Technological University Dublin
ARROW@TU Dublin

Practice Papers

51st Annual Conference of the European Society for Engineering Education (SEFI)

2023

Improving Employability With A Competence Profile (PRACTICE)

Giajenthiran VELMURUGAN
Aalborg University, Denmark, vel@plan.aau.dk

Dennis FRIEDRICHSEN
Aalborg University, Denmark, friedrichsen@plan.aau.dk

Follow this and additional works at: https://arrow.tudublin.ie/sefi2023_prapap

 Part of the Engineering Education Commons

Recommended Citation

Velmurugan, G., & Friedrichsen, D. (2023). Improving Employability With A Competence Profile (PRACTICE). European Society for Engineering Education (SEFI). DOI: 10.21427/YD0B-H510

This Conference Paper is brought to you for free and open access by the 51st Annual Conference of the European Society for Engineering Education (SEFI) at ARROW@TU Dublin. It has been accepted for inclusion in Practice Papers by an authorized administrator of ARROW@TU Dublin. For more information, please contact arrow.admin@tudublin.ie, aisling.coyne@tudublin.ie, vera.kilshaw@tudublin.ie.

This work is licensed under a Creative Commons Attribution-NonCommercial-Share Alike 4.0 International License.

Improving Employability with a Competence Profile (PRACTICE)

Giajenthiran Velmurugan, vel@plan.aau.dk
Aalborg University
Aalborg, Denmark
0000-0001-7925-3155

Dennis Friedrichsen, friedrichsen@plan.aau.dk
Aalborg University
Aalborg, Denmark
0009-0004-3495-9153

Conference Key Areas*: Engineering Skills and Competences, Lifelong Learning for a sustainable world*
Keywords*: Competence Profile, Employability, PBL, Engineering Education, Digitalization*

ABSTRACT

Employability has become a central focus for Higher Education Institutions. The European University Association's report states that graduates should acquire a mix of transversal and discipline-specific skills. An educational approach known for providing students with this is Problem-Based Learning. An institution known for successful implementation of PBL is Aalborg University located in Denmark. In this paper we will look at an initiative they have recently launched to improve the employability of their engineering graduates. Employability can be defined from different perspectives. In this paper we develop a framework where employability is viewed from three different perspectives. 1) Internal values, beliefs and aims for a future career, 2) Skills and competencies, both transversal and subject specific, 3) External factors such as the state of the labour market and utilising one's knowledge and skills to navigate it. The initiative introduced here focus on perspective one and two. Here the students attend a mandatory competence profile workshop, in which they must hand in a competence profile where they describe their competences from four predetermined sets of competences: reflective, problem-oriented, interpersonal, and structural. This is done in a 3-step model where the students interview each other, then provide peer feedback to their fellow students' profiles and then receive feedback from staff on their individual profile. The students complimented the initiative and the peer-feedback session. This confirms previous research done in relation to how to facilitate reflection among students in higher education, where the recommendation is to do it as an iterative process.

1 INTRODUCTION

1.1 Background

From 2000-2020 the global number of students who enrolled in higher education has more than doubled ("Higher Education Figures at a Glance" 2020). In North America and Western Europe the number of students enrolled in higher education from 2000-2020 has increased by 20 % ("Higher Education Figures at a Glance" 2020). In order to make sure there is employment for all these graduates, employability has become a central focus for Higher Education Institutions (HEI) (Cheng et al. 2022). In this context the European University Association's report: "Meeting skills and employability demands" (hereafter referred to as the EU report) states that graduates should ideally acquire a mix of transversal and discipline-specific skills (McSweeney 2021). An educational approach known for providing students with this mix of transversal and discipline-specific skills is Problem-Based Learning (PBL) (Litzinger et al. 2011). An institution known for successful implementation of PBL in their engineering educations is Aalborg University (AAU) located in Denmark (Graham 2018, 20). In this context HSB Economics has on behalf of AAU produced a report showing how companies rate engineers from AAU. The report shows that employers are happy with the engineers that have graduated from AAU, they have a good reputation in the industry and they have a good mix of transversal and discipline-specific skills. One suggestion for improvement of the graduates is that they are more geographically flexible in terms of employment another is that they become better at communicating their skills and competences to potential employers (HBS Economics 2022). Another internal report compares the time it takes for AAU-graduates to get their first job with the rest of the HEI's in Denmark, this report shows that students from AAU, 7 quarters after graduation lacks behind most other HEI in Denmark (Aalborg Universitet 2020). This becomes a problem, as AAU is a public funded university and the number of seats they can offer for students at different programs is among other things determined by the education's unemployment rate compared to the general unemployment rate. A comparison of the unemployment rate is conducted 12-23 months after graduation, thus if one program's unemployment rate is higher than the average unemployment rate this may affect the number of seats the university can offer for subsequent years. This has motivated the university to start initiatives that improve the employability of their graduates. In this paper we will look at one of these initiatives and argue from a conceptual perspective about the rationale of this initiative. Later we will include some reflections from experience. We will start by looking at research regarding employability and higher education.

1.2 Defining Employability

Employability research in higher education, has traditionally focused on getting a graduate a job after completion of higher education (Støren and Aamodt 2010). De Vos, De Hauw, and Van Der Heijden (2011) define employability in relation to capabilities of individuals Here the focus is on personal attributes or specific competences into which the individual can construct and communicate herself as "employable". Brown, Hesketh, and Wiliams (2003) focus on the relative dimension of employability. The critique towards viewing employability as an individual capacity is that it ignores that employability is primarily determined by the labour market, arguing that employability is influenced by social, institutional and economic factors (Sin and Amaral 2017). The social, institutional and economic factors have received

attention in relation to ethnicity, gender, social class and disability (McGinn and Oh 2017). Small, Shacklock, and Marchant (2018) emphasize the duality of the perspectives mentioned above, and define employability as:

“The capacity to be self-reliant in navigating the labour market, utilising knowledge, individual skills and attributes, and adapting them to the employment context, showcasing them to employers, while taking into account external and other constraints” (Small, Shacklock, and Marchant 2018, 151)

This links to the EU Report that addresses how employability can have different meanings and foci. One understanding focus on the need to equip students for work, in which the spectrum of definitions ranges from a specific vision of employability in absolute terms and to specific needs from particular professional sectors (McSweeney 2021). Another understanding of employability is focused on the role of higher education in educating the graduates of tomorrow, here the focus is on citizenship and what in Germany and the Nordic countries is called “bildung” the emphasis on the person as a whole, who gains value and insight from a higher education. However, the EU report criticises this dichotomy and states it should not be one or the other, but both understandings that could be relevant to work with. As they state later on: “Therefore, employability is not only defined from the perspective of the labour market or employers, but also from the perspective of who graduates will become in the future as a result of their learning journey in higher education, and how higher education provides for graduates over a career span” (McSweeney 2021, 3). Thus employability seems to contain three perspectives: 1) Internal values, beliefs and aims for a future career, 2) Skills and competencies, both transversal and subject specific, 3) External factors such as the state of the labour market and utilising one’s knowledge and skills to navigate it. As seen in the figure below:

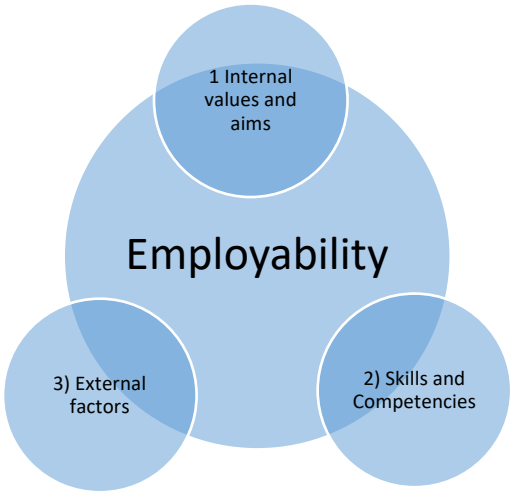


Figure 1: Three Dimensions of Employability

The difference between internal values and skills and competencies, is that perspective one relates to one’s personal values and aims, addressing what kind of person do I want to be and how is this reflected in the types of jobs I seek. Skills and

competencies, is more focused on the skills and competences related to one's degree. External factors of the labour market addresses the external factors about a certain degree's prospect of getting work after finished graduation. This might be due to factors beyond the single graduates control.

To operationalize employability further we will briefly introduce Harvey's (2001) writing. Harvey states that the core of all dimensions of employability relates to the: "propensity of students to obtain a job" (Harvey 2001, 98). He further elaborates on five different perspectives of looking at employability:

1) *Job type* Employability is about securing any job, and not necessarily a job related to graduate attributes. For others the focus is on getting a graduate-level job.
2) *Timing* employability is defined by getting a job within a specific period and before there is any need for retraining
3) *Attributes on recruitment* employability signify an ability to demonstrate relevant attributes at the point of recruitment, or alternatively employability refers to a developmental process indicating the ability to develop relevant attributes quickly.
4) *Further learning* some point out the degree is the starting point of the learning process; thus, the most important employability attribute is graduates who are ready for further learning. Others point towards the fact, that the degree is the most important part and then you can add small bits on it afterwards.
5) *Employability skills.* Employability can be understood as the possession of core skills or an extended set of generic attributes that an employer emphasizes (Harvey 2001)

In relation to the case at AAU variable 2 and 3 seems especially important, as the government measures unemployment rates at a specific point in time and industry has recommended strengthening the students' communication skills in relation to their own competencies.

AAU is internationally recognized for their PBL model and how they teach their students both subject specific knowledge and transversal skills, in this perspective collaboration is a big part of the transversal skills. In the past decade collaboration and team work has been prioritized as a highly important skill for engineers (ABET 2016; OECD 2011). This is among other things due to how engineers should tackle complex ill-defined problems due to increased globalization and rapid changes in technological developments (Bass, McDermott, and Lalchandani 2015; Ellis, Han, and Pardo 2019; Lucena 2006; UNESCO 2021; Velmurugan et al. 2023). Teamwork is also mentioned in the literature as important in regard to improving employability (Winberg et al. 2020), thus it might seem contradictory that these candidates have difficulties in regard to their employability. Some mention this might be because of the region into which the university is located. This is the region in Denmark with fewest academic positions, and students might prefer staying in the region instead of moving, as the majority of the students usually grew up in the same region. This links back to the HSBC report, that states graduates should be more geographically flexible in relation to their employment. However, as the university has a campus in Copenhagen, numbers from that campus shows there are difficulties with unemployment compared to other institutions in the capital (Aalborg Universitet

2020). Another point to mention is that students at AAU usually come from non-academic homes (Servant, Schmidt, and Frens 2016) thus they do not have the same social background and network that students from privileged backgrounds might have affecting their networking opportunities after completed graduation. It is however important to remember, that the students do seem to get a job and they are valued by employers, the problem seems to be the time it takes engineers to get a job, which according to the HSBC report could be because they are not skilled in communicating their competences and because they are not geographically flexible. In the following we will describe an initiative, that tried to improve the students abilities to communicate their competencies.

2 INTRODUCING COMPETENCE PROFILE WORKSHOP

2.1 Training the students' communicative competences

We previously introduced the following definition of employability:

"The capacity to be self-reliant in navigating the labour market, utilising knowledge, individual skills and attributes, and adapting them to the employment context, showcasing them to employers, while taking into account external and other constraints" (Small, Shacklock, and Marchant 2018, 151)

Then we mentioned how students at AAU despite being part of an internationally praised model of PBL that teaches students important attributes in relation to employability struggle to find employment within the first two years after graduation and how this affects the number of seats the university can offer different students. We mentioned several aspects that could have an influence on this, but we will now focus on the fact, that students seem to have trouble to utilize and actively communicate the competencies they get by working in a PBL curricula. Thus, we limit ourselves to focus on employability from an individual perspective in relation to the students' competencies in communicating herself as employable and showcase this to employers. In relation to model 1 we work with perspective one Internal values and Aims and perspective two Skills and Competencies. Perspective one refers to what the student want in relation to their future work and perspective two then addresses how they can conceptualise this in relation to their developed skills and competencies. Thus, what is needed in perspective one is reflection and self-awareness of what one wants to work with and then link these to perspective two and develop effective communication strategies in order to actively communicate ones attributes to a third person. The way to practice this among engineering students was with a competence profile workshop at their second semester of their master's studies, which we will introduce in the following.

2.2 The Competence Profile

A mandatory workshop was developed to train the students' reflective and communicative skills to improve their employability. The workshop focused primarily on the students' transversal skills as previous research found these types of competences were becoming tacit for the students (Holgaard and Kolmos 2019). Thus an operationalisation of the different types of transversal skills the students develop throughout their study at AAU was developed as showed below:

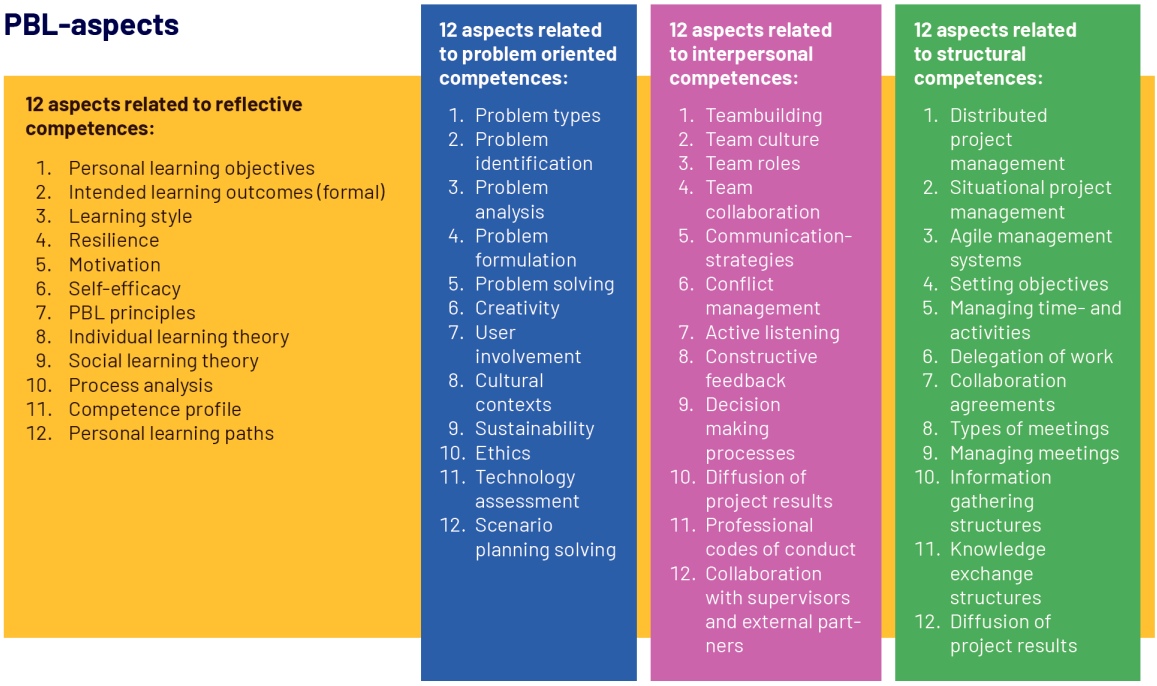


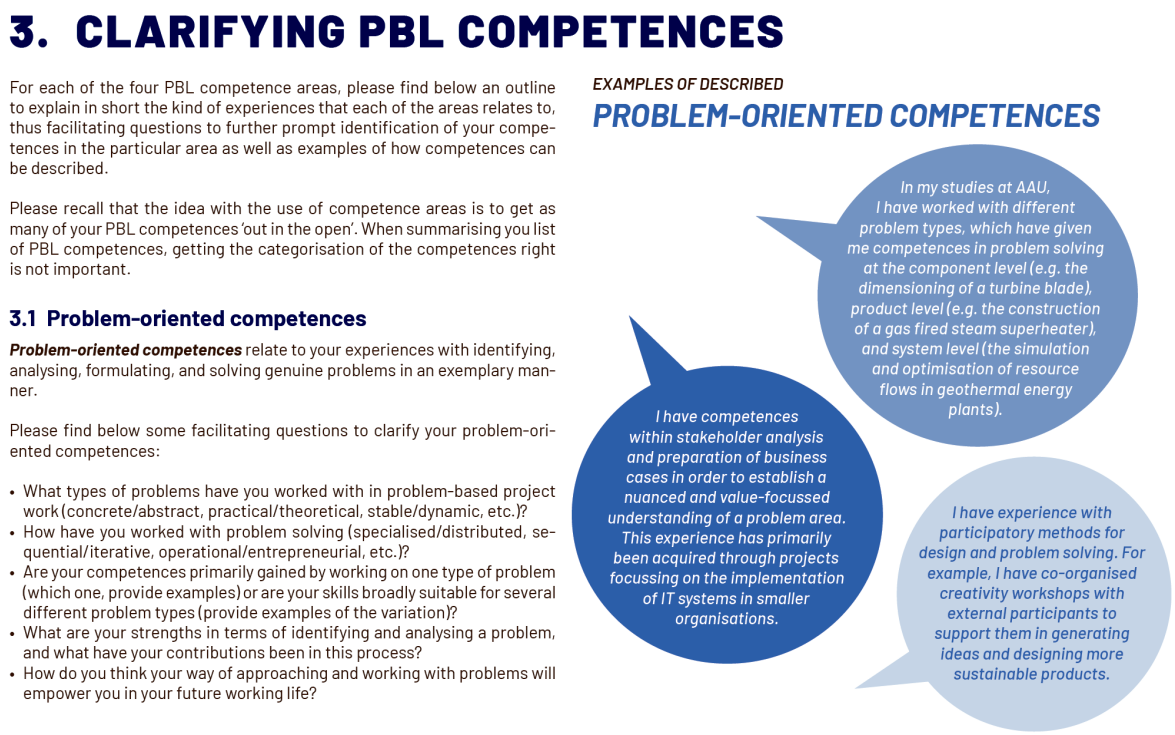
Figure 2: PBL Aspects related to each of the four PBL competences (Holgaard and Kolmos 2021, 6)

The competences the students have acquired are divided between four main areas of competences: reflective competences, problem-oriented competences, interpersonal competences, and structural competences associated with 12 attributes to each main area of competence as shown in the figure above. The reflective competences are meta competences and present with all competences, as shown in the figure. The problem oriented competences refers to the different problems students encounter through their studies. At AAU students write a project with a point of departure in a problem each semester. The idea behind the reflection of the problem-oriented competences is that the students actively reflect over different types of problems they have encountered throughout their studies, and what sort of competencies they have acquired by working with these types of problems. Earlier in this paper we described how engineers will meet complex ill-defined problems. The problem oriented competences serves as a reflection on how the students have tackled these problems. Another important factor, when encountering these problems is collaboration, which is an important transversal skill. In order for collaboration to be effective interpersonal and structural competences are necessary, especially in an engineering context where a lot of work happens in projects, that requires structuring and planning (Trevelyan 2010). To gain the most

out of these competencies experience with them in itself is not enough, an active reflection is necessary in order to determine how to work with these areas and how to transfer this practice to other context (Kolb 2015), thus the reflective competences becomes a meta-competence relevant for all subgroups of competences, as shown in the figure, with the yellow square behind all the other ones. In relation to Harvey's dimension regarding employability, the workshop focus on the attributes relevant for students to communicate to relevant stakeholders, thus the purpose with the workshop is to develop students' reflective and communicative skills. The students' profile should be one page, where they choose one-two attributes from each competence area, and argue for how, they have acquired these competencies and how they have demonstrated these competences in the past.

It is then uploaded on the learning platform Moodle, and they are provided with written feedback from staff. The students' profiles are approved as soon as they upload them, however they receive written feedback from staff where the students get an impression of what worked well in their profile and what needs further work. The students do not have to re-submit their profile, but the exercise provides an opportunity for them, to get an impression of how they have managed to communicate their transversal skills to other stakeholders. Despite the fact that students in principle can upload a paper with one sentence and get that approved, our experience is that this is very rare.

To facilitate the writing of the profile, the students are handed a guide with reflective questions in each main area of competence an example is shown below:



3. CLARIFYING PBL COMPETENCES

For each of the four PBL competence areas, please find below an outline to explain in short the kind of experiences that each of the areas relates to, thus facilitating questions to further prompt identification of your competences in the particular area as well as examples of how competences can be described.

Please recall that the idea with the use of competence areas is to get as many of your PBL competences 'out in the open'. When summarising you list of PBL competences, getting the categorisation of the competences right is not important.

3.1 Problem-oriented competences

Problem-oriented competences relate to your experiences with identifying, analysing, formulating, and solving genuine problems in an exemplary manner.

Please find below some facilitating questions to clarify your problem-oriented competences:

- What types of problems have you worked with in problem-based project work (concrete/abstract, practical/theoretical, stable/dynamic, etc.)?
- How have you worked with problem solving (specialised/distributed, sequential/iterative, operational/entrepreneurial, etc.)?
- Are your competences primarily gained by working on one type of problem (which one, provide examples) or are your skills broadly suitable for several different problem types (provide examples of the variation)?
- What are your strengths in terms of identifying and analysing a problem, and what have your contributions been in this process?
- How do you think your way of approaching and working with problems will empower you in your future working life?

EXAMPLES OF DESCRIBED

PROBLEM-ORIENTED COMPETENCES

In my studies at AAU, I have worked with different problem types, which have given me competences in problem solving at the component level (e.g. the dimensioning of a turbine blade), product level (e.g. the construction of a gas fired steam superheater), and system level (the simulation and optimisation of resource flows in geothermal energy plants).

I have competences within stakeholder analysis and preparation of business cases in order to establish a nuanced and value-focussed understanding of a problem area. This experience has primarily been acquired through projects focussing on the implementation of IT systems in smaller organisations.

I have experience with participatory methods for design and problem solving. For example, I have co-organised creativity workshops with external participants to support them in generating ideas and designing more sustainable products.

Figure 3: Reflective Questions to Clarifying PBL Competences (Holgaard and Kolmos 2021, 7)

The workshop has been conducted for three years and recently a new format of the workshop has been tested, where the workshop has been divided in three phases.

1. Phase The students interview each other in their project groups following the guide. The students do this themselves without any teachers present. They are provided with a 10-minute pre-recorded lecture to introduce them to the background and format of the competence profile.
2. Phase The students meet with students from other programs with a draft of their profile and receive peer feedback. They have access to a 10-minute pre-recorded lecture on the advantages of peer-feedback and how to provide it. Teachers are present to facilitate the peer-feedback. After this session they upload their profile
3. Phase The students get feedback on their profile and can see a short 10-minute pre-recorded lecture about the importance of targeting their future profiles/CVs to a specific job posting or company.

3 DISCUSSION

Unfortunately due to new ethical approval procedures, we were unable to get the right permissions to provide examples of how students have articulated their competencies in the profiles they have submitted We do however plan to analyse these articulations in a future publication with a new cohort of students. We also don't have permission to present quotes from the survey evaluating the 3-step Competence Profile Workshop format we tested out in 2023. However, from experience we can state that the students who showed up at session two (approximately 50 % of the students did not show up), were satisfied with the peer-feedback session and that the workshop was divided in three parts, here they emphasized the fact they had their own reflective space to write the profile after discussing it with their group members. It should be noted that the workshop has run for three years, and the first two years it was just one physical session where they were introduced to the workshop, asked to interview each other, and then write and submit the profile, after which they would get feedback from staff. This format received a lot of criticism. Lolle, Scholkmann, and Kristensen (2023) states that to secure students' active reflection they need to be triggered by a problem or unusual situation and this is best done in an iterative process. Our experience with this workshop format seems to confirm this.

In relation to employability there are still factors out of our control, concerning how the job market is, and we don't provide information to the students about the job market in relation to their profile. A way to improve their employability could thus be to inform the students where their education/program stand in the job market so the students can actively navigate from that position, in that perspective we could also emphasize the geographic flexibility employers request. That would ensure we to a limited extent address employability from all three perspectives mentioned in model one. One obstacle we often meet is that the students seem to be taken the transversal skills for granted, and they assume that once they enter the job market every employee has developed effective collaboration skills, and the ones who has not, do not complete their educational degree. This conviction has also been reported by Trevelyan (2010), we try to mitigate this by actively addressing it in front of the students, whether it has an effect though, we don't know.

As of now, there has not been any follow up towards whether the competence profile has influenced the students' job search, we hope to examine this in the future as

well. Furthermore, for future work we will try to combine all the volunteer activities students are offered in relation to their employability with this mandatory activity and provide the students a package, that makes sure everything talks together.

REFERENCES

Aalborg Universitet. 2020. “Strategiske Uddannelsesdata - For AAU Og Sektoren.” Aalborg: Aalborg Universitet. https://www.kvalitet.aau.dk/digitalAssets/989/989594_strategiske-uddannelsesdata---for-aau-og-sektoren.-juni-2020.pdf.

ABET. 2016. “CRITERIA FOR ACCREDITING COMPUTING PROGRAMS.” Baltimore, USA. https://www.abet.org/wp-content/uploads/2016/12/C001-17-18-CAC-Criteria-10-29-16-1.pdf.

Bass, Julian M., Roger McDermott, and J.T. Lalchandani. 2015. “Virtual Teams and Employability in Global Software Engineering Education.” In *2015 IEEE 10th International Conference on Global Software Engineering*, 115–24. Ciudad Real, Spain: IEEE. https://doi.org/10.1109/ICGSE.2015.21.

Brown, Phillip, Anthony Hesketh, and Sara Wiliams. 2003. “Employability in a Knowledge-Driven Economy.” *Journal of Education and Work* 16 (2): 107–26. https://doi.org/10.1080/1363908032000070648.

Cheng, Ming, Olalekan Adekola, JoClarisse Albia, and Sanfa Cai. 2022. “Employability in Higher Education: A Review of Key Stakeholders’ Perspectives.” *Higher Education Evaluation and Development* 16 (1): 16–31. https://doi.org/10.1108/HEED-03-2021-0025.

De Vos, Ans, Sara De Hauw, and Beatrice I.J.M. Van Der Heijden. 2011. “Competency Development and Career Success: The Mediating Role of Employability.” *Journal of Vocational Behavior* 79 (2): 438–47. https://doi.org/10.1016/j.jvb.2011.05.010.

Ellis, Robert A., Feifei Han, and Abelardo Pardo. 2019. “When Does Collaboration Lead to Deeper Learning? Renewed Definitions of Collaboration for Engineering Students.” *IEEE Transactions on Learning Technologies* 12 (1): 123–32. https://doi.org/10.1109/TLT.2018.2836942.

Graham, Ruth. 2018. “Global State of the Art in Engineering Education - March 2018.” Cambridge: Massachusetts Institute of Technology.

Harvey, Lee. 2001. “Defining and Measuring Employability.” *Quality in Higher Education* 7 (2): 97–109. https://doi.org/10.1080/13538320120059990.

HBS Economics. 2022. “Aftageranalyse Af Nyuddannede Ingeniører Fra Aalborg Universitet.” HBS Economics.

“Higher Education Figures at a Glance.” 2020. UNESCO Institute for Statistics. https://uis.unesco.org/sites/default/files/documents/f_unesco1015_brochure_web_en.pdf.

Holgaard, Jette Egelund, and Anette Kolmos. 2019. “Progression in PBL Competences.” In *Proceedings of the SEFI 47th Annual Conference Research Papers*, 1643–53. Budapest: SEFI.

———. 2021. “COMPETENCE PROFILES FOR PROBLEM BASED LEARNING (PBL).” Aalborg Centre for Problem Based Learning in Engineering, Science and Sustainablity under the auspices of UNESCO.

Kolb, David A. 2015. *Experiential Learning: Experience as the Source of Learning and Development*. Second edition. Upper Saddle River, New Jersey: Pearson Education, Inc.

Litzinger, Thomas, Lisa R. Lattuca, Roger Hadgraft, and Wendy Newstetter. 2011. “Engineering Education and the Development of Expertise.” *Journal of Engineering Education* 100 (1): 123–50. https://doi.org/10.1002/j.2168-9830.2011.tb00006.x.

Lolle, Elisabeth Lauridsen, Antonia Scholkmann, and Nanna Svarre Kristensen. 2023. “Reflections. What Are They and How to Work With Them?” In *PBL in a Digital Age*, 1st ed., 89–102. Studies into Problem-Based Learning in Higher Education 3. Aalborg: Aalborg University Press.

Lucena, Juan C. 2006. “Globalization and Organizational Change: Engineers’ Experiences and Their Implications for Engineering Education.” *European Journal of Engineering Education* 31 (3): 321–38. https://doi.org/10.1080/03043790600644040.

McGinn, Kathleen L, and Eunsil Oh. 2017. “Gender, Social Class, and Women’s Employment.” *Current Opinion in Psychology* 18 (December): 84–88. https://doi.org/10.1016/j.copsyc.2017.07.012.

McSweeney, Paul. 2021. “Meeting Skills and Employability Demands.” 13. Learning and Teaching. European University Association.

OECD. 2011. “A Tuning-AHELO Conceptual Framework of Expected Desired/Learning Outcomes in Engineering.” OECD Education Working Papers 60. Vol. 60. OECD Education Working Papers. https://doi.org/10.1787/5kghtchn8mbn-en.

Servant, Virginie Felicja Catherine, H. G Schmidt, and M. A Frens. 2016. “Revolutions and Re-Iterations: An Intellectual History of Problem-Based Learning.” Rotterdam: Erasmus University Rotterdam.

Sin, Cristina, and Alberto Amaral. 2017. “Academics’ and Employers’ Perceptions about Responsibilities for Employability and Their Initiatives towards Its Development.” *Higher Education* 73 (1): 97–111. https://doi.org/10.1007/s10734-016-0007-y.

Small, Lynlea, Kate Shacklock, and Teresa Marchant. 2018. “Employability: A Contemporary Review for Higher Education Stakeholders.” *Journal of Vocational Education & Training* 70 (1): 148–66. https://doi.org/10.1080/13636820.2017.1394355.

Støren, Liv Anne, and Per Olaf Aamodt. 2010. “The Quality of Higher Education and Employability of Graduates.” *Quality in Higher Education* 16 (3): 297–313. https://doi.org/10.1080/13538322.2010.506726.

Trevelyan, James. 2010. “Reconstructing Engineering from Practice.” *Engineering Studies* 2 (3): 175–95. https://doi.org/10.1080/19378629.2010.520135.

UNESCO. 2021. “Engineering for Sustainable Development: Delivering on the Sustainable Development Goals.” Paris, France, Beijing, China: United Nations Educational, Scientific, and Cultural Organization ; International Center for Engineering Education under the auspices of UNESCO : Compilation and Translation Press. https://unesdoc.unesco.org/ark:/48223/pf0000375644.locale=en.

Velmurugan, Giajenthiran, Sebastian Munk Andersen, Sanne Lisborg, and Stine Ejsing-Duun. 2023. “Work-in-Progress: How to Assess Collaboration in Problem-Based Learning to Promote Sustainability in Future Engineers.” In *Proceedings of 9th International Research Symposium on Problem-Based Learning (IRSPBL23): Transforming Engineering Education*.

Winberg, Christine, Mike Bramhall, David Greenfield, Patrick Johnson, Peter Rowlett, Oliver Lewis, Jeff Waldock, and Karin Wolff. 2020. “Developing Employability in Engineering Education: A Systematic Review of the Literature.” *European Journal of Engineering Education* 45 (2): 165–80. https://doi.org/10.1080/03043797.2018.1534086.