



Shaping the Workforce of Tomorrow : A Comprehensive Review of Competence-Based Learning for Employability Enhancement

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Abstract: This research aims to provide a comprehensive overview of competence-based learning in improving future employability skills and explain the basic concepts, principles, and the relevance of this approach in addressing rapid changes in the workplace. The research method used is a literature review with qualitative based on searching and analyzing relevant scientific articles, books, and publications related to competence-based learning and employability skills. The search was conducted through electronic academic databases such as Emerald, Scopus, Elsevier, Web of Science, ScienceDirect, Sinta, and ResearchGate using keywords "competence," "competence-based learning," and "employability." Data analysis used interactive model analysis by collecting articles with similar topics, then reducing and drawing conclusions. The results of this study indicate that emphasizing the importance of competence-based learning in shaping a future workforce that is ready to face global challenges. Policy recommendations and practical advice are directed towards education implementers to integrate this approach into the education and training system. By adopting competence-based learning, it can prepare a resilient and skilled workforce capable of quickly adapting to changes in the job market.

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Introduction

Currently, work skills (employability skills) have become a frequently discussed issue. Demands from institutions, companies, and government authorities for a more professional workforce in the workplace have led to the transformation of education (Sokhanvar, 2021). This requires individuals to have higher levels of competency, and they are expected to continuously develop themselves in order to become more competitive (Gupta et al., 2023). Graduates from higher education institutions are expected to possess employability skills attributes (Maulidimas et al., 2023). Employability skills are known by various terms, including core skills, key skills, common skills, key competencies, generic skills, basic skills, necessary skills, workplace know-how, transferable skills, critical enabling skills, core work skills, and soft skills (Lauder, 2013; Dardiri, 2015). Employability skills are necessary for all fields and types of jobs (Khotimah, Im & Wiyono, 2022). (Dania et al., 2014) Employability skills enable individuals to secure suitable employment while simultaneously developing their careers during social and technological changes. These skills

are crucial for workers or entrepreneurs in growing their businesses and developing themselves professionally.

The work skills of graduates play a crucial and significant role, not only in assessing the quality of graduates produced by educational institutions but also in a broader sense. They ensure that industries receive competent workers who meet their needs, thus creating an efficient and enjoyable work environment. (Shariff, N. M., & Abd Razak, 2022). Currently, many educational institutions are making efforts to develop work skills among their graduates so that they can align with the competencies required by industries in the future. (Wang and Tsai, 2014; Fajaryati, 2020; Abd Majid *et al.*, 2020). Many countries are promoting the importance of work skills such as communication, teamwork, and adaptability to enhance employability skills (Bureau, 2014). Indeed, many educational institutions are starting to focus on the development of employability skills and integrate them into their curricula. (Lu, 2021)

Higher education aims to develop employability skills through learning activities that are aligned with a curriculum focused on strengthening work skills. However, industry users report that graduates often lack adequate work skills. (Dyki, 2020). There is a discrepancy between the expectations of industry users and the reality that the competencies of education graduates often fall far below the standards set by employers. (Poullaos, C., & Evans, 2008). One of the goals of educational institutions is to prepare their graduates to be job-ready upon graduation. (McGunagle & Zizka, 2020). However, many institutions continue to be oriented towards traditional learning methods, employing traditional teaching approaches, which may overlook the knowledge and skills required for the current and future job market. (Bunshaft, A., Curtis-Fink, J., Gerstein, A., Boyington, D., Edwards, T. and Jacobson, 2015). The lack of work skills among graduates contributes to the high unemployment rate in Indonesia (Sugianto & Yul, 2020) The Central Statistics Agency (BPS) recorded that the number of unemployed individuals in Indonesia reached 8.42 million people in August 2022. This figure represented an increase compared to the 8.40 million people recorded in February 2022.

The low work skills and high unemployment rates are believed to be influenced by several factors, including the lack of information regarding the relevance of work culture in higher education to the required profile of employability skills by industries (Rekso *et al.*, 2021) The lack of integration of industry-required employability skills into higher education curriculum and the inadequacy of the applied learning models to enhance the aspects of employability skills required by industries are also contributing factors (Aulia & Sontani, 2018). Indeed, the role of educators is crucial and cannot be underestimated in enhancing employability skills among students to prepare them for the workforce. Educators play a significant role in providing relevant knowledge, facilitating skill development, and fostering a supportive learning environment that promotes employability skills. ((Segbenya *et al.*, 2021).

The phenomenon in the field indicates that based on tracer study data from 2020 to 2022, the number of students employed has decreased. In the previous year, there were 22 students who were unemployed, while in 2022, the number increased to 53 students. Additionally, 186 students did not respond to the tracer study survey. Furthermore, only 25 out of 369 eligible students successfully obtained certification or pursued competency certification. These findings suggest that the development of employability skills among students is still lacking. The issue of low work skills among students needs to be addressed promptly, and one way to do so is by improving the learning process. Modifying competency-based learning models is expected to encourage the development of work skills among students. Currently, there has been a shift in the field of education from a theoretical-

based approach to a competency-based approach. (Froyd et al., 2012), That shift towards competency-based approaches in education is not limited to the United States but is observed in many universities across Europe, Asia, Australia, and South America as well. The recognition of the importance of developing practical skills and competencies that are relevant to the industry is a global trend in higher education (Felder & Spurlin, 2005). Indeed, Competency-Based Learning has been utilized for the past 40 years to enhance human performance in the workplace. It has proven to be an effective approach in aligning education and training with the specific competencies and skills required by industries. By focusing on the demonstration of desired competencies, individuals can acquire the necessary knowledge, skills, and abilities to succeed in their respective professions. This approach has been implemented across various sectors and industries worldwide, leading to improved workforce performance and productivity (Ennis, 2008). Introduced by McClelland in the early 1970s, competencies have been recognized as significant predictors of employee performance success (McClelland, 1987).

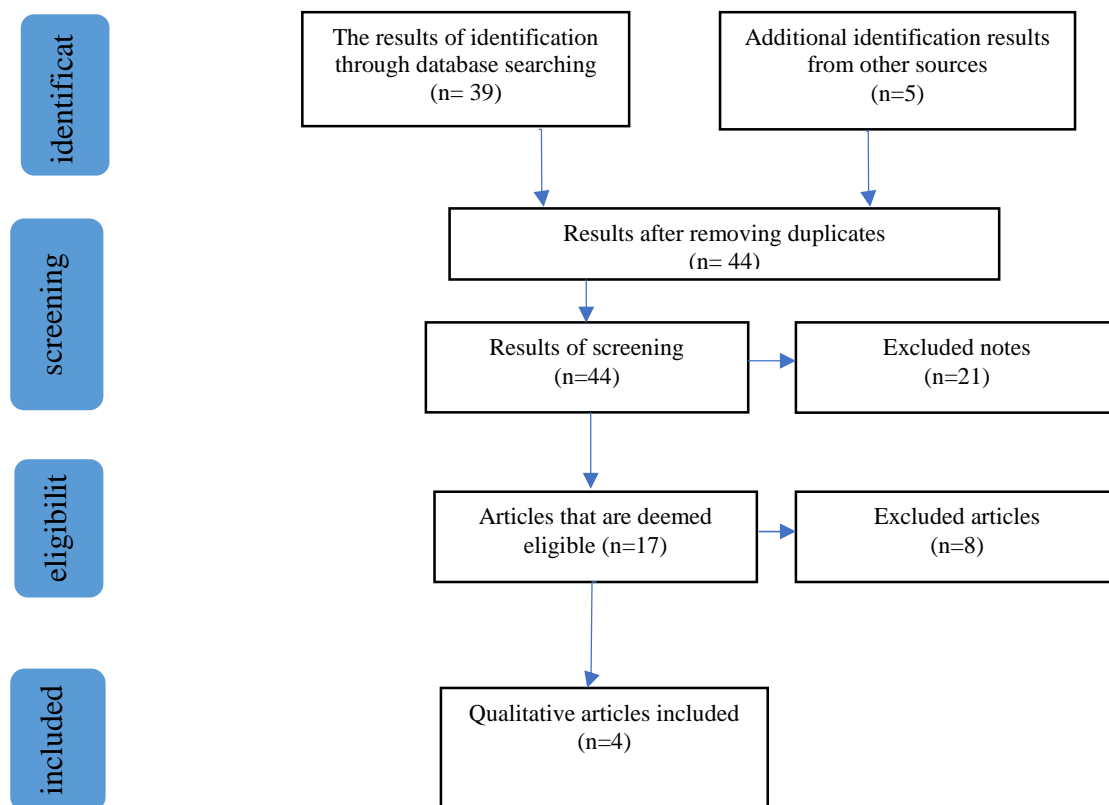
Competency-based learning models foster innovation in organizations, often driven by individuals with strong employability skills. Implementing these models offers distinct advantages for students. The CBL approach permits learners to revisit competencies they haven't yet mastered, promoting continuous improvement during the learning process. CBL also provides a clear competency map, outlining the specific skills and knowledge that need to be acquired (Voorhees et al., 2001) This, in turn, supports learners in mastering competencies and acquiring work skills that align with their expertise. Competency-based learning models provide a structured and targeted approach that enables learners to focus on developing specific skills and knowledge required in their chosen field. By emphasizing mastery of competencies, learners can better understand and apply their skills in real-world contexts, ultimately enhancing their employability and professional capabilities.

The results of research conducted by (Efendi et al., 2019) It states that the effectiveness of competency-based learning models is effective in enhancing students' abilities and learning outcomes in computer competency. In employability skills, one of the dimensions is the ability to master technology. Therefore, it can be concluded that the CBL model can enhance work skills in the dimension of technology adoption and utilization. Furthermore, other studies have also explained that the CBL model can prepare graduates with adequate competencies to enhance future employability skills and thrive in a competitive environment (Shariff & Abd Razak, 2022). The objective of this study is to present a thorough assessment of competence-focused education's role in enhancing skills for future employability. Additionally, it seeks to elucidate the fundamental ideas, principles, and the significance of this method in tackling swift transformations within the professional landscape. This research holds significance as it aims to offer educators a framework for elevating work-related skills.

Research Method

The researchers conducted searches and analyzed empirical studies from various sources, including scholarly articles, books, and relevant publications on employability skills and competence-based learning. The search was conducted through academic databases. Relevant articles, technical reports, and empirical studies related to employability skills and competence-based learning were identified from various electronic databases such as Scopus, Sinta, Emerald, ScienceDirect, Elsevier, and ResearchGate using appropriate keywords. The data analysis used interactive model analysis, following four sequential steps: 1) Finding and collecting relevant materials on how competence-based learning models contribute to

improving employability skills; 2) Reducing and categorizing the collected materials to align with the discussed topic; 3) Analyzing and synthesizing information deeply to gain insights from the collected materials; 4) Presenting final conclusions as the closing stage of the literature review process.



Results and Discussion

Competence Based Learning

The term 'competence' is a concept that continues to evolve and, therefore, has different meanings for each individual and country, depending on the institutional structure and work processes in place (Brockmann et al., 2008). For some authors, competence is defined as the ability to perform specific tasks and roles according to expected standards (Mulder et al., 2008). Alternatively, competence can be understood as the ability to accomplish key job tasks that are characteristic of a profession with satisfactory standards (Lindeboom et al., 2011). Competence can be seen as the learning outcome that enables graduates to perform activities according to the established standards in their work (Amabile & Pratt, 2016). This is achieved through the appropriate combination of knowledge, skills, and attitudes (Fitriani et al., 2020). By having relevant knowledge, graduates understand the principles and concepts related to their field of work (del Brío González et al., 2022).

The skills mastered by graduates enable them to apply that knowledge in real-life situations (Haryanti & Febriyanto, 2021). They are able to carry out the required tasks and utilize relevant tools or technologies. Additionally, having the right attitude, such as a good work ethic, adaptability, and teamwork, is also an integral part of competence (Juniantari, 2017; Syardiansah, 2019). Through the appropriate combination of knowledge, skills, and attitudes, graduates can meet the established standards in their work and become competent professionals. This definition considers competence as a training system (Yanuarita &

Haryati, 2021). It focuses on the functions, tasks, and industry relevance, wherein individuals apply relevant skills and attitudes in an appropriate work environment. Moreover, relying solely on rigid competency standards is inappropriate as work practice changes make them less effective. (Biemans et al., 2004) In this context, the broader concept of competence focuses on core competencies or attributes required to achieve successful work performance. These core competencies can be specific to a field, encompassing knowledge, skills, and attitudes relevant to a profession, or they can be more general as they are required across various content areas and can be transferred to new professional situations. (Lindeboom et al., 2011)

Competency-based education (CBE) centers around learners' desired performance abilities. CBE prioritizes practical application, problem-solving, and decision-making. Validated competency models let curriculum designers match competencies with learning, improve assessment, and customize education. Historically, CBE focused on job-specific skills within structured roles in organizational settings. An important innovation in the implementation and modeling of competencies is the attention given to job-related information and employee skills in talent management (Campion et al., 2011). It is important to note that the definition of competence goes beyond "knowledge and skills" and places more emphasis on the application of knowledge, skills, attitudes, and the ability to meet complex demands using diverse psychosocial resources. (Liaw et al., 2010).

Competency-Based Learning (CBL) can be considered as part of mastery learning, a pedagogical approach that was introduced in the American education system in the 1920s. (Washburne, 1922). Mastery learning emphasizes the achievement of a certain level of competency before moving on to further learning. (Tyler, F. B., Brome, D. R., & Williams, 2013). Some other terms that have been used in the past to describe CBL include individualized pacing, student-centered, student-driven, personalized instruction, outcome-based, performance-based, standards-based, and competency-based education (Roe & Bartelt, 2015). CBL is an instructional approach that focuses on achieving measurable learning outcomes by students in general. (Albanese et al., 2008) Student progress evaluation is based on whether they successfully demonstrate mastery of the predetermined competencies.

Competence-Based Learning as a bridge to develop future work skills

A common challenge in education is determining how to present course materials in a way that allows students to not only acquire knowledge but also become self-directed learners who develop their problem-solving skills and can apply them in their careers (White, 2001; Horta, 2010). However, students can learn through different methods (Kaliská, 2014:10). By using a learning model that promotes effectiveness through unique teaching approaches such as comprehensive individual instruction or a one-size-fits-all approach for all students (Ramsden, 2003). Thus, the effectiveness of learning is not solely determined by students' innate abilities and prior preparation, but also by the compatibility of their learning preferences and the teaching methods applied. (Felder Richcard M. & Silverman Linda K., 1988; Felder & Spurlin, 2005). (Febriana, 2018:149).

Competence-based learning serves as a strong predictor in fostering the development of work skills. To develop work skills through a competence-based learning approach (CBL), there are several important aspects to consider. Firstly, it is crucial to identify the skills needed in the workforce and then align them with the learning materials. This ensures that the taught content is relevant and meets the current demands of the job market. Additionally, integrating the curriculum with the CBL model is a vital step in ensuring a consistent and coordinated learning experience. By incorporating the CBL model into the curriculum, students engage in skill-focused and practically applicable learning. Lastly, in terms of

evaluation, it is important to orient it towards assessing the competencies or skills intended to be developed. Evaluations should be designed in a way that measures students' ability to apply skills relevant to the world of work. By implementing these steps, competence-based learning can serve as an effective bridge in developing the necessary work skills for the future (Sanchez, A. V., & Ruiz, 2008).

Identifying Key Competencies in Competence-based Learning

Identifying key competencies is an important initial step in competency-based learning planning (Suherman, 2010; Septyana, 2013). Key competencies refer to a set of skills, knowledge, and attitudes that are essential for achieving success in a specific field or occupation. (Pribadi, 2016). In this discussion, we will elaborate on the importance of identifying key competencies and several factors that need to be considered in the identification process. First and foremost, identifying key competencies should be based on the relevant needs of the workforce (Giatman, M., Antoni, A., Syahril, S., & Maksum, 2018). This involves identifying skills and knowledge that are relevant to a specific field or occupation. In this process, involving stakeholders from the industry or experts experienced in the relevant field can provide valuable perspectives to ensure that the identified competencies are truly relevant and aligned with the latest developments. Additionally, job analysis is also an important method for identifying key competencies. By conducting a job analysis, we can gain an in-depth understanding of the tasks, responsibilities, and requirements involved in a job. As a result, critical skills, specific knowledge, and attitudes required for success in that role can be identified more clearly.

When identifying key competencies, it is important to consider both technical and non-technical skills (Agustin, 2012). Technical skills encompass specific knowledge and abilities in a particular field, such as programming, design, or equipment operation. On the other hand, non-technical skills include interpersonal aspects, communication, problem-solving, and adaptability. Both types of skills are equally important in competency-based learning. Furthermore, the identification of key competencies should consider the context and specifications of the job or specific field. For example, in the information technology industry, competencies such as mobile application development or cybersecurity may be prioritized, while in the marketing field, competencies in digital marketing or market analysis may be more important.

Lastly, the identification of key competencies should be able to accommodate the developments and changes in the workforce (Jatmoko, 2013; Zubaidah, 2016). Technological advancements and shifting industry trends can alter the competency requirements over time. Therefore, the identification of competencies should be an ongoing process to ensure that the identified competencies remain relevant and adaptable to the ever-changing work environment. By accurately identifying key competencies that align with the needs of the workforce, competency-based learning can focus on the development of crucial skills and yield significant outcomes in preparing individuals for success in specific fields or occupations.

Curriculum Planning in Competence-based Learning

Curriculum planning in competency-based learning is a crucial stage that requires careful attention. Its goal is to ensure that the desired competencies can be developed effectively and remain relevant to the needs of the workforce (Murwaningsih, 2018; Suryaman, 2020; Mariati, 2021). There are several aspects that need to be considered in curriculum planning for competency-based learning. Firstly, the initial step is to identify the expected competencies. These competencies should reflect the job requirements and specific

needs of the workforce. Next, a detailed competency profile needs to be developed, outlining the specific skills, knowledge, and attitudes expected from the learners.

Furthermore, it is necessary to develop a curriculum structure that can effectively develop those competencies (Nurdin, 2019). This structure should consider a logical and progressive sequence of learning (Zubaidi, 2015). It should also involve selecting appropriate learning methods, such as problem-based projects, simulations, or internships. Curriculum planning should also pay attention to competency assessment. (Jumriani et al., 2021). Relevant and valid assessment instruments should be selected to measure the extent to which learners have achieved the desired competencies. Involving stakeholders such as industry experts and practitioners is also crucial to ensure the curriculum's relevance and responsiveness to the needs of the workforce (Munthe, F., & Mataputun, 2021).

Lastly, curriculum planning should consider continuous improvement and updates (Rahmadayanti & Hartoyo, 2022). The curriculum needs to be periodically updated to align with changing trends and needs in the workforce. Evaluation and feedback from program graduates and stakeholders are also important for improving the curriculum. With effective curriculum planning in competency-based learning, the learning program is expected to be relevant, focused, and effective in developing the competencies required by the workforce. Learners will acquire relevant skills and knowledge to achieve success in an evolving work environment.

Evaluation in Competence-based Learning

Assessment in competency-based learning is vital to measure individuals' competency achievement. Ensuring concrete and observable competencies is key. Portfolios are a valuable assessment method. Portfolios allow individuals to collect and showcase tangible evidence of the skills and knowledge they possess, enabling assessment not only based on knowledge but also on professional competencies such as effective communication, organization, and teamwork (Blicblau, 2008; Badilla Quintana, M. G., Carrasco Saez, J. L., & Prats Fernandez, 2014). Indeed, several available literature suggests that evaluation in CBL commonly employs techniques such as portfolios, written exams, and practical exercises in laboratories (Bensah et al., 2011; Nelson, 2013). Moreover, assessment in competency-based learning should ideally be conducted continuously throughout the learning process. With ongoing assessment, instructors can identify individual strengths and weaknesses in real time, enabling them to take corrective actions to enhance competency mastery. Structured rubrics are vital in competency-based education, offering clear evaluation criteria. Authentic assessment mirrors real-world scenarios, enabling learners to showcase competencies in context. Peer assessment provides feedback and cultivates respect for peers' abilities. Self-assessment encourages reflection and improvement planning. Effective assessment fuels competency growth. Assessments should adapt to ongoing development, empowering learners to navigate evolving job markets adeptly.

Competency-based learning elevates students' work skills through core aspects: identifying competencies, focused curriculum planning, and holistic evaluations. Such models stimulate organizational innovation, as robust employability skills are often the catalyst for innovation. Additionally, CBL provides a clear competency map, which serves as a guide for students in developing and acquiring specific competencies (Voorhees et al., 2001). Thus, competency-based learning supports learners in mastering competencies and acquiring work skills that align with their expertise. CBL models can prepare graduates with adequate competencies to enhance their employability in the future and thrive in competitive environments (Shariff, N. M., & Abd Razak, 2022). Furthermore, competency-based learning models are effective in enhancing students' abilities and learning outcomes in computer



competencies. In employability skills, one dimension is the ability to master technology. Therefore, it can be concluded that CBL models can improve work skills (employability skills) in the dimension of adapting to and utilizing technology (Efendi et al., 2019). Competence-based learning is also a strategy for developing generic or transversal competencies (instrumental, interpersonal, and systemic) that are required by each profession (Sanchez, A. V., & Ruiz, 2008).

Conclusion

The conclusion of this research is that competence-based learning approaches have significant potential to enhance skills that can improve future job opportunities. This study also highlights the importance of understanding the fundamental concepts and principles of competence-based learning, and its relevance in addressing rapid changes in the workplace. Thus, this approach plays a crucial role in preparing individuals to face the challenges of an ever-evolving job market. Competence-based learning prioritizes specific skills crucial for success in a particular field, emphasizing student-centered education. This method involves identifying key competencies, structuring the curriculum to cultivate them, and evaluating learners based on their proficiency demonstration. Competency-based education acts as a bridge to enhance future employability by cultivating vital skills. It involves industry input and job analysis to identify key competencies, balancing technical and non-technical proficiencies while adapting to evolving workplace needs. Curriculum planning aligns with competencies, employing appropriate teaching methods and stakeholder input. A coherent learning sequence ensures skill progression, with ongoing updates to remain relevant. Assessment focuses on observable competencies, using portfolios and real-world scenarios for clarity. Continuous assessment provides feedback supported by peer and self-assessment.

Recommendation

Policy recommendations and practical suggestions are aimed at lecturers to integrate this approach into the education and training system. Regularly review and update the identified key competencies to align them with current industry demands. And then, foster collaboration and engagement with industry experts and practitioners throughout the curriculum planning and implementation process. Their insights and expertise can provide valuable guidance on the specific skills and knowledge required in the workplace. Involve them in the identification of key competencies, curriculum development, and assessment design to ensure industry relevance. Foster collaboration and knowledge sharing among educational institutions implementing competence-based learning. Encourage the exchange of best practices, experiences, and challenges to promote continuous improvement. Establish networks or communities of practice to facilitate collaboration and support educators in their implementation efforts.

References

- Abd Majid, M. Z., Hussin, M., Norman, M. H., & Kasavan, S. (2020). The employability skills among students of Public Higher Education Institution in Malaysia. *Malaysian Journal of Society and Space*, 16(1), 36–45. <https://doi.org/10.17576/geo-2020-1601-04>
- Agustin, V. (2012). Kompetensi Lulusan Sarjana Strata 1 (S1) Psikologi dalam Menghadapi Dunia Kerja Pada Mahasiswa Perguruan Tinggi “X”. *Calyptra: Jurnal Mahasiswa Universitas Surabaya*, 1(1), 1–34.
- Albanese, M. A., Mejicano, G., Mullan, P., Kokotailo, P., & Gruppen, L. (2008). Defining

- characteristics of educational competencies. *Medical Education*, 42(3), 248–255. <https://doi.org/10.1111/j.1365-2923.2007.02996.x>
- Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior*, 36, 157–183. <https://doi.org/10.1016/j.riob.2016.10.001>
- Aulia, R., & Sontani, U. T. (2018). Classroom Management as a Determinant of Learning Outcomes. *Jurnal Pendidikan Manajemen Perkantoran*, 3(2), 9. <https://doi.org/10.17509/jpm.v3i2.11759>
- Badilla Quintana, M. G., Carrasco Saez, J. L., & Prats Fernandez, M. A. (2014). Use of PLE-portfolio to assess the competency-based learning through Web 2.0 in technical engineering education. *International Journal of Engineering Education*, 30(3), 675–682.
- Bensah, E. C., Ahiekpor, J. C., & Boateng, C. D. (2011). Migrating from subject-based to competency-based training in Higher National Diploma Chemical Engineering: The case of Kumasi Polytechnic. *Education for Chemical Engineers*, 6(3), e71–e82.
- Biemans, H., Nieuwenhuis, L., Poell, R., Mulder, M., & Wesselink, R. (2004). Competence-based vet in the netherlands: Background and pitfalls. *Journal of Vocational Education and Training*, 56(4), 523–538.
- Blicblau, A. S. (2008). Interactive capstone portfolios. *The International Journal of Engineering Education*, 24(6), 1078–1083.
- Brockmann, M., Clarke, L., & Winch, C. (2008). Knowledge, skills, competence: European divergences in vocational education and training (VET)- the English, German and Dutch cases. *Oxford Review of Education*, 34(5), 547–567. <https://doi.org/10.1080/03054980701782098>
- Bunshaft, A., Curtis-Fink, J., Gerstein, A., Boyington, D., Edwards, T. and Jacobson, C. (. (2015). Focus on employability skills for STEM workers. Points to experiential learning. *STEM Connector's STEM Innovation Task Force*. www.STEMconnector.org.
- Bureau, E. (2014). *Education opportunities in Hong Kong*.
- Campion, M. A., Fink, A. A., Ruggeberg, B. J., Carr, L., Phillips, G. M., & Odman, R. B. (2011). Doing competencies well: Best practices in competency modeling. *Personnel Psychology*, 64(1), 225–262. <https://doi.org/10.1111/j.1744-6570.2010.01207.x>
- Dania, J., Bakar, A. R., & Mohamed, S. (2014). Factors influencing the acquisition of employability skills by students of selected technical secondary school in Malaysia. *International Education Studies*, 7(2), 117–124. <https://doi.org/10.5539/ies.v7n2p117>
- Dardiri, A. (2015). Kontribusi persepsi siswa tentang kualitas guru, kesesuaian, dan hasil prakerin terhadap employability skills siswa smk. *Universitas Stuttgart*, 38(2), 121–132. <https://doi.org/10.17977/tk.v38i2.4953>
- del Brío González, J. Á., Mitre Aranda, M., & Barba-Sánchez, V. (2022). Environmental awareness and the entrepreneurial intention in university students: Direct and mediating effects. *International Journal of Management Education*, 20(3).
- Dyki, M. (2020). Preparing graduates with the employability skills for the unknown future: reflection on assessment practice during COVID-19. *Accounting Research Journal*, 34(2), 229–245. <https://doi.org/10.1108/ARJ-09-2020-0285>
- Efendi, R., Jama, J., & Yulastri, A. (2019). Development of Competency Based Learning Model in Learning Computer Networks. *Journal of Physics: Conference Series*, 1387(1). <https://doi.org/10.1088/1742-6596/1387/1/012109>
- Ennis, M. R. (2008). *Competency models: a review of the literature and the role of the*

- employment and training administration (ETA)*. Office of Policy Development and Research, Employment and Training Administration, US Department of Labor.
- Fajaryati, N. (2020). The employability skills needed to face the demands of work in the future: Systematic literature reviews. *Open Engineering*, 10(1), 595–603.
- Febriana, R. (2018). *Efektivitas Model Pembelajaran Berbasis Kompetensi Dengan Pendekatan Dunia Kerja Pada Program D3 Tata Boga The Effectiveness Of A Competency-Based Learning Model Using World Of Work Approach At D3 Food And*. 4, 148–155.
- Felder, R. M., & Spurlin, J. (2005). Applications, reliability and validity of the index of learning styles. *International Journal of Engineering Education*, 21(1 PART 1), 103–112.
- Felder Richard M., N. C. S. U., & Silverman Linda K., I. for the S. of A. D. (1988). Learning and Teaching Styles in Engineering Education. *Engr. Education*, 78(7), 674–681.
- Fitriani, D., Putri, W. S., & Khoiriyah, Z. H. (2020). Implementasi Pengembangan Kurikulum 2013 dalam Meningkatkan Mutu Pengetahuan, Sikap, dan Keterampilan Siswa. *Islamic Management : Jurnal Manajemen Pendidikan Islam*, 3(01), 29–43. <https://doi.org/10.30868/im.v3i01.649>
- Froyd, J. E., Wankat, P. C., & Smith, K. A. (2012). Five major shifts in 100 years of engineering education. *Proceedings of the IEEE*, 100(SPL CONTENT), 1344–1360. <https://doi.org/10.1109/JPROC.2012.2190167>
- Giatman, M., Antoni, A., Syahril, S., & Maksum, H. (2018). Pengembangan Kompetensi Produktif Keahlian Teknik Kendaraan Ringan SMK N 1 Guguk Kabupaten 50 Kota. *Jurnal Pendidikan Teknologi Kejuruan*, 1(1), 19–24.
- Gupta, P., Datta, A., & Kothe, S. (2023). Developing employability skills in vulnerable youth: Designing logic model framework and outcome evaluation using quasi-experiment. *World Development Sustainability*, 2(March 2022), 100045. <https://doi.org/10.1016/j.wds.2023.100045>
- Horta, H. (2010). Sheri D. Sheppard, K. Macatanga, A. Colby, and W.M. Sullivan: Educating Engineers—Designing for the Future of the Field. *Higher Education*, 59(3), 387–389.
- Jatmoko, D. (2013). Relevansi kurikulum SMK kompetensi keahlian teknik kendaraan ringan terhadap kebutuhan dunia industri di Kabupaten Sleman. *Jurnal Pendidikan Vokasi*, 3(1), 1–13. <https://doi.org/10.21831/jpv.v3i1.1572>
- Jumriani, J., Syaharuddin, S., Hadi, N. T. F. W., Mutiani, M., & Abbas, E. W. (2021). Telaah Literatur; Komponen Kurikulum IPS di Sekolah Dasar pada Kurikulum 2013. *Jurnal Basicedu*, 5(4), 2027–2035. <https://jbasic.org/index.php/basicedu/article/view/896>
- Kaliská, L. (2014). Felder's Learning Style Concept and its Index of Learning Style Questionnaire in the Slovak Conditions. *Grant Journal*, 0638, 9–13. <https://www.grantjournal.com/issue/0101/PDF/0101kaliska.pdf>
- Khotimah, Iim & Wiyono, D. (2022). Pengaruh Employability Skill Terhadap Kesiapan Kerja Siswa LPP. *Journal of Office Administration*, 4(1), 124–133.
- Lauder, S.-A. (2013). Employability skills: the connection between skills and employment. *BliiP Global Employability*, 1–20. www.bliip.co
- Liaw, S. Y., Chen, F. G., Klainin, P., Brammer, J., O'Brien, A., & Samarasekera, D. D. (2010). Developing clinical competency in crisis event management: An integrated simulation problem-based learning activity. *Advances in Health Sciences Education*, 15(3), 403–413. <https://doi.org/10.1007/s10459-009-9208-9>
- Lindeboom, H. J., Kouwenhoven, H. J., Bergman, M. J. N., Bouma, S., Brasseur, S., Daan, R., Fijn, R. C., De Haan, D., Dirksen, S., Van Hal, R., Hille Ris Lambers, R., Ter

- Hofstede, R., Krijgsveld, K. L., Leopold, M., & Scheidat, M. (2011). Short-term ecological effects of an offshore wind farm in the Dutch coastal zone; A compilation. *Environmental Research Letters*, 6(3). <https://doi.org/10.1088/1748-9326/6/3/035101>
- Lu, H. F. (2021). Enhancing university student employability through practical experiential learning in the sport industry: An industry-academia cooperation case from Taiwan. *Journal of Hospitality, Leisure, Sport and Tourism Education*, 28(August 2020), 100301. <https://doi.org/10.1016/j.jhlste.2021.100301>
- Mariati, M. (2021). *Tantangan Pengembangan Kurikulum Merdeka Belajar Kampus Merdeka di Perguruan Tinggi*. 747–758. <https://doi.org/10.53695/SINTESA.V1I1.405>
- Maulidimas, P., Yuniati, N., Widiyanto, N., & Sidiq, M. F. (2023). *Pengaruh Tingkat Rasa Percaya Diri Lulusan Perguruan Tinggi Pariwisata Terhadap Employability Skills Karyawan Operasional Hotel Di Yogyakarta*. 2(7), 2704–2721.
- McClelland, D. C. (1987). *Human motivation*. CUP Archive.
- McGunagle, D., & Zizka, L. (2020). Employability skills for 21st-century STEM students: the employers' perspective. *Higher Education, Skills and Work-Based Learning*, 10(3), 591–606. <https://doi.org/10.1108/HESWBL-10-2019-0148>
- Mulder, M., Weigel, T., & Collings, K. (2008). El concepto de competencia en el desarrollo de la educación y formación profesional en algunos estados miembros de la UE: un análisis crítico. *Revista de Currículum y Formación Del Profesorado*, 12(3), 1–24.
- Munthe, F., & Mataputun, Y. (2021). Analisis kerjasama sekolah dengan dunia usaha dan dunia industri dalam meningkatkan mutu lulusan sekolah menengah kejuruan. *JPPI (Jurnal Penelitian Pendidikan Indonesia)*, 7(2), 312–319.
- Murwaningsih, T. (2018). “Link and Match” Kurikulum Pendidikan Tinggi Dengan Kebutuhan Dunia Kerja. *Prosiding Seminar Nasional Pendidikan Administrasi Perkantoran (SNPAP)*. www.snpap.fkip.uns.ac.id
- Nelson, B. (2013). Using a competency-based instructional approach in thermodynamics. *Proceedings - Frontiers in Education Conference, FIE*, 957–959. <https://doi.org/10.1109/FIE.2013.6684969>
- Nurdin, S. (2019). Pengembangan Kurikulum dan Rencana Pembelajaran Semester (RPS) Berbasis KKNI di Perguruan Tinggi. *Murabby: Jurnal Pendidikan Islam*, 1(2), 140–147. <https://doi.org/10.15548/mrb.v1i2.305>
- Permadhy, Y. T., & Sugianto. (2020). Faktor Penyebab Pengangguran Dan Strategi Penanganan Permasalahan Pengangguran Pada Desa Bojongcae, Cibadak Lebak Provinsi Banten. *Ikra-Ith Ekonomika*, 2(3), 54–63. <https://journals.upi-yai.ac.id/index.php/IKRAITH-EKONOMIKA/article/view/583>
- Poullaos, C., & Evans, E. (2008). The ICAA pathways project: Identifying the issues. *In a Meeting of the University of Sydney Pacioli Society*, 27.
- Pribadi, B. A. (2016). *Desain dan pengembangan program pelatihan berbasis kompetensi implementasi model ADDIE*. Kencana.
- Rahmadayanti, D., & Hartoyo, A. (2022). Potret Kurikulum Merdeka, Wujud Merdeka Belajar di Sekolah Dasar. *Jurnal Basicedu*, 6(4), 7174–7187.
- Ramsden, P. (2003). *Learning to Teach in Higher Education*. Routledge.
- Rekso, H., Hardiyanto, F. E., & Arifianti, I. (2021). Ragam Konjungsi Dalam Artikel Pendidikan Harian Suara Merdeka Dan Relevansinya Dengan Pembelajaran Teks Eksposisi. *Jurnal Parafrasa: Bahasa, Sastra, Dan Pengajarannya*, 3(1), 1–8. <https://jurnal.unikal.ac.id/index.php/parafrasa/article/view/1398>
- Roe, E. A., & Bartelt, T. (2015). Converting a traditional engineering technology program to

- a competency-based, self-paced, open-entry/open-exit format. *ASEE Annual Conference and Exposition, Conference Proceedings, 122nd ASEE*(122nd ASEE Annual Conference and Exposition: Making Value for Society).
- Sanchez, A. V., & Ruiz, M. P. (2008). *Competence-based learning. A proposal for the assessment of generic competences*. University of Deusto.
- Segbenya, M., Oppong, N. Y., & Baafi-Frimpong, S. A. (2021). The role of national service in enhancing employability skills of tertiary graduates in Ghana: a case of national service personnel in the Central Region. *Higher Education, Skills and Work-Based Learning, 11*(5), 1089–1105. <https://doi.org/10.1108/HESWBL-07-2020-0162>
- Septyana, H. (2013). Manajemen Pembelajaran Berbasis Kompetensi Pelatihan Menjahit Di Lembaga Pelatihan Kerja Swasta (Lpks) Fortuna Dukuh Siberuk Desa Siberuk Kabupaten Batang. *Journal of Non Formal Education and Community Empowerment, 2*(2), 46–50.
- Shariff, N. M., & Abd Razak, R. (2022). Exploring hospitality graduates' competencies in Malaysia for future employability using Delphi method: a study of Competency-Based Education. *Journal of Teaching in Travel & Tourism, 22*(2), 144–162.
- Shariff, N. M., & Abd Razak, R. (2022). Exploring hospitality graduates' competencies in Malaysia for future employability using Delphi method: a study of Competency-Based Education. *Journal of Teaching in Travel and Tourism, 22*(2), 144–162. <https://doi.org/10.1080/15313220.2021.1950103>
- Sokhanvar, Z. (2021). Advantages of authentic assessment for improving the learning experience and employability skills of higher education students: A systematic literature review. In *Studies in Educational Evaluation* (Vol. 70).
- Suherman, A. (2010). Pengembangan Desain Pembelajaran Berbasis Kompetensi Dalam Mempersiapkan Guru Smk Rsbi Guna Memenuhi Tuntutan Standar Proses. *Prosiding APTEKINDO, 6*(1), 149–160.
- Suryaman, M. (2020). *Orientasi Pengembangan Kurikulum Merdeka Belajar*. 13–28.
- Tyler, F. B., Brome, D. R., & Williams, J. E. (2013). *Ethnic validity, ecology, and psychotherapy: A psychosocial competence model*. Springer Science & Business Media.
- Voorhees, R. A., Bassis, M., & Bird, K. H. (2001). CompetencyBased Learning Models: A Necessary Future Related papers Defining and Assessing Learning: Exploring Competency-Based Initiatives Giving Credit where Credit Is Due: Creating a Competency-Based Qualifications Framework for Postsecondary.... *New Directions for Institutional Research, 110*.
- Wang, Y.-F., & Tsai, C.-T. (Simon). (2014). Employability of Hospitality Graduates: Student and Industry Perspectives. *Journal of Hospitality & Tourism Education, 26*(3), 125–135. <https://doi.org/10.1080/10963758.2014.935221>
- Washburne, C. W. (1922). Educational measurement as a key to individual instruction and promotions. *Journal of Educational Research, 5*(3), 195–206.
- White. (2001). Problem-based learning. *Speaking of Teaching, 11*(1), 1–7.
- Yanuarita, H. A., & Haryati, S. (2021). Pengaruh Covid-19 Terhadap Kondisi Sosial Budaya Di Kota Malang Dan Konsep Strategis Dalam Penanganannya. *Jurnal Ilmiah Widya Sosiopolitika, 2*(2), 58. <https://doi.org/10.24843/jiws.2020.v02.i02.p01>
- Zubaidah, S. (2016). SitiZubaidah-STKIPSintang-10Des2016. *Seminar Nasional Pendidikan, 2*, 1–17.
- Zubaidi, A. (2015). Model-Model Pengembangan Kurikulum Dan Silabus Pembelajaran Bahasa Arab. *Cendekia: Jurnal Kependidikan Dan Kemasyarakatan, 13*(1), 107.