ministries. The quality of workplace-based learning can therefore only be enhanced by relevant policy decisions and by integrating the interface between theory and practice on a curricular basis.</p>
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40	<p>Gamble, J. (2014). "Approaching the Sacred": Directionality in the Relation between Curriculum and Knowledge Structure. <i>British Journal of Sociology of Education</i>, 35(1), 56-72. https://doi.org/http://dx.doi.org/10.1080/01425692.2012.740802</p>	<p>Increasing pressure on all levels of educational provision, whether academic or overtly vocational, to be to "relevant" and "useful" prompts consideration of the relation between curriculum and pedagogy in terms of the internal structure of knowledge forms. Following Durkheim's distinction between "sacred" and "profane" orders of meaning and drawing on the work of Basil Bernstein, this paper questions pedagogic presuppositions that directionality from sensory experience to abstraction posits the everyday life of the student as the foundation for the acquisition of complex, systematic knowledge. Two empirical examples are discussed: one focuses on the internal structure of craft knowledge, while the other focuses on the internal structure of mathematics as school subject. They converge in the finding that transmission of knowledge structure, whether in material or symbolic form, requires the transformation of empirical objects into theoretical objects before a connecting point can be found between the world of everyday experience and specialised knowledge forms. This is what constitutes a "relevant" curriculum.</p>
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41	<p>Gamboa, V., Paixao, M. P., & de Jesus, S. N. (2013). Internship Quality Predicts Career Exploration of High School Students. <i>Journal of Vocational Behavior</i>, 83(1), 78-87. https://doi.org/http://dx.doi.org/10.1016/j.jvb.2013.02.009</p>	<p>The provision of workplace-based experiences (internship/placement) is an important component of the training program of students attending vocational education courses. Regarding the impact of such experiences on vocational development, research results are not conclusive enough, mainly, if we consider the theoretical expectation that work experiences clearly affect the vocational development of adolescents. The main purpose of this study is to clarify the relationship between work experience quality and students' vocational development. Using a longitudinal design (pre- and post internship), we conducted a study that explores the relationship between perceived qualities of the training experience (autonomy, colleagues feedback, social support, learning opportunities, supervisor training, supervisor support) and the different dimensions of career exploration (beliefs, behaviors, and reactions), in a sample of Portuguese high school students (N = 346, twelfth grade). Overall, results suggest that the quality of work experience is relevant for the vocational development of students. With the exception of supervisor training, all other internship qualities were single significant predictors of career exploration over the internship period. Finally, implications for career interventions and for future investigation are offered in light of the results. (Contains 4 tables.)</p>
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42	<p>Gessler, M., & Howe, F. (2015). From the Reality of Work to Grounded Work-Based Learning in German Vocational Education and Training: Background, Concept and Tools. <i>International Journal for Research in Vocational Education and Training</i>, 2(3), 214-238. https://search.proquest.com/docview/1895982903?accountid=14468</p>	<p>The "Riga Conclusions" of the European Ministries of Education of 22 June 2015 for the orientation of vocational education and training in Europe are promoting work-based learning as one of five "medium-term deliverables" for the next five years. But: How should and can work-based teaching and learning be designed? Our approach was developed within the German Dual VET System. Therefore it is not surprising that the work reality is for us the major principle for designing curricula and learning settings. As a starting point for developing didactical measures in the field of vocational education and training it is crucial in this approach to identify practices, routines and experiences of skilled workers that are experts for what they are doing. What are those people doing when handling a task, how are they acting, what work objects and tools are they operating with, and what requirements do they have to be aware of? To answer these kinds of questions, the real work in practice must be explored. A useful approach for doing this is a vocational work process analysis. The next step comprises developing a work-based learning project for the classroom. These two steps, vocational work process analysis and work-based learning projects, build the core of the article and enable a grounded work-based learning. Additionally the changing priorities of curriculum design in the last century are introduced to reach a better understanding of the background and the actual work-oriented focus in German Dual VET. Our key proposition is: If work-based learning in vocational schools is wanted, the gap between the reality of work and the formal learning settings has to be closed.</p>
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43	<p>Gurtner, J. L., Gulfi, A., Genoud, P. A., de Rocha Trindade, B., & Schumacher, J. (2012). Learning in multiple contexts: are there intra-, cross- and transcontextual effects on the learner's motivation and help seeking? <i>European Journal of Psychology of Education, 27</i>(2), 213-225.</p> <p>https://doi.org/http://dx.doi.org/10.1007/s10212-011-0083-4</p>	<p>In Germany, Austria and Switzerland, the majority of 15-19-year olds follow vocational education programmes within a dual-track system, spending most of their time in a company and going to school only 1 day each week. With their separate aims, content and sociological organisation, the company and the school can be considered as two distinct contexts within which apprentices have to acquire the various skills and competencies of their future occupation. In this paper, the development of apprentices' learning intentions and motivation to learn, subjective competence, perceived utility of what is learned and estimated learning place attractiveness (study 1) as well as their readiness to seek help in these different contexts over the year of training (study 2) is analysed using both longitudinal and cross-sectional data. The findings show significant differences in apprentices' motivation, their beliefs and their readiness to seek help in the different contexts throughout the training. Moderate (cross-different contexts, same time) as well as transcontextual (different contexts, different times) influences can also be seen. These results emphasise the importance of a careful delimitation of contexts when studying the impact of contextual factors on learners' motivation and behaviours; they also suggest that motivation within one of these contexts can indirectly affect the learner's motivation within another of these contexts. It is therefore likely that, by using these various dynamics appropriately, educators might temporarily sustain learners' motivation in an unappreciated context by having recourse to a better accepted one.</p>
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44	<p>Gustavsson, S., Dahlberg, G. M., & Berglund, I. (2020). Digitala körsimulatorer i yrkesutbildning: Utmaningar och möjligheter. <i>Nordic Journal och Vocational Education and Training</i>, 10(1), 108-136.</p> <p>http://dx.doi.org/doi: 10.3384/njvet.2242-458X.20101108</p>	<p>This article discusses the didactical challenges and opportunities of driving simulator-supported teaching and learning, mediated through digital technology in vocational educational and training through the example of driving simulators. We highlight relevant research on simulator-supported teaching and the need for practice-based, empirically driven research. The study is part of a larger project that focuses on the implementation of simulator environments in three secondary schools in the natural resource programme. The data consists of three action research projects in two of these schools where vocational teachers, together with researchers, plan and implement teaching with driving simulators as a new technology in their practice. The article is an example of how action research can contribute to critical evaluation and development of teachers' professional work during the implementation of new technology. Results from these projects are analysed using the TPACK framework. The vocational teacher has a central position to 'master' the digital tool. Issues about fidelity, transfer and progression are discussed in terms of concepts that are challenged when new technology is introduced. Here, the vocational teacher's professional and content knowledge as well as the teacher's didactic and technical competence are central for the development of new strategies when the conditions for teaching change fundamentally.</p>
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45	<p>Hahn, C. (2012). Apprenticeship in Higher Education in France: An Experimental Device to Help Apprentices to Link Academic Knowledge and Work Experience. <i>Journal of Vocational Education and Training</i>, 64(1), 75-85. https://doi.org/http://dx.doi.org/10.1080/13636820.2011.622446</p>	<p>The French apprenticeship system has been an object of research in France for more than 30 years now, by experts from different backgrounds. Over the past 15 years apprenticeship has grown significantly in higher education. At this level, if a greater importance is attached to theory, it becomes more difficult to connect this theory to more diversified work situations. Referring to Geay's alternance model and to Vergnaud's theory of conceptual fields, this article will focus on the impact of apprenticeship on the learning process. I will describe a pedagogical device I designed and implemented in a business master's programme in order to help apprentices link their professional experience with academic knowledge taught at school. The exploratory study I conducted with 37 master-level apprentices showed that these students were driven to build generic situations out of their personal experience at work and also to interrogate these situations from the perspective of academic knowledge. I also observed unexpected effects on teachers and mentors. (Contains 1 note.)</p>
46	<p>Hall, D., & Raffo, C. (2004). Re-Engaging 14-16-Year-Olds with Their Schooling through Work-Related Learning. <i>Journal of Vocational Education and Training</i>, 56(1), 69-80. https://search.proquest.com/docview/62012641?accountid=14468</p>	<p>This article presents the findings from research conducted on a work-related learning programme for disengaged and disaffected 14-16-year-olds. The article begins by examining work-related learning within the context of national policy developments in England. The findings from the research are analysed in relation to the capacity of workplace learning to impact upon the schooling of the participating young people. The analysis focuses upon a range of issues including the problems of securing transfer between workplace- and school-based settings, and the importance of social and cultural capital in shaping the nature of the participants' workplace-based experiences. (Contains 1 note.)</p>

47	<p>Hellne-Halvorsen, E. B. (2019). To kontekster - to skrivepraksiser? Skrivning i skole og bedrift i fag- og yrkesopplæringen [Two contexts - two writing practices? Writing in school and enterprises of Technical and Vocational Education and Training]. <i>Nordic Journal of Vocational Education and Training</i>, 9(1), 43-65. https://doi.org/10.3384/njvet.2242-458X.199143</p>	<p>The topic of this article is literacy and writing practices in Technical and Vocational Education and Training (TVET). In Norway, TVET is organised as two years in school context followed by two years in enterprise. Based on a socio-cultural theoretical approach, the research question is: How is writing practiced in school and enterprise - as similar or as different practices? Writing skills are integrated in curriculum and part of vocational competences. Teachers and trainers are committed to work with and develop writing skills to students and apprentices. Different contexts may imply different writing practices by transfer and transformation from school to enterprises. My research shows that this is not the case, as writing in both contexts is mainly mediating learning outcomes from the school-based curriculum and not related to writing competences required in work life. The main purpose of writing practices is to assess and control skills and knowledge, related to vocational specific terminology and argumentation. Teachers and trainers appear to be main target group and not writing to different target groups in students' and apprentices' future working life as trained workers. These findings also indicate that generic or trans-contextual writing skills are not prioritized in neither of these contexts.</p>
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48	<p>Herring, J. E. (2011). From School to Work and from Work to School: Information Environments and Transferring Information Literacy Practices. <i>Information Research: An International Electronic Journal</i>, 16(2), 1-21. https://search.proquest.com/docview/898326347?accountid=14468</p>	<p>Introduction: This study, based in a Scottish secondary school, aimed to examine the views of students who were completing work experience, on their information literacy practices, and the differences they found between the school and workplace information environments while on work experience. The views of guidance teachers were also explored. Method: The study used a constructivist grounded theory approach to identify areas of exploration. Data were gathered via interviews with students and guidance teachers before and after the work experience period. All interviews were coded. Analysis: Constructivist grounded analysis was used to analyse and interpret the data gathered, and to form categories for discussion. Results: The findings showed that students' information literacy practices were typical of that found in the literature. Students' observation of the workplace information environment identified key differences between school and the workplace, in terms of the use of technology, sources of information, and the value of information. Students identified areas of transfer from the workplace to school. Teachers were found to lack knowledge of these workplace information environments. Conclusion: Focusing on the workplace information environment was a valuable learning experience for students, and could potentially improve their information literacy practices. Teachers could benefit from having a greater focus on workplace information environments.</p>
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49	<p>Hinrichs, A. C. (2014). Predictors of Collateral Learning Transfer in Continuing Vocational Training. <i>International Journal for Research in Vocational Education and Training</i>, 1(1), 35-56. https://search.proquest.com/docview/1895983270?accountid=14468</p>	<p>Against the background of demographic change and skill shortages continuing vocational training is of great significance in Germany. However, the training effectiveness is mostly assessed only at the end of a training program or several months after the training. Since in continuing vocational training the two contexts learning field (training) and performance field (work context) act simultaneously, the presented study investigated whether there are already situations in the work context which allow the application of newly acquired knowledge in parallel with the training. The main focus lies in the identification of predictors of learning transfer that takes place alongside the training participation and in the investigation of their causal relationships. Using structural equation modelling five latent variables were identified which have a significant effect on learning transfer parallel to the training--the so called collateral learning transfer. These five predictors explain together 62% of the variance of collateral learning transfer (gathered as performance improvement at work).</p>
50	<p>Inglar, T. (2014). Proficiency Forms and Vocational Pedagogical Principles. <i>Journal of the International Society for Teacher Education</i>, 18(2), 30-40. https://search.proquest.com/docview/1826520994?accountid=14468</p>	<p>This article is based on research on experiential learning and vocational teachers. The author describes his analysis of curricula for the vocational teacher education and explains the education's purpose, content, and methods. In 1975, education dramatically changed from an academic tradition with dissemination of many disciplines to a holistic education with focus on educating teachers who would function in practice, not only have theoretical knowledge of pedagogy. The author discusses important aspects of learning, as usability and relevance, distance in time and space between theory and practice, and the use of different proficiency forms. Furthermore, the author discusses three key, vocational educational principles (VEP): experiential learning, vocational adaptation of theory, and integration of theory and practice. These principles are important for all learning and especially for the education and training of vocational teachers and of vocational students.</p>

51	<p>Isopahkala-Bouret, U. (2010). Vocational Teachers between Educational Institutions and Workplaces. <i>European Educational Research Journal</i>, 9(2), 220-231. https://doi.org/http://dx.doi.org/10.2304/eerj.2010.9.2.220</p>	<p>The aim of this study is to analyze discursively how the relationship between educational institutions and workplaces materializes in the position of a vocational teacher. Several studies have pointed out that the role of vocational teachers is changing as a result of current educational reforms, which can be understood in terms of bringing education and work closer together. Along these lines, the author focuses particularly on the requirement of vocational teachers to work in close collaboration with industry and workplaces, and to serve economic interests. Vocational teachers are asked, for instance, to be networkers outside of educational institutions and to coach students who enter work life in order to enable favourable "learning at work" experiences. Students' on-the-job learning is a normatively regulated, goal-oriented, guided, and evaluated study practice. The pedagogical responsibility for what happens to students at work remains with vocational teachers; however, the success of educational programmes depends on the willingness of employees to offer learning opportunities to students, and to guide and evaluate student learning according to the rules set by the educational curricula. How do these new practices challenge the traditional position of vocational teachers? How do vocational teachers negotiate and enact their agency in these circumstances? (Contains 3 notes.)</p>
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52	<p>James, I. (2012). Moral learning for the workplace: A role for VET. <i>International Journal of Training Research</i>, 10(2), 132-148. https://search.proquest.com/docview/1267533867?accountid=14468</p>	<p>The paper explores ways that vocational education and training (VET) might become involved in the development of moral 'know-how', ready for workplace practice. The primary concern here is the transformation of earlier-learned ethical principles to their applied moral behaviour, essential for appropriate practice within workplace environments. The argument is grounded in literature and a research study of 14 construction workers from various sectors of the industry in Queensland, Australia. The study identified four influential factors that frame the reports of the study participants' learning to judge, decide and act morally within the construction industry workplace: (1) upbringing, (2) schooling, (3) social contexts, and (4) workplace experience. The paper discusses the less-than-adequate way participants learnt their morals for workplace application and goes on to outline a potentially better way to train them through such paths. The conclusion from the study is that it is necessary to present moral contextualisation through sustained learning over time to gradually develop moral 'know-how', and that VET has a role to play in this process. [PUBLICATION ABSTRACT]</p>
53	<p>Jensen, A. W. (2012). Sosu-elevers læring i skole-praktik-samspillet: Analyser af klasserum, praktik og elevtilblivelser.</p>	<p>Ph.d.-afhandling. Udforskning af læring i teori-, praksisperioder og samspillet herimellem, empiri fra sosu-området, men med relevans for alle vekseluddannelser. Foucault-funderede analyser af et omfattende empirisk materiale og med et læringsbegreb knyttet til subjektivitet/identitet-begreberne. Afhandlingen konkluderer, at der i uddannelsen findes samtidige uitallesatte opfattelser af professionsidentiteten, hvilket komplicerer elevernes læring og elevernes fremtidige samarbejde med plejemodtagerne; afhandlingen lægger via temaspørgsmål op til refleksion og handling i forhold hertil.</p>

54	<p>Jonasson, C. (2014). Defining Boundaries between School and Work: Teachers and Students' Attribution of Quality to School-Based Vocational Training. <i>Journal of Education and Work</i>, 27(5), 544-563. https://doi.org/http://dx.doi.org/10.1080/13639080.2013.787483</p>	<p>School-based vocational training has been organised to support students' boundary crossing between school and work. Such training has the potential to engage students in relevant work-oriented schooling. Drawing on theories of boundary connections and symbolic resources, it is argued that school participants define and attribute quality to school-based vocational training based on their experiences and expectations of past, present, and future boundaries between school and work contexts. Empirical findings from an ethnographic study conducted at a Danish vocational school illustrate that students and teachers in some cases attribute negative qualities to school-based vocational training, whilst, in other cases, they find it difficult to define the boundaries between school and work, thus questioning the relevance and organisation of school-based vocational training in supporting students' boundary crossing between school and work. It is therefore argued that boundaries between school and work practices do not exist per se. Instead, more attention needs to be directed to the negotiations in which particular boundary connections between school and work practices are developed. This may have important consequences for the preparing of students for apprenticeship.</p>
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55	<p>Jonasson, C. (2015). Interactional Processes of Handling Errors in Vocational School: Students Attending to Changes in Vocational Practices. <i>Vocations and Learning</i>, 8(1), 75-93. https://doi.org/http://dx.doi.org/10.1007/s12186-014-9124-x</p>	<p>Making errors is an inevitable part of work and learning situations. Recent research has shown that errors can provide important learning opportunities, in particular in education or training, where there may be ample time and support to learn from them. Yet, more knowledge is needed of how learning from errors is developed through interactional processes in a particular context. Adding to prior research of learning from errors in education, the present study is conducted in a vocational school context, where there may be opportunities to learn from errors conducted as students gain new experiences with the complex work processes of a vocation. Thus, this study aims to provide novel insight into how students' learning from errors in school-based vocational training is developed. Findings from a 1-year field study of culinary vocational education show that teachers and students participate in learning activities of shared experience, improvisation, and reflecting on errors in ways, where the students learn to pay constant attention to the complex cooking procedures. The findings further demonstrate students' transformed participation in challenging and error-prone vocational assignments as a central part of their identification with the culinary vocation.</p>
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56	<p>Jossberger, H., Brand-Gruwel, S., van de Wiel, M. W., & Boshuizen, H. (2018). Learning in Workplace Simulations in Vocational Education: A Student Perspective. <i>Vocations and Learning</i>, 11(2), 179-204. https://doi.org/http://dx.doi.org/10.1007/s12186-017-9186-7</p>	<p>In vocational education, workplace simulations (WPS) have been implemented to ensure a better connection between the educational setting and the labour market. Moreover, WPS are supposed to motivate students and promote self-directed learning. So far, however, not much is known about the way students experience these WPS. The aim of the present exploratory case study was to investigate students' perceptions and preparedness for WPS and explore what factors they perceive to be relevant for their learning in these simulations. Forty students from three different pre-vocational secondary schools participated. Semi-structured group interviews were conducted and thematic analysis was used to examine the qualitative data. The results revealed that authentic WPS can increase student motivation and engagement. Learner characteristics regarded as relevant in WPS were motivation, responsibility, independence and discipline. For students, the presence and guidance of the teacher played an essential role in their working and learning effectively. They felt limited in making choices to direct their own learning. Assessment criteria were not transparent enough for students. Concluding, we found that students perceived factors closely related to self-regulated and self-directed learning to be relevant for their learning; however, these learning activities and processes have not yet been sufficiently promoted and supported in the investigated vocational schools. The study highlights design dilemmas for vocational practice and offers indications in how to match both learning environmental characteristics and teacher support tailored to learners' needs.</p>
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57	<p>Kilbrink, N., & Bjurulf, V. (2013). Transfer of knowledge in technical vocational education: a narrative study in Swedish upper secondary school. <i>International Journal of Technology and Design Education</i>, 23(3), 519-535.</p> <p>https://doi.org/http://dx.doi.org/10.1007/s10798-012-9201-0</p>	<p>In vocational education, teaching and learning are expected to take place in the different learning arenas; schools and workplaces. In such a dual school system, the question of transfer is vital, i.e. how to use knowledge learned in previous situations in new situations. This article is an empirical contribution to research concerning transfer, by means of results from semi-structured group interviews with teachers and supervisors who educate students in the Energy program and the Industry program in Swedish upper secondary school. The interviews were analysed by analyses of narratives. The results show four themes of transfer in the interviews: (1) transfer of basic knowledge, (2) transfer of principles and skills, (3) transfer of written materials and real life and (4) transfer of experiences. The results also show three factors that are crucial in order to create possibilities for transfer: (1) communication, (2) financial resources and (3) reflection. These factors demand close cooperation between the teachers and supervisors during the students' vocational education.[PUBLICATION ABSTRACT]</p>
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58	<p>Kilbrink, N. (2013). Lära för framtiden: Transfer i teknisk yrkesutbildning. http://kau.diva-portal.org/smash/get/diva2:589187/FULLTEXT01.pdf http://urn.kb.se/resolve?urn=urn:nbn:se:kau:diva-16378</p>	<p>Den här avhandlingen handlar om transfer i relation till tekniklärande och teknisk yrkesutbildning. Transfer är centralt för all utbildning och att kunna använda och bygga vidare på tidigare kunskaper och erfarenheter i nya situationer är nödvändigt i ett föränderligt samhälle med en snabb teknisk utveckling. Syftet med avhandlingen är att studera transfer ur ett erfarenhetsperspektiv. Avhandlingen grundar sig i ett livsvärldsfenomenologiskt perspektiv. Elevers, lärares och handledares erfarenheter av undervisning och lärande är en central utgångspunkt. I tre av avhandlingens delstudier fokuseras berättelser om teknisk gymnasial yrkesutbildning som lärlingsutbildning och i den fjärde delstudien fokuseras hur uppgifter av teoretisk och praktisk karaktär erfars och hanteras i teknikundervisningen i grundskolan. Resultaten visar på behovet av lärande i olika arenor och behovet av ett holistiskt lärande där teori och praktik hanteras integrerat. Eleverna behöver erbjudas en variation av erfarenheter från olika arenor och flera arbetsplatser, där lärare och handledare skapar förutsättningar för reflektion i relation till den praktiska erfarenheten. Något som också starkt betonas är ett fungerande samarbete mellan skola och arbetsplatser i yrkesutbildning.</p>
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59	<p>Kilbrink, N., Bjurulf, V., Baartman, L. K., & de bruijn, E. (2018). Transfer of Learning in Swedish Technical Vocational Education: Student Experiences in the Energy and Industry Programmes. <i>Journal of Vocational Education and Training</i>, 70(3), 455-475. https://doi.org/http://dx.doi.org/10.1080/13636820.2018.1437064</p>	<p>One of the most important issues in vocational education is the interaction between learning at school and at different workplaces. Students need to transfer what they have learned in and between these different learning arenas. However, little agreement exists among researchers on how to conceptualise and empirically study transfer of learning. This article aims to enhance our understanding of this process in technical vocational education by adding a new perspective on transfer: the phenomenological lifeworld approach. Eleven interviews with students enrolled in the Energy and Industry programmes at a Swedish upper-secondary school were conducted. Three transfer themes emerged from the data: "learning for new situations," "variation" and "integration of theory and practice." The student perspective, based on the lifeworld approach shows that the different learning arenas -- the school and workplaces -- can complement each other. The learning arenas offer different opportunities for learning, and learning in both arenas is necessary in order to prepare for an unknown future, according to the students in this study.</p>
60	<p>Kilbrink, N., Bjurulf, V., Olin-Scheller, C., & Tengberg, M. (2014). Experiences of educational content in Swedish technical vocational education: Examples from the energy and industry programmes. <i>International Journal of Training Research</i>, 12(2), 122-131. https://search.proquest.com/docview/1634870006?accountid=14468</p>	<p>In this study, teachers and workplace supervisors in two vocational programmes at a Swedish upper secondary school were interviewed about their experiences of what is important to teach and learn during vocational education. The interviews were analysed thematically by the qualitative method analysis of narratives concerning what the informants talked about concerning the educational content. The told experiences of educational content concern five themes: basic knowledge, assessment, different educations, interest and integration of theory and practice. These themes relates to different levels of knowledge, from basic knowledge to learning to learn.</p>

61	<p>Komulainen, T. M., & Sannerud, A. R. (2018). Learning transfer through industrial simulator training: Petroleum industry case. <i>Cogent education</i>, 5(1). https://doi.org/10.1080/2331186x.2018.1554790</p>	<p>Efficient teamwork skills, high level of complex process knowledge and a vast set of operational abilities are essential for safe and economical operation in process industries. During the past decade, human factors have emerged as a strong research area in industrial simulator training, where traditionally focus is in the engineering technology. However, publications on the pedagogical aspects are still very few. In Norway, simulator training is one mandatory work-place training activity for process operators in the petroleum industry. In this study, we examine the industrial simulator training practices from the pedagogical perspective of learning transfer. We ask: How do different simulator training course designs, artefacts and practices promote learning? How can the successful practices be enhanced further? The data collection included interviews of the simulator instructors, trainees and simulator centre managers at five different simulator centres in Norway in 2012. The interview guide was organized according to the didactic categories, and the transcripts were analysed by open coding and axial coding. We found that the current team simulator training practices cover all the aspects of the learning design, and promote learning transfer extra ordinarily well. We suggest enhancement of the current practices by instructor competency support, individual pre-training and uniform qualitative assessment.</p>
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62	<p>Larsen, A., Karin. (2016). En alternativ læringsarena. <i>Scandinavian Journal of Vocations in Development</i>, 1. https://doi.org/10.7577/sjvd.1848</p>	<p>Interessen for pedagogisk entreprenørskap og samarbeid med eksterne aktører har vært økende de siste årene. Den videregående skolen er åpen for alle elever med ulike læreforutsetninger. Yrkesfaglærerne møter derfor store utfordringer knyttet til elevers interesse og motivasjon. Artikkelen handler om et samarbeid mellom en liten sosial entreprenørbedrift og et yrkesfaglig utdanningsprogram på en videregående skole i Midt-Norge. Studien belyser problemstillingen: Bidrar en alternativ læringsarena, der yrkesfaglærer og sosiale entreprenører samarbeider, til økt motivasjon hos elever? I så fall, hvordan? Basert på data fra en saksstudie ser artikkelen nærmere på et samarbeid mellom en yrkesfaglærer og en arbeidsleder i en sosial entreprenørbedrift. Studien har en kvalitativ tilnærming basert på et strukturert litteratursøk, to dybdeintervjuer med yrkesfaglæreren og arbeidslederen, og analyse av et utviklingsarbeid utført av en yrkesfaglærer. Resultatet viser at elevene tok tydelig ansvar for egen læring i sitt arbeid hos den sosiale entreprenøren, men dette påvirket ikke deres fremmøte på skolen. De fortsatte med den tidligere observerte passive adferden, og uteble fra deler av undervisningen. Basert på studiens funn konkluderes det med at forankring og en felles forståelse for læringsprosessen kan oppfattes som en mulig suksessfaktor. Det anbefales at utvikling av samarbeidskompetanse mellom lærer og bedrift vektlegges i stor grad i yrkesfaglærerutdanningen.</p>
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63	Laursen, P. F. (2015). Brobyggande mellan teori och praktik. https://doi.org/10.3384/venue.2001-788X.15419	Förhållandet mellan teori och praktik på yrkesutbildningar är ett förhållandevis gammalt problem som i hög grad har diskuterats och varit föremål för forskning. De senaste årtiondena har det varit särskilt fokus på gapet mellan teori och praktik. Förhållandet mellan teori och praktik upplevs som ett särskilt stort problem inom yrken som lärare, sjuksköterska och socialarbetare, alltså yrken som helt eller delvis baseras på humaniora och samhällsvetenskap. Inom naturvetenskapsbaserade yrken, som t.ex. ingenjör, verkar problemet vara mindre.
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64	<p>Leraand, A. (2014). Verkstedet som læringsarena - Utvikling av kunnskaper og ferdigheter gjennom praksis. http://hdl.handle.net/11250/2440545</p>	<p>Studiens problemstilling forsøker å gi svar på hvordan læring skjer på verkstedet og på hvilken måte min undervisningspraksis påvirker dette. Det vil være av interesse å kartlegge fenomenet og rette et større fokus på de utfordringer som ligger til opplæringsaktiviteten på verkstedet. Innenfor de felles programfagene produksjon og prosjekt til fordypning(PTF) på det yrkesfaglige utdanningsprogrammet bygg og anleggsteknikkv1, forgår i hovedsak all opplæring på verkstedet. Skolens strategi for gjennomføring av PTF kan i enkelte tilfeller føre til at deler av opplæringen foregår i bedrift. Oppgaven er en kvalitativ studie. Det ble gjort dybdeintervju med 5 vg1-elever i ferd med å avslutte sitt første år i videregående skole ved det yrkesfaglige utdanningsprogrammet bygg og anleggsteknikk. Som utgangspunkt for intervjuene ble det brukt intervjuguide med tema som skulle drøftes i intervjuene. Intervjuanalysen er gjort ut fra en ad-hoc bruk av ulike analysemetoder for å fremskaffe en meningsgenerering fra datamaterialet. Det innebærer en bruk av ulike teknikker og et samspill mellom disse. Målet med undersøkelsen var ikke universalitet, representativitet eller generalisering, men heller å kretse rundt et fenomen, få dypere innsikt og finne meninger gjennom elevenes egne opplevelser. Resultatene viser at elever med mål om en yrkeskarriere innenfor byggebransjen og et klart bilde av veien frem, haren atferd på verkstedet som fremmer utvikling og læring av yrkesfaglige ferdigheter og kunnskaper. Hvordan opplæringen er organisert spiller mindre rolle, opplæringsens organisering synliggjøres i kapittel 2. Studien viser også at elever i denne kategorien har positive holdninger til egen skolegang, lite fravær, god innsats og et reelt ønske om faglig progresjon som kommer tydelig til syne i elevens atferd. Elever med mål som ikke alene retter seg mot faglig progresjon har en annen tilnærming til opplæringen. De har i tillegg håp om flere pauser, samtaler om forhold utenfor skolen og mindre vektlegging av veiledning underveis i en arbeidsprosess. Deres ferdigheter og kunnskaper blir mer fragmentert og vil gi utfordringer for dem selv og lærere i den videre opplæringen. For å kunne ivareta elever med andre mål enn rent faglige, ville mindre gruppestørrelser vært et alternativ. Oppgaver av mindre omfang og tett</p>
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		<p>oppfølging fra lærer ville også vært et godt alternativ. De ferdigheter og kunnskaper som er nødvendige i det videre opplæringsløpet ville i større grad vært på plass. The study attempts to examine how learning takes place in the workshop and how my teaching practices influence learning. It is interesting to study workshop learning and bring greater attention to the challenges of teaching in the workshop. In the vocational education programme for building and construction, the common programme subjects entitled "Production" and "In-depth Study Project" are both taught primarily in the workshop. The school's strategy for the "In-depth Study Project" may in some cases involve students receiving their training in companies the school cooperates with. This dissertation is a qualitative study. In-depth interviews were conducted with five vg1 students who were about to finish their first year of Upper Secondary Education and Training at the vocational education programme for Building and Construction. An interview guide with topics for discussion was used as a starting point for the interviews. Different analytical approaches have been used in the interview analysis in order to generate conclusions. This involves various techniques and interaction between these. The object of the study was not universality, representativeness or generalisation, but rather to circle around a phenomenon, achieve deeper insight and discover the students' perspectives through their experiences. The results show that students with goals for a career in building and construction occupations and a clear vision of the road ahead, display behaviour in the workshop that promotes learning and development in vocational skills and knowledge. How training is organised is of less importance. The organisation of training is shown in chapter 2. The study also shows that students of this category have positive attitudes toward their education, lower absence rates and a true desire to develop their skills that becomes apparent through the students' behaviour. Students with goals that are not solely aimed at developing their vocational skills have a different approach to their training. They also have other incentives, take more breaks, have more conversations about non-school-related activities and a weaker emphasis on guidance during the work process. Their skills and</p>
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		<p>knowledge are more fragmented which will present them and their teachers with challenges as they continue their education and training. In order to attend to the needs of students whose goals are not oriented towards developing their skills, smaller groups sizes may be an alternative. Smaller tasks and close teacher supervision could also be a good alternative. Both could ensure that these students achieve the skills and knowledge that are necessary in their further education and training.</p>
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65	<p>Lin, S., & Chiu, C. K. (2008). Incentive Styles, Asynchronous Online Discussion, and Vocational Training. <i>Journal of Educational Computing Research</i>, 39(4), 363-377.</p> <p>https://search.proquest.com/docview/61879376?accountid=14468</p>	<p>Vocational education and training (VET) is intended to prepare adult learners for careers that are based on practical activities. With the underlying constructivist andragogy, this study intended to examine the effects of computer-mediated group collaboration in vocational education, and how that affects the associated learning outcomes. For collaborative learning, use of asynchronous computer-mediated communication as one of the major media prevails not only in web-based formats but in face-to-face. Specifically, our intent was to explore effectiveness of asynchronous online discussion (AOD) and the learning outcome accordingly. The results provided evidence that the participants in the AOD performed substantially better than those with no use of AOD in the bi-weekly quizzes as well as the learning outcomes. As incentive styles come into play, we found that the introverts performed as well as the extroverts disregarding the AOD participation. The results concluded that use of group collaboration as andragogical strategy (use of AOD) inferred better learning outcomes in the context of VET. (Contains 2 tables.)</p>
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66	<p>Lindberg, L. (2010). Matematiken i yrkesutbildningen : möjligheter och begränsningar. http://ltu.diva-portal.org/smash/get/diva2:990363/FULLTEXT01.pdf http://urn.kb.se/resolve?urn=urn:nbn:se:ltu:diva-17359</p>	<p>The aim of this thesis is to contribute to knowledge regarding affordances and constraints of mathematics in vocational education. Different theories, i.e. theory-guided bricolage, has been used for the analyses. In the different articles grounded theory, hermeneutics and Kennewell's model about affordances and constraints were applied. Data has been collected from documents and reports. The first article analyses what methods and theories that has been used by researchers to uncover mathematics in vocational education. The development is going in the direction to use many methods at the same time and the technical development has made this possible. Results from earlier research shows that mathematics is invisible, hidden in black boxes and something existing as silent knowledge. In order to uncover mathematics the researcher has to know the subject. The second article gives an historical overview of the role of mathematics in vocational education to this day from the days of the guild when the master was responsible for the education to the upper secondary school of today when the pupils are being taught in Mathematics, course A, by the mathematics teacher. The third article is an analysis of a development project in a vocational program with the purpose to develop cooperation between teachers of mathematics and teachers in the vocational subjects. The results indicate that the historical overview can help to explain that even today it is hard to make cooperation happen between categories of teachers with different conditions and educational background. The analysis of the development project that took place after the reform in 1994 pointed at possibilities, but that it takes time and support is required from the school leaders. The pupils had deficient preknowledge in mathematics but became more motivated and achieved better when they were taught by teachers who had cooperated before and in class with the other teachers. The results indicate that it is relevant to carry out in-service training with different categories of teachers to be prepared for the possibility to get time to meet and discuss content and teaching in mathematics and in the vocational subjects. It is important to document results from in-service training and to link researchers for support and to</p>
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		<p>disseminate results to other schools and groups nationally and internationally through publications and conferences.</p>
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67	<p>Logan, C. D. (2006). Circles of practice: educational and professional graphic design. <i>Journal of Workplace Learning</i>, 18(6), 331-343. https://doi.org/http://dx.doi.org/10.1108/13665620610682062</p>	<p>Purpose - This paper investigates the specialist learning undertaken in graphic design classrooms and its relationship to industry practices. It considers how well students are prepared for work and the nature of this vocational preparation. Design/methodology/approach - The paper is based on an empirical study using a qualitative, case study approach. A situated perspective on design learning and knowledge was adopted, and a strong focus on studio discourse developed. An analytical method based on respondents' use of metaphor in practice-oriented discourse evolved, providing an interpretive framework for the study. Findings - The paper describes the difficulties involved in undertaking research into design classrooms, outlining how these were resolved to allow the unique learning activities of the design practicum to be identified. It discusses the lack of recognition of design pedagogies, and considers their characteristic strengths and weaknesses. Key metaphorical discourses structuring design learning, teaching and practice are identified. Shared discourses in use across graphic design education and industry suggest the alignment of these contexts, providing a perspective on them as overlapping "circles of practice". Conclusions are drawn about the effectiveness of graphic design vocational education. Originality/value - The study suggests a means of researching practice-oriented discourses and activities across a range of settings. It offers ways of considering the alignment of educational and professional contexts by using a modified "situated" perspective on learning. This perspective allows for recognition of types of learning that do not meet traditional, "academic" criteria and of the vocationally-referenced pedagogies that promote them. [PUBLICATION ABSTRACT]</p>
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68	<p>Lou, S.-J., Shih, R. C., Tseng, K. H., Diez, C. R., & Tsai, H.-Y. (2010). How to Promote Knowledge Transfer through a Problem-Based Learning Internet Platform for Vocational High School Students. <i>European Journal of Engineering Education</i>, 35(5), 539-551. https://search.proquest.com/docview/762467297?accountid=14468</p>	<p>This study aimed to explore how vocational high school students transfer knowledge through a problem-based learning (PBL) Internet platform. A PBL Internet platform was provided to 33 sophomore mechanical engineering students for a 6-week teaching experiment. A survey questionnaire, observation and interview were research instruments. The findings include: 1) factual, conceptual and process knowledge are the major types of knowledge and the sources of knowledge transfer (KT) include students, instructors and industries, but may be acquired differently depending on the level of problem-solving needs; 2) students' KT includes highly experienced tacit knowledge and more concrete explicit knowledge; 3) students' attitudes toward the six domains of using the PBL Internet platform all show positive significance, including the platform, the platform instructors, the platform mobility, online interaction, the PBL and the platform interface mechanism of students' perceptions; 4) the capability and the willingness for KT in instructors, industries and students all have some impact on the effectiveness of KT. (Contains 2 tables and 3 figures.)</p>
69	<p>Louw, A. V. (2015). Mod en tættere kobling mellem skole og praktik: Erfaringer fra 21 forsøgs- og udviklingsprojekter på 18 erhvervsskoler. Center for Ungdomsforskning, Institut for Læring og Filosofi, Aalborg Universitet.</p>	<p>På baggrund af 21 forsøgs- og udviklingsprojekter præsenterer rapporten systematisk og praksisforankret viden om, hvad der kan øge elevernes muligheder for dels at koble mellem skole og praktik og dels at forbinde de teoretiske og praktiske elementer undervejs i deres erhvervsuddannelse. I rapporten anlægges et læringsperspektiv, og der tages udgangspunkt i undervisernes og andre involveredes fagpersoners perspektiver. Samlet set tegner rapporten et positivt billede. Der er generelt set skabt muligheder for bedre koblinger mellem skole og praktik, der indvirker positivt på elevernes motivation for teori. Kvaliteten i elevernes samlede uddannelsesforløb er løftet, og der er skabt grobund for erhvervsfaglig udvikling for eleverne i såvel virksomhederne som på skolerne. Forsøgene peger på, at det er muligt at foretage dette løft gennem fokus på indsatser på individniveau og strukturniveau.</p>

70	<p>Louw, A. V. (2017). Forandringer i ungdomsuddannelserne: Overgange og indsatser. <i>Aalborg Universitetsforlag</i>, 93-113.</p>	<p>Erhvervsuddannelserne i Danmark hviler på vekseluddannelsesprincippet. Det vil sige, at elevernes uddannelse er tilrettelagt, så den veksler mellem perioder på en erhvervsskole og perioder i praktik i en virksomhed. På det overordnede niveau har vekseluddannelsesprincippet nogle helt åbenlyse styrker: Praktikken, hvor eleverne indgår som en del af en virksomheds daglige drift, sikrer, at eleverne får en praksisnær oplæring. Dette sikrer samtidig en glidende overgang til arbejdsmarkedet, når eleverne er færdige med deres erhvervsuddannelse (Hamilton 1987; Juul & Jørgensen 2011). Skoledelen sikrer, at eleverne opnår de brede og teoretiske kvalifikationer, der også knytter sig til fagene (Koudahl, 2007). Dermed bliver det tydeligt, at udbyttet af dette system både afhænger af den læring, der foregår i praktikken, og den, der finder sted på erhvervsskolen. Men selvom vi i Danmark hylder vekseluddannelsesprincippet, og det har nogle åbenlyse styrker, er der samtidig nogle uløste udfordringer, som knytter sig til denne kobling: For det første betyder vekseluddannelsesprincippet, at eleverne hele tiden flytter sig frem og tilbage mellem forskellige kontekster og det sker i forskellige individuelle tempi. Udfordringen er her forbundet med spørgsmålet om, hvordan eleverne kan etablere fællesskaber og udvikle fornemmelsen af tilhørsforhold samt også få mulighed for at dyrke en ungdomskultur undervejs i deres erhvervsuddannelse (Katznelson, Brown & Vestergaard, 2011). Set i et læringsperspektiv handler udfordringen for eleverne om, at de grundlæggende ikke oplever eller forstår sammenhængene mellem skole- og praktikkdelen og har svært ved selv at skabe koblinger mellem disse to forskellige læringskontekster undervejs i deres erhvervsuddannelse (Aarkrog, 2007). Eleverne oplever tværtimod de forskellige værdier og krav, de møder i de forskellige læringskontekster, som et kultursammenstød (Sjøberg et al., 1999; Aarkrog, 2007; Nielsen, 2009; Simonsen, 2004; Juul, 2005, Larsen, 2006, Jørgensen, 2009, 2010). En anden udfordring, der knytter sig til dette, handler om, at eleverne i overvejende grad tager udgangspunkt i praktikken i deres anskuelser af sammenhæng mellem skole og praktik og ofte savner en grundlæggende forståelse for eller forklaring af meningen med den teoretiske læring i</p>
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		<p>skolen i forhold til deres praktik (Aarkrog, 2001; Nielsen, 2004; Tanggaard, 2004; 2006; Koudahl, 2007; Hansen, 2010,). Det betyder, at elevernes motivation ofte er knyttet til praktikken og den praksisbaserede læring, mens de er mindre motiverede for skoledelen og læring af den teoretisk baserede viden i deres erhvervsuddannelse. I forhold til kvaliteten af erhvervsuddannelserne er det på den baggrund centralt at spørge: Hvordan fungerer dette vekseluddannelsesprincip i dag rundt omkring på de forskellige erhvervsuddannelser? Hvad vil det egentlig sige at 'koble' mellem skole og praktik? Og hvordan ser 'gode koblinger' ud fra hhv. elevernes, lærernes og virksomhedernes perspektiv? Disse spørgsmål vil blive belyst i dette kapitel.</p>
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71	<p>Mazereeuw, M., Wopereis, I., & McKenney, S. (2016). Extended teams in vocational education: collaboration on the border. <i>Educational Research and Evaluation</i>, 22(3-4), 194-212. https://doi.org/http://dx.doi.org/10.1080/13803611.2016.1247727</p>	<p>Extended Teams (ETs), in which teachers and workplace supervisors are jointly responsible for the quality of education, were established to solve problems concerning school-workplace connections in vocational and professional education. Six ETs were investigated during their 1st year of collaboration. In addition to recordings of ET meetings, questionnaires, focus groups, and interviews yielded triangulation of data pertaining to dimensions of team work and professional growth of individual team members. Five of the 6 teams showed marked changes for team functioning, especially with regard to social ties and intellectual building as well as needs for new knowledge. Analysis of individual professional growth indicated that working in an ET contributed to understanding the other context, and altering views of what can be achieved by and for students. We conclude that ETs hold potential for strengthening school-workplace connections, but note that they did rely heavily on external support.</p>
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72	<p>Mikkonen, S., Pylväs, L., Rintala, H., Nokelainen, P., & Postareff, L. (2017). Guiding workplace learning in vocational education and training: a literature review. <i>Empirical Research in Vocational Education and Training</i>, 9(1), 1-22. https://doi.org/http://dx.doi.org/10.1186/s40461-017-0053-4</p>	<p>This review provides an overview of the empirical research concerning guidance in the context of vocational education and training (VET). The study examines practices, providers and supporting and hindering factors related to guidance and learning at the workplace. After the inclusion/exclusion process, the final number of research articles included in this review is 18. Results show strong evidence for the collective nature of workplace guidance, with the entire work community providing learners with guidance and assistance. Guidance provided to VET students at workplaces seems to relate strongly to the activities of the members of communities of practice. Guidance provided by the members of communities of practice opens up opportunities for learners to participate in collective practices by gradually assuming more responsibility and more demanding tasks as their skills develop. The learner's self-regulative skills, such as responsibility and the ability to take the initiative and to actively seek guidance, affect how guidance is afforded to him/her in the work community during training. Furthermore, these skills may also determine the learner's prospects for developing expertise in future workplaces.</p>
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73	Mjelde, L. (2016). Working Knowledge in Vocational Education; Hands-on Activities as the Rotation Point for Learning. <i>技術教育学の探求</i> , 15, 26-36.	<p>The conceptions of Vocational pedagogy and Vocational didactics are new concepts in educational theory. They have developed in relation to an understanding of teaching/learning processes where workshop learning in schools and learning in working life is at the core. Vocational education contains a variety of different traditions and educational roads, but they are all based on learning through practical activities. Vocational pedagogy is a learner-centred approach to teaching and learning, where the relation between the student and the task is at the core. The central aspect of Vocational Pedagogy is that the work activity itself is the rotation point for learning. In this work I start to explore ways of seeing the unity and variations in curriculum development in vocational didactics brought about by the changes in technology and the development on the manual labour market and in vocational education during the last decades. I also discuss the central problematic of moving from “learning in praxis” to “general knowledge” in a variety of vocational fields in the point of tensions between learning in schools and learning in work life.</p>
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74	<p>Motta, E., Cattaneo, A., & Gurtner, J. L. (2014). Mobile Devices to Bridge the Gap in VET: Ease of Use and Usefulness as Indicators for Their Acceptance. <i>Journal of Education and Training Studies</i>, 2(1), 165-179.</p> <p>https://search.proquest.com/docview/1697487053?accountid=14468</p>	<p>In the dual-track Vocational Education and Training (VET) system, apprentices gain experiences in different learning locations (i.e. workplace and school) but the bridges between these experiences are difficult to construct. Mobile devices could help to promote connectivity across learning contexts, provided they are accepted by the various persons and institutions involved. Ease of use and usefulness, here interpreted as the main elements of "usability in the large," are indicators of the acceptance of mobiles. We involved apprentices from three different professional fields--cooks, pastry cooks and car mechanics--and two different mobile devices--headband cameras and smartphones. These devices served to capture visual material on professional situations lived at the workplace. Different software applications were then used to allow such material to be brought to school and discussed with teachers and classmates or shared with supervisors at work. To evaluate the usability of such tools we used a five-section questionnaire mainly based on the TAM and UTATUT model, which had been adequately adapted to the peculiarity of the VET system. Results confirm the feasibility of the approach and the usability of both tools: no significant difference is shown, neither between the two devices in the same field, nor between the different professions with respect to the same device. These results underline the potential of mobile devices to foster connectivity between learning locations in VET.</p>
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75	<p>Mulder, R. H., Messmann, G., & König, C. (2015). Vocational Education and Training: Researching the Relationship between School and Work. <i>European Journal of Education, 50</i>(4), 497-512. https://doi.org/http://dx.doi.org/10.1111/ejed.12147</p>	<p>Researchers and policy makers agree that the relation between school and work is an important characteristic of vocational education and training (VET) and needs attention. The relation itself poses several challenges for research to be successful and useful for policy makers. In this article, we outline these challenges and answer the following question: "What needs to be considered when researching the relation between school and work?" Our central claim is that research on the relation between school and work needs to (1) take into account contextual conditions of the VET system, including identifying the central actors and their responsibilities within a VET system, (2) take into account the characteristics of VET itself, (3) define the quality of the relation between school and work (depending on the context, characteristics of the VET system and VET itself), and (4) be consistent with respect to chosen research aims and paradigms. To illustrate how these aspects can be taken into account an example of empirical research conducted in the German dual apprenticeship system is described. The readers are provided with guidelines for researchers and policy makers to carry out high quality research on the relation between school and work in VET systems that enables policy makers to make use of the results to improve the relation between school and work in VET systems.</p>
76	<p>Nielsen, K. (2008). Scaffold Instruction at the Workplace from a Situated Perspective. <i>Studies in Continuing Education, 30</i>(3), 247-261. https://search.proquest.com/docview/61970527?accountid=14468</p>	<p>This article proposes the need to address scaffold instructions from a situated learning perspective. Based on an empirical study of how apprentice bakers learn their trade, it is claimed that studies of learning at the workplace yield important insights into our understanding of scaffold instructions. Seen from the perspective of the apprentices, scaffold instruction represents access to more responsibility in practice, it supports their identities as future bakers and they learn bodily know-how. When scaffold instruction failed, it was often in relation to situations where the apprentices were placed in marginal positions in the community of practice or in relation to a central workplace situation.</p>

77	<p>Nielsen, K. (2009). A Collaborative Perspective on Learning Transfer. <i>Journal of Workplace Learning</i>, 21(1), 58-70. https://doi.org/http://dx.doi.org/10.1108/13665620910924916</p>	<p>Purpose: The purpose of this paper is to argue that it is important to focus on the apprentices' collaborative learning processes when addressing issues of learning transfer. Design/methodology/approach: The claims about the importance of addressing processes of collaborative activities and learning in relation to learning transfer are based on the study following the completion of questionnaires by 243 apprentices and interviews in which 19 baker apprentices participated. Findings: The research results prove that it is important to pay attention to collaborative activities among learners in order to ensure learning transfer. Research limitations/implications: One limitation of the study is that it does not elaborate on reasons that some apprentices are motivated to integrate what they were taught at vocational college in a workplace setting while others are not motivated to do so. Practical implications: Educators will become more aware of individual and collective initiatives to cross the boundaries between vocational school and workplace practice. Originality/value: The study adds to the discussion of learning transfer through an investigation of learning transfer from a collaborative perspective. Most transfer studies have focused on the nature of knowledge or the structural barriers between college and workplace practice, while this study emphasizes the collaborative nature of learning transfer. (Contains 3 notes.)</p>
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78	<p>Nordby, M., Knain, E., & Jónsdóttir, G. (2017). Vocational students' meaning-making in school science – negotiating authenticity through multimodal mobile learning. <i>Nordina: Nordic studies in science education</i>, 13(1), 52-65. https://doi.org/10.5617/nordina.2976</p>	<p>This article presents a qualitative study focusing school science in two vocational classes, upper secondary school, Norway. The fact that many vocational students find little meaning in school science forms the backdrop. The students were introduced to teaching combining an excursion to a district heating plant and classroom lessons, with the use of mobile phones for documentation. Thematic analysis is used to explore the students' experiences by analysing their behaviour and utterances. A multimodal semiotic analysis is used to examine the students' digital stories. By offering the students teaching in a real life vocational facility, we found that the students engaged in the related school science subject matter. They do perceive the use of phones for documentation as personal authentic and relevant working method. The learning potential arising when the mobile learning bridged the two learning venues overshadowed the possible pitfalls of using smartphones.</p>
79	<p>Nore, H., & Lahn, L. C. (2014). Bridging the Gap between Work and Education in Vocational Education and Training. A Study of Norwegian Apprenticeship Training Offices and E-Portfolio Systems. <i>International Journal for Research in Vocational Education and Training</i>, 1(1), 21-34. https://search.proquest.com/docview/1895969415?accountid=14468</p>	<p>This article explores the effect that the use of e-portfolios initiated and organized by apprenticeship training offices has had on the learning processes and assessment practices of apprentices in Norwegian vocational education and training. Although these intermediate structures have the potential to bridge the gap between work and education, they seem to maintain a system of two parallel learning arenas. However, the article summarizes the innovative effects of these transformations as supportive structures for expansive apprenticeship. The study is based on data from a national project on quality assessment, which is supported by documentary evidence from e-portfolios in three different trades: plumbing, industrial mechanics and sales.</p>

80	<p>Nore, H. (2015). Re-Contextualizing Vocational Didactics in Norwegian Vocational Education and Training. <i>International Journal for Research in Vocational Education and Training</i>, 2(3), 182-194. https://search.proquest.com/docview/1895983658?accountid=14468</p>	<p>This article explores teachers and trainers didactical practices in different contexts in Norwegian VET: schools and workplaces. With the introduction of e-resources and e-portfolios in VET, learners as well as teachers and trainers experience a more hybrid learning-arena, which claims for a re-contextualization of vocational didactics as well as re-defining roles and responsibilities of the actors. The article discuss new forms of boundary crossing, dealing with e-portfolios as boundary objects, increasing learner autonomy, transformative learning outcomes, interaction between actors and designing learning processes in hybrid learning-arenas. Vocational didactics as understood in a teacher-training context are challenged by more actors and new forms of interactivity with technological tools crossing sites. The study is based on a longitudinal study in a national project on quality assessment, interviews with teachers and trainers as well as apprenticeship training offices supported by documentary evidence from three trades: sales, plumbing and industrial mechanics.</p>
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81	<p>Onstenk, J., & Blokhuis, F. (2007). Apprenticeship in The Netherlands: connecting school- and work-based learning. <i>Education & Training, 49</i>(6), 489-499. https://doi.org/http://dx.doi.org/10.1108/00400910710819136</p>	<p>The purpose of the paper is to show that The Netherlands offers an interesting case of apprenticeship as part of an elaborated system of vocational education, combining school and workplace learning. For reaching objectives of vocational education with regard to effective problem solving on the job and work process knowledge the quality of workplace learning is essential. The research in this paper is explorative. It is based on policy analysis, literature review and meta-analysis of recent research on workplace learning, done by the authors and some colleagues. New theoretical approaches on workplace learning are used to throw new light on developments in Dutch apprenticeships. The paper finds that governments as well as schools and companies are attempting to uphold the quality of learning in apprenticeships. More intensive interaction between workplaces and vocational schools are developed. Still, there are two main issues in dispute: the quality of workplace learning (content, guidance, assessment) and the quality of the connection between workplace and school-based learning, despite attempts to make VET more practice oriented and to improve connections between school and work. The paper shows that VET innovation should pay more attention to quality improvement and connectivity of work-based learning by establishing quality criteria for work-based learning places, by enriching workplace learning and by designing curricula, which integrate learning places as well as learning experiences. The value of the paper is delivering new insights on apprenticeships by confronting new theories with the Dutch case.</p>
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82	<p>Ortoleva, G., & Bétrancourt, M. (2016). Supporting Productive Collaboration in a Computer-Supported Instructional Activity: Peer-Feedback on Critical Incidents in Health Care Education. <i>Journal of Vocational Education and Training</i>, 68(2), 178-197. https://doi.org/http://dx.doi.org/10.1080/13636820.2015.1133693</p>	<p>One important feature of vocational education is to provide students with solid conceptual knowledge along with substantial practical experience, acquired in school and workplace contexts, respectively. However, the research provided evidence that students do not spontaneously articulate the knowledge acquired in different contexts, and that specific instructional activities have to be designed and introduced. The present study deals with this type of activity conducted in a vocational school for health and social care assistants, which involved the use of collaborative writing about workplace critical incidents. The goal was to identify the patterns of interactions, and specifically the type of peer-feedback that engage students in productive collaboration. Qualitative analyses show that the writing productions could be categorized in four collaboration patterns differing in the level in which students would elaborate on their peers' experience and profit from the peers' suggestions in order to improve their understanding. On this basis, we propose a series of recommendations for implementing effective and instructionally relevant collaborative writing activities in vocational education.</p>
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83	<p>Poortman, C. L., Reenalda, M., Nijhof, W. J., & Nieuwenhuis, L. F. (2014). Workplace Learning in Dual Higher Professional Education. <i>Vocations and Learning</i>, 7(2), 167-190. https://doi.org/http://dx.doi.org/10.1007/s12186-014-9111-2</p>	<p>Workplace learning is considered an effective strategy for the development of vocation, career and professional identity. Dual training programs, in which learning at a vocational school and learning at work in a company are combined, are seen as strong carriers for skill formation processes. In this study we explore workplace learning in dual training programs in Dutch higher professional education. To gain an understanding of these learning environments and processes, a qualitative multiple case study was conducted in seven sectors. The findings show substantial differences in learning environments between and within sectors. However, cooperation between school and practice is minimal in all of the cases. Although students develop personal and job-related competencies that are useful for daily work routines, they acquire hardly any profound theoretical knowledge at the workplace. School fails to direct workplace learning. Given the considerable share of workplace learning in dual training programs, and the demands to higher professional education graduates in terms of being able to solve complex problems and develop new knowledge during their career as reflective practitioners, it is important that these shortcomings are resolved. More promising alternatives for workplace learning environments and questions for further research to improve workplace learning in higher professional education are discussed.</p>
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84	<p>Davids, A. I. R., Van den Bossche, P., Garrido, M. F. (2017). The Impact of Individual, Educational, and Workplace Factors on the Transfer of School-Based Learning into the Workplace. <i>Vocations and Learning</i>, 10(3), 275-306. https://doi.org/http://dx.doi.org/10.1007/s12186-016-9168-1</p>	<p>The aim of this study was to investigate the transfer of learning of professional competences from vocational colleges to the workplace context in vocational education. Concretely, the study examined the relations between the professional competences learned at school and the use and further development of those competences at the workplace during the "practice module" in vocational education programmes in Spain. The study analysed individual, educational design and work environment factors that facilitate or hinder transfer of learning. The study took a multidimensional approach to professional competences by observing four dimensions: hard-specific, hard-generic, interpersonal and intrapersonal. The data collection drew from a questionnaire administered to students of vocational education programmes (N = 379) after they had completed the practice module scheme. A moderation analysis was applied to observe the effect of individual, educational design and workplace factors on the relation between the competences learned at school and those used at the workplace. The findings showed that compulsory placement, school-work alignment, work-based supervisor, access to resources and task complexity are significant moderators between the competences learned at school and those used at the workplace. The study highlights the coherence between the school and workplaces and work environment characteristics as factors conducive to transfer of learning.</p>
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85	<p>Roger, H., & Simons, M. (2006) VET practitioners working with private enterprises: a "third space"?. <i>Journal of Workplace Learning</i>, 18(7/8), 478-494. https://doi.org/http://dx.doi.org/10.1108/13665620610693033</p>	<p>This paper aims to analyse, through the lens of learning network theory, ways in which external VET practitioners work within private enterprises to promote learning within these organizations. The paper is based on analyses of six case studies in two Australian States, each comprising a vocational education institute and an enterprise. In total, 34 interviews were held with four groups of participant - TAFE managers and practitioners, enterprise personnel and worker-learners - from different industries. The paper finds that the overlaying of an external learning system on existing learning systems brings inevitable tensions that need to be carefully managed. VET practitioners working in industry operate in two worlds with very different cultures. They need to learn how to work within different power structures, how to build around existing work and learning networks, and how to mesh in with the flow of enterprise work. In the process of working with company staff, and crossing boundaries, they may well be creating a "third space" in which new meanings can be, and have to be, constructed that go beyond the limits of either site.</p>
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86	<p>Schwendimann, B. A., Cattaneo, A. A., Dehler Zufferey, J., Gurtner, J. L., Bétrancourt, M., & Dillenbourg, P. (2015). The "Erfahrraum": A Pedagogical Model for Designing Educational Technologies in Dual Vocational Systems. <i>Journal of Vocational Education and Training</i>, 67(3), 367-396.</p> <p>https://doi.org/http://dx.doi.org/10.1080/13636820.2015.1061041</p>	<p>Vocational education taking place in the dual contexts of workplace and school often lacks integration of concrete experiences with theoretical knowledge. The interplay between workplace and school contexts and their often antagonistic priorities call for a specific model that transforms these divergences into learning opportunities and connects different forms of knowledge into an integrated body of knowledge that contributes to developing vocational competence. This paper presents a multidimensional pedagogical model, called the "Erfahrraum", for the design and implementation of educational technologies as a way to foster this integration in initial dual vocational education and training (VET). The "Erfahrraum" model informs the design of shared spaces for capturing and reflecting on experiences made in different contexts in which VET takes place. The model particularly emphasises the importance of shared reflection processes to turn concrete experiences into relevant integrated knowledge. Examples of implementations in different professions using a range of different technologies illustrate the power of the "Erfahrraum" model.</p>
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87	<p>Schaap, H., Baartman, L., & de Bruijn, E. (2012). Students' Learning Processes during School-Based Learning and Workplace Learning in Vocational Education: A Review. <i>Vocations and Learning</i>, 5(2), 99-117. https://doi.org/http://dx.doi.org/10.1007/s12186-011-9069-2</p>	<p>Learning in vocational schools and workplaces are the two main components of vocational education. Students have to develop professional competences by building meaningful relations between knowledge, skills and attitudes. There are, however, some major concerns about the combination of learning in these two learning environments, since vocational schools are primarily based on the rationales of learning and theory, while workplaces are based on the rationales of working and practice. This study therefore aims to structure empirical insights into students' learning processes during the combination of school-based learning and workplace learning in vocational education. A review-study has been conducted in which ultimately 24 articles were analyzed thoroughly. The review shows that students' learning processes in vocational schools and workplaces are related to six main themes: students' expertise development, students' learning styles, students' integration of knowledge acquired in school and workplace, processes of knowledge development, students' motivations for learning and students' professional identity development. Our results show that students are novices who use specific and different learning styles and learning activities in vocational schools and workplaces. It is concluded that the enhancement of students' learning processes needs to be adaptive and differentiated in nature. Recommendations for further research are elaborated and suggestions for the enhancement of students' learning processes are discussed using insights from hybrid learning environments and boundary crossing via boundary objects.</p>
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88	<p>Slottved, M., Larsen, K. S., Ladekjær, E., & Koudahl, P. (2019). STEM-grundfag på erhvervsuddannelserne: Analyse af undervisningspraksisser og undervisernes kvalifikationer og kompetenceudviklingsbehov. VIVE.</p>	<p>Der er stor variation i undervisernes formelle kvalifikationer til at undervise i de såkaldte STEM-grundfag på erhvervsskolerne. Langt fra alle har en uddannelse eller efteruddannelse inden for det STEM-faglige område, viser en ny undersøgelse. Kun en mindre andel af underviserne vurderer imidlertid selv, at de mangler kompetencer til at undervise i STEM-grundfag. Baggrund: VIVE har undersøgt, hvilke behov for kompetenceudvikling der findes blandt underviserne i de såkaldte STEM-grundfag på landets erhvervsskoler. STEM er en samlebetegnelse for uddannelser inden for Science, Technology, Engineering og Mathematics. STEM-grundfagene på erhvervsskolerne omfatter naturfag, kemi, fysik, biologi, matematik, teknologi og it. Undersøgelsen er foretaget for Undervisningsministeriet og Styrelsen for Undervisning og Kvalitet (STUK). Den tager udgangspunkt i den Nationale Naturvidenskabsstrategi, der er udarbejdet med henblik på at styrke interessen for naturvidenskab på langs og på tværs i uddannelsessystemet. Formålet med undersøgelsen er at danne grundlag for en dialog mellem Undervisningsministeriet, erhvervsskoler og professionshøjskoler om at udvikle og udbyde eventuelle tilbud om kompetenceudvikling til undervisere i STEM-grundfag på erhvervsuddannelserne. Undersøgelsen afdækker dels formelle kvalifikationer og undervisningspraksisser blandt underviserne i STEM-grundfagene på erhvervsuddannelserne og dels behovet for kompetenceudvikling og viden hos underviserne. Resultater: Der er stor variation i undervisernes formelle kvalifikationer til at undervise i STEM-grundfag. Undersøgelsen viser blandt andet, at cirka hver tredje underviser har en STEM-relevant uddannelsesbaggrund. Den viser også, at kun seks procent har fuldført en STEM-relevant efteruddannelse. Flere forklaringer på variationen i formelle kvalifikationer Der er flere mulige forklaringer på, at en forholdsvis lav andel af undervisere har formelle STEM-grundfaglige kvalifikationer. Interview med erhvervsskoleledere peger på, at erhvervsskolerne er i konkurrence med gymnasierne og erhvervslivet om at rekruttere medarbejdere med de attraktive STEM-grundfaglige kvalifikationer. Endvidere viser interviewene, at erhvervsskoleledere vægter undervisernes pædagogiske kompetencer og</p>
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		<p>kendskab til praksis højere end formelle kernefaglige kompetencer. Vurderer egne kompetencer højt, men savner ny inspiration Ifølge undersøgelsen vurderer både underviserne og lederne generelt, at underviserne har kompetencerne til at undervise i centrale teorier, begreber og metoder på de fag og niveauer, de underviser på. Undersøgelsen tyder på, at hovedparten af underviserne stræber efter at levere en varieret og praksisorienteret undervisning, som kan motivere eleverne for STEM-fagene. Det vurderer langt hovedparten af underviserne også selv, at de har kompetencerne til. Samtidig peger en gruppe af underviserne imidlertid på, at de mangler inspiration og viden til at forny deres undervisning. Begrænset udbud af relevant efteruddannelse Der er et behov for kompetenceudvikling blandt underviserne på erhvervsskolernes STEM-grundfag, viser undersøgelsen. Men der eksisterer kun i begrænset omfang relevante STEM-rettede tilbud om efteruddannelse. En overvægt af underviserne er i høj eller meget høj grad interesserede i kompetenceudvikling. Generelt lægger underviserne stor vægt på muligheden for at udveksle erfaringer med andre STEM-undervisere, og de ønsker, at kompetenceudviklingen skal foregå ansigt til ansigt. De ønsker at få inspiration til at forny undervisningen, gøre den praksisrelateret og få kendskab til for eksempel nye forsøg og eksperimenter. Anbefalinger: På baggrund af undersøgelsen anbefaler VIVE at udvikle tilbud om efter- og videreuddannelse til gruppen af STEM-undervisere på erhvervsuddannelserne. Undervisernes kvalifikationsniveau understreger et behov for formelle løsninger i forhold til efter- og videreuddannelse med fokus på at styrke undervisernes kernefaglighed, deres viden og deres kompetencer inden for S</p>
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89	<p>Solvik, E., & Struksnes, S. (2018). Training Nursing Skills: A Quantitative Study of Nursing Students' Experiences before and after Clinical Practice. <i>Nurs Res Pract</i>, 1-9. https://doi.org/10.1155/2018/8984028</p>	<p>Requirements for Patient Safety suggest that students encounter patients well prepared. In clinical laboratory practice (CLP), the students simulate patient situations as a preparation for internship. Various CLP models have been tried out to meet the students' prerequisites and learning strategies. . The purpose of this study was to try out two different learning sessions related to the bed bath procedure. . The study has a descriptive, quantitative design with elements from clinically controlled trials. . The population of 160 first-year students was randomly divided into two classes. . Two questionnaires were answered with six-month intervals: Form 1 immediately after the first training session and Form 2 a short time after clinical practice. . A majority of the nursing students reported that the exercises in the clinical lab were a good way to prepare for the practice, although most of them did not perceive that the procedure conducted at the university resembled how it is conducted in clinical practice. Age or level of discomfort related to organization of the skills training did not have impact on the students' confidence in mastering bed bath in clinical practice. Students without previous experience were less confident to master the procedure in clinical practice, but the results evened out during the internship. . The results from this study could indicate that the students' age to a larger extent should be considered in the universities' facilitation of nursing students' clinical preparations, to improve the transition to "real life" as smoothly and meaningfully as possible to nursing students.</p>
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90	<p>Söderström, T., Lindgren, C., & Neely, G. (2019). On the relationship between computer simulation training and the development of practical knowing in police education. <i>The International Journal of Information and Learning Technology</i>, 36(3), 231-242. https://doi.org/http://dx.doi.org/10.1108/IJILT-11-2018-0130</p>	<p>PurposeThe purpose of this paper is to focus on the practical knowing that is central in police education. Drawing on perspectives about tacit knowledge and embodied learning (e.g. Merleau-Ponty, 1945/1997; Polanyi, 1966; Argyris and Schön, 1974) as well as empirical examples, this paper discusses the design of and what can be expected from computer simulation training for the development of police students' professional knowing. Design/methodology/approachThe discussion is based on lessons learned from working with two different computer simulation training situations designed to prepare the students for an upcoming practical training by facilitating the understanding of complex situations as they should be handled in the physical training situation. FindingsThe experiences from the training sessions showed that the different characteristics of the simulations mediate how the training session was performed, e.g., unplanned trial and error vs focused and attentive, but also group discussions about how to act and appropriate actions in relation to the situation to be solved in the simulation. Originality/valueBased on the lessons learned from working with the two different computer simulations, it is posited that the use of computer simulations for practical scenario training is a complex endeavor that needs, in various degrees, to be supported by pedagogical steering. The design of computer simulation training (both the simulation and how the training is designed and performed) need to consider the specific aspects that surround tacit knowledge and embodied learning in the "real sense" (anchored to the practical training) to be of relevance for police students development of professional knowing.</p>
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91	<p>Sørensen, D., Day, B. N., Minds, S., Christensen, S. M., Boniface, J. V., & Allermand, M. M. (2017). Fagligt entreprenørskab i erhvervsuddannelserne: en kvalitativ analyse af hvordan undervisning gennem entreprenørskab kan påvirke elevers læring, motivation og lyst til at deltage i uddannelse. <i>UC Viden</i>.</p>	<p>En forskergruppe har fulgt 73 erhvervsskolelærere på efteruddannelse som gennem undervisningseksperimenter har udforsket og udviklet didaktisk praksis rettet mod udvikling af elevernes innovative og entreprenørielle kompetencer. Ny forskning viser, at elever fra GF1 til svendeprøve - også de elever, der har faglige udfordringer, motiveres og engageres, når der gøres op med den traditionelle undervisningsform og i stedet fokuseres på en mere eksperimenterende og intensiv undervisningsform, hvor det er eleverne, der sætter retning. Et forskerteam har fulgt læreres undervisningseksperimenter fra både SOSU-, Merkantile- og Tekniske skoler. I gennem interview og observation er der fundet didaktiske greb og forhold i entreprenørskabsundervisning, som gør en forskel for elevernes læring og motivation. Konklusionen i analysen peger på, at det øger intensiteten og engagementet blandt eleverne, når de får mulighed for arbejde med læring ift. noget, der er personligt meningsfuldt, involverer handling, samarbejde med andre elever, kreativitet og autentiske opgaver, der værdsættes i omverdenen. Fem fokuspunkter: 1. Det udvider læringsindholdet med eleveksperimenter, hvor eleverne ikke bare lærer mere eller er mere motiverede, men de lærer intensivt gennem udforskning af og afprøvning i praksis 2. Åbenhed om indhold og form i undervisningen giver mere indflydelse og selvbestemmelse til elever. Inddragelse af virksomheder og institutioner som de kan samarbejde med understøtter dette 3. Støtte undervejs ved at forholde sig undrende, undersøgende og som medskaber i processen, giver plads til elevers selvigangsatte aktiviteter og 4. Gruppearbejde, hvor eleverne har fælles ansvar og træffer de vigtigste beslutninger sammen, betyder, at alle trækker på samme hammel – trods individuelle forskelle. 5. Inklusion gennem samarbejde, hvor eleverne oplever anerkendelse og aktiv deltagelse af alle, minimerer sociale og faglige udfordringer. Resultaterne peger på, at entreprenørskabsundervisning åbner for, at elever får medindflydelse på både indhold, tidsforbrug, slutproduktet og evalueringsform. Det gør eleverne mere engagerede og deltagende i undervisningen. De tager medansvar for deres læring og føler et ejerskab over processen</p>
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92	<p>Wesselink, R., de Jong, C., & Biemans, H. J. A. (2010). Aspects of Competence-Based Education as Footholds to Improve the Connectivity between Learning in School and in the Workplace. <i>Vocations and Learning</i>, 3(1), 19-38. https://doi.org/http://dx.doi.org/10.1007/s12186-009-9027-4</p>	<p>Recent developments in competence-based education have motivated institutions of vocational education and training (VET) to improve the links or connectivity between learning in school and learning in the workplace, which has been a problem for decades. In previous research, a theoretical framework describing the underlying aspects of competence-based education was developed. In this study, three aspects of this framework were used to analyse connectivity between learning in school and learning in the workplace. These aspects were: i) authenticity, ii) selfresponsibility, and iii) the role of the teacher as expert and coach. Three stakeholder groups (i.e., students, teachers, and workplace training supervisors) involved in secondary VET programs in the field of life sciences in the Netherlands were questioned on these aspects. Based on their interviews, it is concluded that these aspects provide information about the process of connectivity. Because stakeholder groups hold different conceptions of workplace learning and often do not communicate adequately about mutual responsibilities, the implementation of these aspects of competence-based education has not significantly improved the connectivity situation. Nevertheless, these aspects of competence-based education can guide stakeholder groups in making clearer agreements about mutual responsibilities, which may improve connectivity in the future.</p>
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93	<p>Aarkrog, V. (2005). Learning in the Workplace and the Significance of School-Based Education: A Study of Learning in a Danish Vocational Education and Training Programme. <i>International Journal of Lifelong Education</i>, 24(2), 137-147.</p> <p>https://search.proquest.com/docview/62130369?accountid=14468</p>	<p>Over the last decades educational researchers and politicians have shown a growing interest in the concept of learning in practice, i.e. learning in the workplace. Learning in practice plays an important role in connection with lifelong learning, as the workplace is an obvious setting for realizing this aim. Theories about learning in practice often include a critique of school-based learning by seriously questioning the idea that learning in school can be transferred to action and by emphasizing the context dependence of learning and acting. This article contributes to the debate by pointing out some advantages of combining school-based and workplace-based learning. The results of a study of learning in a vocational education and training (VET) programme for sales assistants show that both the theoretical training in the VET school and the practical training in the workplace are necessary to develop competency. Furthermore, the results indicate that a careful matching of specific parts of the curriculum with the learning setting (the workplace or the school) may improve the trainees' achievements. The matching is not only useful in improving VET programmes but is also generally useful in planning lifelong learning as work-related education.</p>
94	<p>Aarkrog, V. (2007). Hvis det skal gi' mening: elevernes udbytte af praksisrelateret undervisning i erhvervsuddannelserne: Undervisningsministeriet.</p>	
95	<p>Aarkrog, V. (2007). Kan man lære teori i praksis?: En teoretisk og empirisk analyse af praksisrelateret undervisning i erhvervsuddannelserne.</p>	
96	<p>Aarkrog, V. (2008). Det hjælper ikke at være i værkstedet, når man skal lære areal og rumfang: praksisrelateret undervisning i erhvervsuddannelsernes almene fag. <i>Cursiv</i>(3), 127-141.</p> <p>http://www.dpu.dk/fileadmin/www.dpu.dk/omdpu/institutfordidaktik/cursivskriftserie/20083/om-dpu_institutter_institut-for-didaktik_cursiv_20090401175912_cursiv-3w.pdf</p>	<p>Diskussion af elevernes faglige udbytte af praksisrelateret</p>

97	Aarkrog, V. (2010). Fra teori til praksis: undervisning med fokus på transfer: Munksgaard.	
98	Aarkrog, V. (2012). Refleksion: i undervisning, oplæring og praktikvejledning. Munksgaard.	
99	Aarkrog, V. (2015). School Development in Practice. A Competence Development Model for Enhancing Transfer?	The paper deals about a competence development course named School development In Practice (SIP). The purpose of SIP is that the VET schools pinpoint their current challenges in relation to four pedagogical issues and through participating in SIP draft plans for developing practice. SIP consists of four one day courses and in between the four courses the schools should accomplish developmental work at the school, supported by a team of consultants. Consequently, SIP is expected to enhance transfer of knowledge into actions. Based on a description of SIP and the paper highlights some challenges in securing transfer of learning in SIP.
100	Aarkrog, V. (2018). Simulation-based teaching an learning in the social and heath care programs: a literature study. <i>In Emergent Issues in Vocational Education & Training</i> , 236-253. https://premissforlag.se/bocker/emergent-issues-vocational-education-training/	
101	Aarkrog, V. (2019). Praksisrelatering i erhvervsuddannelserne. <i>Emu Danmarks Undervisningsportal</i> .	Artiklen introducerer til det didaktiske princip 'praksisrelatering'. Det er 'relatering' i dette princip, der især giver læringsmæssige udfordringer for eleverne og dermed didaktiske udfordringer for læreren.