

## Including Career Education in University Courses: The Instructor Perspective

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### ABSTRACT

This study explores the integration of career education into university courses from the instructor's perspective, addressing the need for effective methods to enhance students' career readiness. Interviews with professors, course coordinators, and career office managers from multiple European universities revealed significant variations in the instructors' willingness and ability to provide career education, influenced by their business experience and perceived ownership of the guidance role. The study identifies four distinct instructor profiles and offers tailored recommendations to support each one. Additionally, it outlines key design principles for creating activities that enable instructors to incorporate career education into their teaching practices seamlessly.

*Keywords:* Career guidance; Career education; BEAST methodology; Employability.

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### INTRODUCTION

New career opportunities are constantly emerging in today's rapidly evolving job market (Störmer et al., 2014; Bakhshi et al., 2017; Panth and Maclean, 2020). Navigating a career path that aligns with individual passions and skills has become increasingly complex, especially for university students (Kinash et al., 2017; Dias, 2011). In higher education, career development is a critical aspect of personal and professional life, significantly influenced by the dynamic job market, which requires continuous personal discovery and development.

Career guidance, traditionally a personalized process providing tailored advice to help individuals make informed career decisions, is increasingly being supplemented or even replaced by career education in many educational settings (Sultana, 2013). Career education offers a broader, more structured approach, integrating career-related learning into the curriculum to equip students with the skills, knowledge, and attitudes needed to navigate the world of work throughout their lives. While career guidance focuses on individual support at key decision points, career education aims to provide all students with a comprehensive understanding of career development, making it more scalable and showing positive effects on students' career readiness and decision-making self-efficacy (Reese & Miller, 2006; Layton et al., 2020).

However, challenges exist, including faculty need for experience and training (Ciarocco, 2018), unrealistic student expectations, and insufficient resources (te Wierik, 2015). Students often expect universities to

prepare them for specific careers, thereby losing ownership of their career development process.

Consequently, many students enter the workforce feeling dissatisfied, change their career paths too late, and only begin to question their career choices at the end of their academic journey. Career offices often provide overly generic information that is difficult to apply to specific degree programs. Bradley et al. (2021) notes that career services provide information on various selection tasks and career options, which helps students in their overall career planning and general employability skills rather than specific information regarding their peculiar job market requirements.

It is widely accepted that career education is a lifelong process that needs to be integrated into all aspects of university education. Although teachers recognize the importance of providing career education to students, they are also concerned about potential bias and misinformation due to their limited knowledge of industry (Watermeyer, 2016).

This research focuses on the following questions: How do professors perceive their role in career education? How can we leverage their potential to enhance students' career development?

This paper addresses this challenge by extending the BEAST methodology (Vordou et al., 2023; Guerci et al., 2022) to university professors, creating a framework to integrate career education into their courses more effectively.



## THEORETICAL BACKGROUND

Recent studies highlight the importance of career education in higher education. Embedding career planning courses within university curricula has shown positive outcomes, including increased career readiness, self-efficacy, and academic skills development (Bradley et al., 2021; Fouad et al., 2009). These courses also enhance students' awareness of diverse career paths and improve their ability to interact with various mentors. However, when career services are offered separately from academic courses, student engagement tends to be low (Bradley et al., 2019). Overall, effective guidance strongly predicts students' self-assessed development of academic and generic skills and their working-life effective orientation (Skaniakos et al., 2019).

University career education courses have positively impacted students' career readiness and decision-making self-efficacy (Reese & Miller, 2006, te Wierik et al., 2015). These courses increase students' understanding of psychology-related career choices, reduce career indecision, and enhance self-awareness (Ciarocco, 2018). Evaluations of career courses have shown consistent positive student perceptions over time (Vernick et al., 2003). The growing demand for career guidance services highlights the importance of proper training for career practitioners, both professionals and teachers (Patton, 2000).

Career guidance is essential for helping students navigate their educational and occupational futures. It encompasses a range of activities, including career counseling, mentoring, and providing information about career paths and labor market opportunities (Watermeyer, 2016; Skaniakos, 2019). Employability, defined as the skills, knowledge, and attributes that make a person more likely to secure and succeed in a career, is a primary concern for students, universities, and governments (Bradley et al., 2019).

Universities can employ different strategies to enhance career education: embedded and parallel. The embedded approach integrates career education within the curriculum, ensuring all students receive consistent and equitable access to career-related learning. The parallel approach relies on career services to provide support outside the curriculum (Bradley et al., 2019; Bradley et al., 2021).

Specifically in the embedded approach, professors play a crucial role in career education by leveraging their relational proximity to students. They provide personalized advice, integrate career-related learning into their teaching, and facilitate professional networking opportunities. This involvement can significantly enhance students' career planning and readiness (Watermeyer, 2016; Layton, 2020). Teachers recognize their unique position in providing career education but express concerns related to lack of training, limited industry knowledge, time constraints, balancing multiple roles, potential biases, resource limitations, varying levels of

institutional support, and challenges in engaging students in career education activities (Watermeyer, 2016).

Despite their importance, career education and guidance face challenges, including low student engagement, lack of awareness about career services, and resource limitations. Addressing these issues requires a multifaceted approach that includes better integration of employability within the curriculum and improved communication about career services (Bradley, 2019). Current career guidance tools predominantly emphasize external advice, needing more focus on empowering individuals to design their careers. There is a pressing need for methodologies that integrate personal identity, beliefs, and actions to facilitate career design. Traditional approaches to professional career development often need to address its complexity, highlighting the need for innovative solutions (Layton, 2020).

In sum, past research identified challenges in career education embedded in university courses regarding teachers' time and engagement levels. In this research, we set out to understand the needs and types of instructors who may be better involved in career development activities to better support Course Coordinators and Career Offices.

## METHOD AND DATA

In this study, we sought to understand how universities responded to students' career education and which practices were implemented. We investigated career education in three strategic university roles (see Table 1): professors delivering their classes, course coordinators managing the relationships between professors and students, and career office managers delivering counseling and seminars on future job opportunities. Access to the sample we interviewed was gained through personal contacts within each author's institution. All interviewees were volunteers recruited through the contact and broadcast emails.

**Table 1.** Source of data.

Occupational Setting	Participants	Type of guidance
<i>Professors</i>	12	In class activities
<i>Course Coordinators</i>	5	Coordination with Professors
<i>Career Office Managers</i>	3	Counseling

We conducted 20 interviews to explore attitudes toward career education among academic staff and administrators, using a shared semi-structured protocol. The interview process involved 12 professors (6 female, 6 male)—9 from the University of Bologna and 3 from

the Universitat Ramon Llull, ESADE—as well as 5 coordinators (2 female, 3 male)—3 from the University of Bologna and 2 from the Universitat Ramon Llull, ESADE. Additionally, we interviewed 3 career office managers (2 female, 1 male)—2 from the University of Bologna and 1 from the Universitat Ramon Llull, ESADE. Each interview lasted between 45 minutes and 1 hour and 30 minutes and was transcribed verbatim.

Following the grounded theory approach outlined by Strauss and Corbin (1998), we began by independently reading the interview transcripts and conducting open coding to identify key quotes related to career education practices, personal attitudes, and concerns regarding career development. We then grouped similar quotes into categories based on shared themes, revealing how groups of individuals exhibited similar habits and concerns. This clustering led to the emergence of two main categories, which became the core dimensions for classifying professor types. It allowed us to associate key barriers and needs by refining the coding process iteratively.

Any discrepancies in the coding were resolved through discussion and debate, ensuring reliability. To further triangulate the results, we cross-referenced the findings with data from interviews with career office managers and course coordinators. We also engaged in direct discussions with students to validate the emergent themes.

Based on these findings, we employed a Design Science Research (DSR) approach (vom Brocke *et al.*, 2020), a problem-solving methodology that advances knowledge by developing innovative artifacts. This led to the creation of a career education tool to address professors' needs for lean, easy-to-use, and adaptable career development activities tailored to different teaching styles.

To validate the tool's effectiveness, we conducted an additional round of interviews to gather feedback from professors. This was followed by a three-day focus group with twenty professors and coordinators from four European universities, where participants discussed and integrated the tool into their course syllabi, informing the refinement of the tool itself.

In this article, we present and discuss the design principles underlying the creation of the tool, which were derived from interview analysis and further validated through the focus group.

## RESULTS

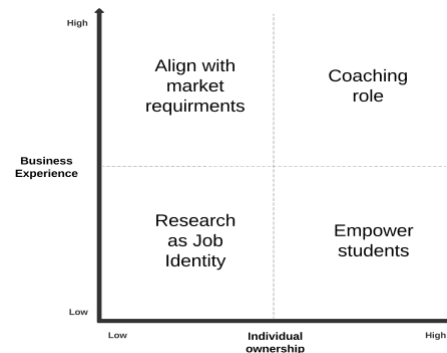
Our analysis identified two key dimensions that provide valuable insights into how instructors can be classified (Fig. 1) and supported the development of design principles of how career education activities should be tailored to be included in courses of different instructors (Table 2).

**Business experience:** As a program coordinator observed,

The faculty of the master's program is composed partly of academic faculty and partly of faculty from the corporate world. I believe there is a big difference between these two worlds.

Indeed, instructors vary significantly in their ability to perform career education based on their business experience. Some are practitioners with industry backgrounds, while others are academics. Some academics have gained business experience through prior work in firms or collaborations with companies on research projects. However, others have focused solely on research and remain disconnected from the job market, making career education challenging. One professor noted,

Since I've never worked in a company, I might struggle to describe certain professional roles in detail. There's a risk of providing incomplete or inaccurate information.



**Fig. 1:** Framework for instructor classification

**Individual ownership:** There is also a variation in the level of ownership instructors take in providing career education. Individual Ownership is how individuals implement career education activities to deliver their duties. Some professors and coordinators actively engage in career education activities, either by incorporating them into their existing courses (*"I have an activity about career choices"* stated one professor) or by expressing a willingness to embrace this new "challenge". In contrast, other participants believe they should not be held accountable for such activities. One professor expressed this feeling:

In my classes, I focus on transferring my knowledge to my students, not necessarily preparing them for their professional lives, which to me is something different.

This classification led to the identification of four profiles, which have been named based on the career education activities they should perform.

### Coaching role

Instructors who feel responsible for career education and possess business experience are ideally suited to

perform career coaching activities. They have the motivation to guide students and practical knowledge to offer valuable industry insights. Among these instructors, those with professional backgrounds, particularly those who work in the industry, often view themselves as facilitators of the connection between the university and the job market. These practitioners naturally engage in coaching activities and career guidance, helping students navigate their future careers. As one program coordinator observed:

This aspect of coaching is much more prevalent among instructors from the corporate world, whereas those from academia feel a stronger mission to teach and adequately prepare students.

Therefore, program coordinators should aim to include practitioners and academics who actively engage with industry in their faculty.

However, many academics with business experience also feel a responsibility to guide students. Traditionally seen as the primary source of knowledge, delivering information in a one-way, directive manner, these instructors are comfortable with lecturing and leading structured activities but often need help adopting alternative classroom approaches. As one professor pointed out:

The risk of initiating a plenary debate in a large classroom is that students may not respond.

To support these instructors in being able to engage in a coaching role, career education activities should either be i) frontal presentations aimed at understanding different job characteristics or ii) interactive workshops that include guidelines for classroom management.

### **Align with market requirements**

The more academics engage with industry, the more they tend to include career education activities in their syllabus, but their academic identity often remains predominant. Instead of identifying as those who create knowledge, they identify as those who translate knowledge into practical applications for firms and focus on providing students with the competencies required by firms. As a professor pointed out:

I describe what companies are looking for, such as proactivity, but when it comes to specific roles, I let the companies explain those details. I can provide general insights, but going deeper into career paths isn't really my job.

As already highlighted by Daubney (2020), these instructors typically view the career office as the primary entity responsible for helping students define their career paths. This perspective arises for two key reasons:

a) Academics tend to see themselves primarily as creators and disseminators of knowledge, focusing on equipping students with the necessary skills rather than guiding them in career decision-making.

As a course that tends to be very theoretical, it is important to connect students with practical examples from the real world, but my role is primarily to provide them with the knowledge, not necessarily to guide them in choosing a career path.

For those who exhibit negative attitudes toward their responsibility for career education but have business experience, it is crucial to design activities that clearly emphasize the development of competencies directly relevant to the job market. By aligning career education activities with their existing assumptions about their role, career education can be presented as a complementary aspect of their responsibilities rather than an additional burden. Indeed, among the embedded approaches, extracted employability—where employability is drawn from the existing curriculum without introducing external content—faced less resistance from instructors compared to added employability, which involves intentionally incorporating new content to explicitly enhance students' employability (Daubney, 2020).

b) A dedicated career office reinforces this division of responsibilities, as it is commonly perceived as the entity responsible for providing career education:

As academics, our role has always been to produce and transfer knowledge. The idea of directly guiding students in their career paths is something that's traditionally been handled by career offices or through external industry collaborations.

However, this division of labor has its challenges. Career offices often need specialized field-specific expertise to offer in-depth career advice. By highlighting this gap with academics, they showed to feel responsible for presenting the job market requirements and the job positions for which their course could be relevant, and thus activities should focus on this specific aspect.

### **Empower students**

Some academics acknowledge the importance of guiding students in selecting appropriate career paths, yet they often feel they need to be equipped due to their limited knowledge of and connection with the industry. This lack of exposure to the business world leaves them wanting to figure out how to effectively assist students in career planning. As one professor expressed:

I don't feel equipped to guide students on career paths in industries, especially because my research and teaching don't bring me into contact with the business world.

Given this challenge, it is crucial to design activities that do not require direct industry knowledge for those instructors who lack this experience. To address this, we developed activities where students are responsible for investigating the job market, bringing relevant insights back to the instructor. This approach allows instructors to guide the process without needing extensive industry knowledge. As one instructor noted:

As for what I can offer, I rely on the experience and history of previous students.

Instructors often see themselves as the primary source of knowledge, which can lead to discomfort when engaging in career education activities, particularly when they do not have all the answers to students' questions. This discomfort underscores the need to support instructors as they transition into a role emphasizing facilitation over traditional direct instruction. One professor highlighted this challenge:

I focus on providing knowledge about company management, covering various business functions such as logistics, marketing, and finance, but I do not always have the answers when students ask about specific career paths.

This situation reinforces the importance of returning ownership of career development to the students. By equipping instructors with activities that allow students the time and framework to explore various career opportunities, rather than deeply exploring a specific and predefined job identity, students are made responsible for navigating different opportunities. This helps them perceive their career development as a personal responsibility rather than a predefined path set by the university. It encourages them to leverage and expand upon the course content, constructing their own career trajectories. Thus, empowering students to take ownership of their career planning provides instructors with a manageable way to facilitate this process and supports the development of an internal locus of control for career education among students.

### **Research as Job Identity**

Many academics perceive universities as institutions dedicated to producing and disseminating knowledge. They view the university's mission as primarily about imparting knowledge to students rather than guiding them in developing their professional identities. As one professor noted:

The third mission is third for a reason. The second mission (teaching) often becomes the first, actually. The second mission becomes the first, and the first mission (research) becomes the second—it's a mess here.

Although research is the primary focus for most academics, even those who take ownership of career education tend to emphasize business-oriented roles when discussing potential career paths related to their teaching subjects. This tendency was clearly articulated by a professor:

My course is mainly about organizational behavior, and while we discuss career paths, the focus tends to be on roles within companies rather than academic research positions.

This narrow perspective, which predominantly associates careers with corporate roles, leads to two significant drawbacks. First, it limits the ability of researchers to share insights about careers in academia and research - domains in which they possess the most expertise. As a result, students need valuable guidance regarding the diverse opportunities available within the research sector. Second, this focus on business careers delays students' recognition of research as a viable employment option until much later in their academic journey, often when they are already involved in writing their theses or participating in research collaborations. By this point, students may have realized that teaching is the primary role of professors, with little understanding of the central importance of research in academic careers. To address this gap and encourage students to consider research careers early in their education, we systematically integrated research as a viable career path within our career education tools and materials. Academics who believe that research is the university's primary mission will be eager to share this perspective, thereby illuminating a possible career path for students.

This approach not only aligns students' career aspirations with their academic interests but also fosters a deeper appreciation for the role of universities in advancing knowledge and innovation.

### **General guidelines for career education**

Professors, independently from their profile, often encounter significant challenges when integrating career education into their teaching. Heavy teaching loads, research and administrative responsibilities leave professors with little time for activities beyond their core teaching objectives. Their primary focus is imparting the knowledge they believe is most valuable for their students, often leaving little room for additional activities like career education. Reducing time allocated to core teaching content to incorporate career education may not align with their beliefs, leading to resistance to implementing such tasks. As one professor noted:

There is also a problem of timing. If I take hours away from the content, we're already quite stretched, and companies are asking for this type of competence and that other one, so unfortunately, we're a bit tight. I try to fill the lessons with as many references as possible, but always within a structured content plan.

**Table 2.** Summary of design principles based on different profiles.

Profile	Ownership	Business Experience	Design principle	Insight
Coaching Role	High	High	Incorporate both industry practitioners and academics engaged with firms in teaching teams.	Practitioners inherently adopt coaching roles due to their practical experience and industry knowledge.
			Develop and provide clear, structured guidelines for interactive activities to facilitate effective student engagement and participation.	Academics often need more facilitation skills to perform in a coaching role effectively.
			Design activities that can be delivered effectively through direct instruction, ensuring they adapt to traditional lecture formats while encouraging student involvement.	Traditional lecture methods dominate academic teaching, leaving many academics unprepared for coaching or facilitation.
Align with market requirements	Low	High	Emphasize the development of job market-relevant competencies to ensure students acquire the skills directly applicable to their future careers.	Academics believe their primary responsibility is to equip students with knowledge and skills for the job market rather than directly coaching them on career paths.
			Acknowledge the limitations of the career office's expertise in specialized fields.	Academics consider themselves subject matter experts tasked with thoroughly preparing students for employment.
Empower Students	High	Low	Design career education activities that do not rely on in-depth industry knowledge, making them accessible to instructors regardless of their professional background.	Limited industry experience and connections make some academics uneasy discussing topics outside their expertise.
			Create activities that encourage broad career exploration and personal reflection rather than focusing narrowly on understanding a specific job identity.	Limited industry experience and connections make some academics uneasy discussing topics outside their expertise.
Research as Job Identity	Low	Low	Promote research as a viable and rewarding career path, integrating it into career education materials to expand students' awareness of academic and research opportunities.	Academics feel that universities demand that their focus be diverted away from research.
All Profiles			Incorporate brief, easily implementable career education activities that can be seamlessly integrated into lectures, allowing for quick yet impactful career education.	The combination of teaching, research, and administrative duties restricts the time academics can dedicate to activities beyond their core responsibilities.

Moreover, updating the syllabus to include new activities is seen as an additional burden. Designing, planning, and integrating these activities requires time and effort that professors, already stretched thin, may be reluctant to invest. To address this challenge, career

education tools should be concise, easy-to-understand activities that instructors can present with just a one-page outline. They should require minimal preparation and should be implemented quickly, making them easy to integrate into any class without disrupting the overall

structure of the syllabus. By offering a streamlined approach, these tools allow professors to provide career education without compromising their primary teaching goals, thus overcoming the time constraints and resistance associated with more extensive curriculum changes.

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## DISCUSSION AND CONCLUSIONS

### Interpretation of findings

This study aimed to explore how career education can be integrated into university teaching, focusing on the roles and challenges professors face. The findings reveal an apparent tension between two professorship visions: traditional academic responsibilities and career education.

Professors, particularly those with a background in basic research, often view their primary role as transmitting knowledge rather than guiding students in their career choices. This perspective aligns with previous research, which characterizes universities primarily as institutions for knowledge production (Watermeyer, 2016).

The study also highlights the crucial role of industry engagement in shaping professors' attitudes toward career education. Professors with industry experience are generally more inclined to incorporate career-related activities into their teaching. This finding is consistent with existing literature, which suggests that practical experience enhances the relevance of the career education provided by faculty (Layton, 2020).

However, as Watermeyer *et al.* (2016) discussed, there is potential for bias, as professors may inadvertently guide students toward specific career paths based on their experiences. Interestingly, even more research-oriented academics emphasize business-oriented roles over academic or research careers.

Our results further indicate that many professors feel they need more training and expertise to provide effective career education. They may not be up-to-date with the latest career pathways, industry requirements, or job market specifics, which limits their ability to offer accurate and timely advice (Watermeyer, 2016). Additionally, the heavy teaching loads, research obligations, and administrative duties that many professors face leave them with limited time for career education. This makes it challenging for them to offer the level of support and individualized attention students often need (Watermeyer, 2016).

In response to these challenges, developing career education programs and initiatives tailored to different professor profiles presents a significant opportunity for innovation.

### Implications for practice

The findings of this study have significant implications for the integration of career education within

higher education. As highlighted by Bradley *et al.* (2019), embedding career education directly into the curriculum is essential for boosting student engagement, as it overcomes the issue of low participation in traditional career services and ensures broader access to these valuable resources. Our research offers key insights into effectively implementing this approach, demonstrating how to involve the instructors in this process successfully.

Moreover, our findings underscore the importance of collaboration between faculty and career services, a point emphasized by Bradley *et al.* (2019). Our approach facilitates this collaboration, enabling faculty to incorporate career insights into their teaching without significantly disrupting their primary responsibilities. This approach enhances the relevance of career education and encourages institutional support by equipping faculty with the necessary tools and resources to balance their roles as educators and career advisors.

Additionally, our study highlights the necessity of aligning career education with market requirements, particularly for professors with industry experience. As Bradley *et al.* (2021) noted, career readiness involves informing students about their options and equipping them with the skills to pursue these opportunities effectively. Our findings extend this concept by emphasizing the need for career education activities that develop competencies directly relevant to the job market within the curriculum proposed by professors, preparing students for real-world challenges.

Furthermore, the research points to the need for a more balanced approach to career education that includes promoting research careers alongside business-oriented roles. Universities should encourage professors, especially those with a strong research focus, to share their experiences and insights into academic and research careers. This broadened perspective can help students understand the diverse range of career paths available to them.

Finally, based on the dimensions of business experience and individual ownership of career education responsibilities, the framework we developed provides specific insights into how career education activities can be tailored to different types of instructors. This nuanced approach ensures that career education is effectively integrated into the academic curriculum, meeting the needs of both professors and students.

### Limitations

This study has several limitations that should be acknowledged. First, the sample size was relatively small and limited to two universities, although informal interviews were conducted at over four institutions. While the findings provide valuable insights, they may only be generalizable to some higher education institutions. Future research should include a more extensive and diverse sample of universities to validate these findings.

Second, the study relied on self-reported data from interviews, which may be subject to bias. Professors and

coordinators may have provided socially desirable responses regarding their attitudes toward career education. Future research could complement these findings with observational data or surveys to gain a more objective understanding of the challenges and practices related to career education.

Third, the study focused primarily on the perspectives of professors and coordinators, with limited input from students. However, those insights have been collected for a previous research project (Vordou et al., 2023) and applied in the current research.

### Directions for future research

Future research should explore the impact of our design principles on student outcomes, such as career readiness, decision-making self-efficacy, and job placement rates. Longitudinal studies tracking students over time would be particularly valuable in assessing the long-term effectiveness of these tools.

Additionally, research could examine how different university disciplines approach career education and whether specific fields are more conducive to integrating these activities into the curriculum. Comparative studies across disciplines could reveal best practices and provide insights into how career education can be tailored to different academic contexts.

Finally, future studies should investigate the institutional factors that influence the successful implementation of career education activities. This includes examining the role of university leadership, faculty development programs, and resource allocation in supporting professors to take on this expanded role. Understanding these factors can help universities design more effective strategies for integrating career education into their educational offering.

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### REFERENCES

- Bakhshi, H., Downing, J., Osborne, M. and Schneider, P. (2017). *The Future of Skills: Employment in 2030*. London: Pearson and Nesta.
- Bradley, A., Quigley, M. and Bailey, K. (2019). How well are students engaging with the careers services at university? *Studies in Higher Education* 46 (2019): 663 - 676. <https://doi.org/10.1080/03075079.2019.1647416>
- Bradley, A., Priego-Hernández, J. and Quigley, M. (2021). Evaluating the efficacy of embedding employability into a second-year undergraduate module. *Studies in Higher Education* 47 (2021): 2161 - 2173. <https://doi.org/10.1080/03075079.2021.2020748>
- Brown, S. L., & Eisenhardt, K. M. (1998). *Competing on the edge: Strategy as structured chaos*. Harvard Business Review Press.
- Ciarocco, N. J. (2018). Traditional and New Approaches to Career Preparation Through Coursework. *Teaching of Psychology* 45 (2018): 32 - 40. <https://doi.org/10.1177/0098628317744963>
- Dias, D. (2011). Reasons and motivations for the option of an engineering career in Portugal. *European Journal of Engineering Education*, 36: 367–376. <https://doi.org/10.1080/03043797.2011.593096>
- Daubney, K. (2022). Teaching employability is not my job!: redefining embedded employability from within the higher education curriculum. *Higher Education, Skills and Work-Based Learning*, 12(1): 92-106. <https://doi.org/10.1108/HESWBL-07-2020-0165>
- Fouad, N., Cotter E. W. and Kantamneni, N. (2009). The effectiveness of a career decision-making course. *Journal of Career Assessment* 17, no. 3 (2009): 338-347.
- Guerci, E., Świętoniowska, J., Varadinov, M. J. and Vignoli, M. (2022). *Empowering Students' Awareness for a Personalized Career Development. An Approach to Discover, Experiment, and Learn*. University of Warsaw Press.
- Kinash, S., Crane, L., Capper, J., Young, M. and Stark, A. (2017). When do university students and graduates know what careers they want: A research-derived framework. *Journal of Teaching and Learning for Graduate Employability*, 8: 3-21. <https://doi.org/10.21153/jtlge2017vol8no1art584>
- Layton, R. L., Scott, V., Solberg, H., Jahangir, A., Hall, J. D., Ponder, C. A., Micoli, K. J. and Vanderford, N. L. (2020). Career planning courses increase career readiness of graduate and postdoctoral trainees. *F1000Research* 9: 1230. <https://doi.org/10.12688/f1000research.26025.2>
- Panth, B. and Maclean R. (2020). *Anticipating and Preparing for Emerging Skills and Jobs, Key Issues, Concerns, and Prospects*. Melbourne: Springer Nature, pp.351.
- Patton, W. (2000). Perceptions of training needs of career guidance personnel before and after a university program. *Journal of Career Development* 26(3): 175-190. <https://doi.org/10.1177/089484530002600302>
- Prahalad, C. K., & Bettis, R. A. (1986). The dominant logic: A new linkage between diversity and performance. *Strategic Management Journal*, 7(6), 485–501. <https://doi.org/10.1002/smj.4250070602>
- Reese, R. J., and Miller, C. (2006). Effects of a University Career Development Course on Career Decision-Making Self-Efficacy. *Journal of Career Assessment* 14 (2006): 252 - 266. <https://doi.org/10.1177/1069072705274985>



- Romero, D., & Molina, A. (2015). A multidisciplinary framework and toolkit to innovate customer-centric new product development. *2015 IEEE International Conference on Engineering, Technology and Innovation/ International Technology Management Conference (ICE/ITMC)*.
- Skaniakos, T., Honkimäki, S., Kallio, E., Nissinen, K. and Tynjälä, P. (2019). Study guidance experiences, study progress, and perceived learning outcomes of Finnish university students. *European Journal of Higher Education* 9 (2019): 203 - 218.  
<https://doi.org/10.1080/21568235.2018.1475247>
- Störmer, E., Patscha, C., Prendergast, J., Daheim, C., Rhisiart, M., Glover, P. and Beck, H. (2014). *The Future of Work Jobs and Skills in 2030, UK Commission for Employment and Skills*. University of South Wales: Centre for Research in Futures and Innovation.
- Strauss, A., & Corbin, J. (1998). *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: Sage Publications, Inc.
- Sultana, R. (2013). Career education: Past, present... but what prospects? *British Journal of Guidance and Counselling*, 41:69-80. <https://doi.org/10.1080/03069885.2012.739373>
- Vernick, S. H., Reardon, R. C. and Sampson, J. (2003). Process Evaluation of a Career Course: A Replication and Extension. *Journal of Career Development* 30 (2003): 201-213.  
<https://doi.org/10.1023/B:JOCD.0000015540.87435.e4>
- Vordou, E., Guerci, E., Dosi, C., Jakiela, J., Świętoniowska, J., Vignoli, M., Wójcik, J., José Varadinov, M., & de Jesus Marques, G. (2023). Design Thinking and Career Development: A Comparative Study. *Diid — Disegno Industriale Industrial Design*, (DSI 1), 14.  
<https://doi.org/10.30682/diiddsi23t5x>
- vom Brocke, J., Hevner, A., Maedche, A. (2020). Introduction to Design Science Research. In: vom Brocke, J., Hevner, A., Maedche, A. (eds) *Design Science Research. Cases. Progress in IS*. Springer, Cham.
- Watermeyer, R., Morton, P. and Collins, J. (2016). Rationalising for and against a policy of school-led careers guidance in STEM in the UK: A teacher perspective. *International Journal of Science Education* 38, no. 9: 1441-1458.  
<https://doi.org/10.1080/09500693.2016.1195520>
- te Wierik, M. L. J., Beishuizen, J. and van Os, W. (2015). Career guidance and student success in Dutch higher vocational education. *Studies in Higher Education* 40: 1947-1961. <https://doi.org/10.1080/03075079.2014.914905>