

# Mentoring for Transition: Optimizing Mentorship Through Competency Assessment Among Young People

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## ABSTRACT

Mentorship provides targeted support for career and personal development, and is crucial for guiding emerging professionals through the transition from academia into the workforce. This paper explores the significance of assessing mentee competencies to optimize mentor-mentee interactions and enhance outcomes. It introduces an innovative competency ontology integrated with the Career 4.0 platform, enabling international mentoring connections. The framework categorizes skills, characteristics, and engagement attributes, facilitating comprehensive assessment using the Evolute system. Grounded in fuzzy logic, Evolute offers nuanced analysis of self-evaluations, capturing subtleties in competency levels. A case study validates the approach, highlighting its practicality and effectiveness in identifying strengths and growth areas. Integration within Career 4.0 enables personalized development planning and regular reassessments to track progress and maximize outcomes, enhancing the impact of mentoring in supporting adolescents in career planning.

**Keywords:** Mentorship, Competence assessment, Emerging professionals, Career planning

## INTRODUCTION

The transition from education to the professional world brings new challenges and uncertainties for emerging professionals. As individuals embark on establishing their career identities and pathways, they face multifaceted tasks related to self-development, networking, and navigating the demands of their chosen occupations. During this pivotal early career stage, mentorship emerges as a catalyst for enhancing early-career development by helping people navigate the complexities of this transitioning.

Since the 1980s, mentoring has been recognized as an essential process for fostering both personal and professional growth. It serves as a conduit for knowledge-sharing and skill development, as experienced individuals impart wisdom and guidance to those seeking growth (c.f. Ragins and Kram, 2007). Traditionally, definitions of mentoring relationships involve a long-term bond between a senior mentor with a higher status and a junior mentee or protégé, characterized by significant commitment from both parties (Mullen and Klimaitis, 2021; Kram, 1985; Shapiro, Haseltine, & Rowe, 1913; Ragins, 1989). Within this classical framework, the mentor takes an active role in cultivating their mentee's advancement (Kram, 1985; Ragins, 1989; Wright

and Wright, 1987; Hunt and Michael, 1983). Mentors assume varied roles as guides, supporters, and advisors to help mentees tackle significant developmental tasks (Kram, 1983). In traditional scenarios, mentors such as university professors or career professionals with accumulated experience and status provide junior employees or students with knowledge, skills, and career guidance to facilitate their growth (Mullen and Klimaitis, 2021; Eby et al., 2008).

Over time, there has been a great expansion in research interest in examining mentoring dynamics and outcomes. This includes deep exploration of the nuances of mentoring across various domains, highlighting its multifaceted importance (Mullen and Klimaitis, 2021). Newer conceptualizations emphasize the mentee's active engagement in their learning process through critical reflection on their experiences, supported via a collaborative partnership with their mentor to accomplish mutually defined goals (Zachary and Fischler, 2012). At its core, mentoring revolves around providing career development assistance and psychosocial support such as confidence-boosting and counselling (Mullen and Klimaitis, 2021; Kram, 1985; Ragins, 1989).

Ragins (2005) defines mentoring as a process rooted in mutual interdependence, empathy, and empowerment, fostering personal growth, development, and enrichment for both parties. This definition underscores its relational nature as a developmental connection characterized by mutual growth, learning, and progress across personal, professional, and career domains (Ragins and Verbos, 2007). Successful mentoring relies not only on the mentor's expertise but also on the mentee's aptitude and preparedness to maximize learning opportunities (Ragins and Verbos, 2007). Accordingly, understanding mentee competencies has emerged as pivotal for enhancing the effectiveness and outcomes of guidance initiatives.

Previous research has highlighted numerous beneficial impacts of mentoring, including enhanced career progression, strengthened networks, and personal development gains, including increased competence and higher self-esteem (Wright and Wright, 1987). Positive effects stem from fulfilling the fundamental human need for belongingness, aligning with theories emphasizing the importance of social connections for personal and professional development (Allen and Eby, 2007). Fulfilling this core need not only fosters a sense of belonging but also catalyzes the development of self-esteem and a heightened sense of personal competence (Allen and Eby, 2007).

In summary, the transition from education to the professional world introduces challenges for emerging professionals as they establish career identities and navigate multifaceted tasks related to self-development, networking, and occupational demands. Mentorship is a crucial catalyst during this essential early-career stage. The present paper explores the pivotal role of mentoring relationships and competence assessment models in shaping the capabilities of emerging professionals, addressing the demands of the contemporary business landscape. This may be facilitated by strategic approaches and the integration of innovative tools such as the Evolute competence evaluation system (Kantola, 2015) and the Career 4.0 Learning Platform, which effectively employs technology to bridge the gap between theoretical knowledge and practical application, fostering mentorship connections that extend

beyond geographical boundaries (Kröll and Burova-Keßler, 2021a; Kröll and Burova-Keßler, 2021b). The goal is to effectively develop the human capital of emerging professionals for success in today's dynamic professional environment.

## **ASSESSING MENTEE COMPETENCIES: THE EVOLUTE SYSTEM**

Competency-based approaches have gained widespread recognition in education, training, and human resource management (Hoffmann, 1999). Definitions for competence vary, but they often involve the consistent, observable, and measurable ability to perform defined tasks or elements of tasks (Zachary and Fischler, 2012; Clutterbuck, 2005; Spencer and Spencer, 1993). Competencies are commonly categorized into five domains: motives, traits, affective (related to personality or self-concept), knowledge-based (cognitive), and skill-based (Spencer and Spencer, 1993). Their significance varies based on the specific objectives of the mentoring relationship. The classification into distinct domains offers a framework for understanding mentee capabilities and their contributions to the outcomes of the mentoring relationship.

Understanding both mentor and mentee competencies is vital for building effective mentoring relationships (Clutterbuck, 2005). Mentors leverage their accumulated experience and status to contribute valuable insights and guidance to the mentee. Mentee competencies encompass a spectrum of skills and attributes that facilitate active engagement, learning, and value derivation from the mentoring relationship (Clutterbuck, 2005; Knowl Social Enterprise, 2015; Knowles, 1980). These competencies span various dimensions, such as goal setting, motivation, resilience, learning orientation, and the ability to seek external support, collectively enhancing the effectiveness of mentoring interactions (Clutterbuck, 2005). Successful communication, learning, and collaboration between mentors and mentees hinge on these competencies, emphasizing their pivotal role in the mentor-mentee dynamic (Clutterbuck, 2005).

To enhance the outcomes of mentor-mentee relationships, it is crucial to have an effective system for assessing mentee competencies. The Evolute system, an advanced competence assessment tool, is designed to evaluate individual competencies and qualifications through self-evaluation (Kantola, 2015). Using fuzzy logic, it provides a nuanced analysis of examined object ontologies by utilizing self-evaluated statements to capture subjective, abstract, and imprecise aspects of both current reality and envisioned future for respondents (Kantola, 2015; Einolander, 2018). In the context of the present study, the Evolute system provides an in-depth analysis of a mentee's knowledge, skills, and abilities, offering valuable insights to both mentors and mentees. This analysis serves as a catalyst for discussions between mentors and mentees, significantly enhancing the understanding of individual competencies and fostering personal growth. In the following section, we present the newly developed mentee competence ontology utilizing the Evolute system.

## DEVELOPING THE COMPETENCE ONTOLOGY

Effective mentorship requires understanding a mentee's skills, attributes, and mindset. The present research utilizes a competence ontology framework created to comprehensively evaluate mentees' capabilities, readiness, and engagement. The framework aims to maximize the impact of mentorship programs by conducting a multidimensional assessment of emerging professionals. It was designed to complement the Career 4.0 Learning Platform, a European Union (EU) initiative transforming education and mentorship through modern technologies to support young individuals in their career planning. This platform integrates elements like talent diagnosis, employment analysis, mentor workshops, and personalized development planning (Kröll and Burova-Keßler, 2021a; Kröll and Burova-Keßler, 2021b). A key evolution is incorporating competence assessments to enhance talent diagnosis accuracy and learning effectiveness. Drawing from literature (e.g., Zachary & Fischler, 2012; Clutterbuck, 2004, 2005; Fleming et al., 2013; Knowl Social Enterprise, 2015) and expert input, the framework categorizes competencies into three domains covering 11 subcategories exploring factors such as Achievement Motivation. It examines traditional competencies, motivations, engagement levels, and learning styles to provide nuanced insight into a mentee's preparedness, enthusiasm, and capacity to engage effectively in a mentorship program.

### Overview of Subcategories

The framework's competencies have been organized in such a way to offer clarity for evaluation and to provide a thorough exploration of abilities. In the present study, we aim to holistically develop mentees within the context of mentorship by separating their capabilities through the competence ontology. The subcategories are briefly described in Table 1, which includes the number of statements within each subcategory (total statements/mini version statements), a brief description, and a sample statement.

**Table 1.** Subcategories of the framework.

Subcategory	No. of Statements	Description	Sample Statement
<b>1. Personal Characteristics</b>			
Achievement Motivation	28/17	The driving force behind individuals who set and attain goals, achievement motivation fuels a desire to win, compete, and achieve.	"I have a strong desire to succeed in the things I set out to do."
Conscientiousness, Diligence, and Accuracy	33/19	Individuals embodying conscientiousness exhibit ambition, reliability, and a commitment to delivering their best work.	"I keep my promises, e.g., agreed deadlines and commitments."

(Continued)

**Table 1.** Continued

Subcategory	No. of Statements	Description	Sample Statement
Extraversion	21/14	Highly extraverted individuals thrive on social interactions, express cordiality, and easily adapt to new situations.	"I enjoy engaging in lively debates and discussions."
Resilience	16/12	Resilient individuals display adaptability, maintain a positive outlook, and stay focused on goals.	"I am able to stay motivated even when faced with setbacks."
Openness to New Experiences	16/10	Individuals with high openness exhibit intellectual curiosity, creativity, and flexibility.	"I like to try out new things."
Agreeableness	16/10	Highly agreeable individuals are characterized by empathy, compassion, and a cooperative nature.	"I enjoy working collaboratively with others."
Confidence in One's Own Ability to Perform	16/9	Confident individuals approach challenges with ingenuity, generating unique solutions by breaking down complex problems.	"I believe I can succeed in almost anything I set my mind to."
Time Management	11/6	Individuals skilled in time management excel in prioritization, ensuring tasks are addressed based on urgency.	"I can identify tasks that require my immediate attention and those that can wait."
<b>2. Social/Communication Competencies</b>			
Communication	17/12	Proficient communicators showcase versatile skills, articulating thoughts clearly in writing and speech.	"I am able to communicate my thoughts verbally and effectively."
<b>3. Mentorship Engagement</b>			
Mentorship Program Motivation	47/29	Proactive goal-setting, commitment to transparent learning, and appreciation for constructive feedback define motivation in the mentorship program.	"I have specific goals for being in this program."
Learning Preferences	19/13	Encompassing various learning styles, this category ensures adaptability across visual, auditory, kinesthetic, and reading/writing learning preferences.	"I prefer to learn by doing than just reading."

The framework meticulously assesses competencies across 11 subcategories, further divided into 51 smaller features, such as adaptability, problem-solving skills, self-discipline, self-efficacy, perseverance and resilience, goal

setting and achievement orientation, effective communication skills, learning orientation, creativity, intellectual curiosity, and motivation. Approximately 230 self-evaluation statements are employed for this comprehensive evaluation, capturing mentees' capabilities holistically. This diverse set of statements explores skills, attributes, and engagement factors critical for mentees' holistic development, fostering a supportive and growth-oriented mentorship environment.

To balance the advantages of a thorough evaluation with concerns about feasibility, we developed a condensed version of the assessment instrument. While the initial version delved deeply into various competence facets, its extensive length could potentially hinder responses if participants lacked the willingness or ability to stay focused. The condensed format aims to mitigate this limitation by presenting a more concise yet still rigorous evaluation. This balanced approach captures essential skills and attributes in a format designed for easier completion, encouraging thoughtful responses within a more manageable time frame. The condensed version evaluates the categories through approximately 140 self-evaluation statements, capturing the most crucial aspects of mentees' capabilities. This condensed set of statements focuses on key skills, attributes, and engagement factors, providing a streamlined yet comprehensive assessment of mentees' holistic development.

The chapter provided insight into the content of the assessment instrument within the mentee's competence model, offering a nuanced understanding of the factors influencing the evaluation. This approach ensures a comprehensive and tailored assessment, enriching the mentorship experience for mentees and enhancing their growth potential.

## **CASE STUDY AND RESULTS**

In this case study, the effectiveness of the mentee competence assessment instrument utilizing the Evolute system was tested via a single evaluation run involving university students from the University of Turku. The main aim was to assess the Evolute competence assessment system using university students acting as participants in a mentoring program. Specifically, the study sought to validate the usability of the assessment instrument in capturing the competencies of university students, with a focus on identifying their strengths and areas for development.

The participants were 10 undergraduate students (6 females, 4 males) from engineering programs at the University of Turku, Finland, who volunteered to take part in a single test evaluation run through the online Evolute platform at the end of 2023. The 6 female participants ranged in age from 21–26 years old, with an average age of 24.6 years. The 4 male participants ranged in age from 23–28 years old, with an average age of 25 years. Prior to participation, they were informed of the study purpose, procedures, and that their anonymous data may be analysed for research purposes.

Participants were asked to self-assess their current competence levels and express their aspirations for the future within the respective competence categories using the Evolute system. This self-assessment involved the evaluation

of the competence statements using a graphical scale, where participants rated both their current state and their desired target state (Figure 1).

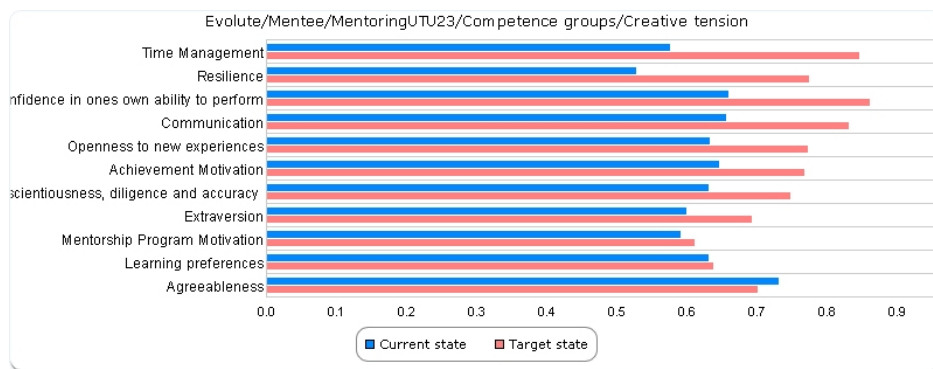
The screenshot shows a web browser window with the URL `evolute.fi/evoluteapp/InstanceVI.aspx`. The page title is "Mentee mini 1.0". The main content area displays a statement in a box: "I set clear and achievable goals for myself" with a count of "148 ...". Below the statement are three horizontal scales:

- Importance to me:** A scale from "Min" to "Max" with a vertical marker.
- Current:** A scale from "not at all" to "definitely" with a vertical marker.
- Target:** A scale from "not at all" to "definitely" with a vertical marker.

At the bottom, there are navigation buttons "<<" and ">>". A footer note reads: "All rights reserved © Evokode Oy".

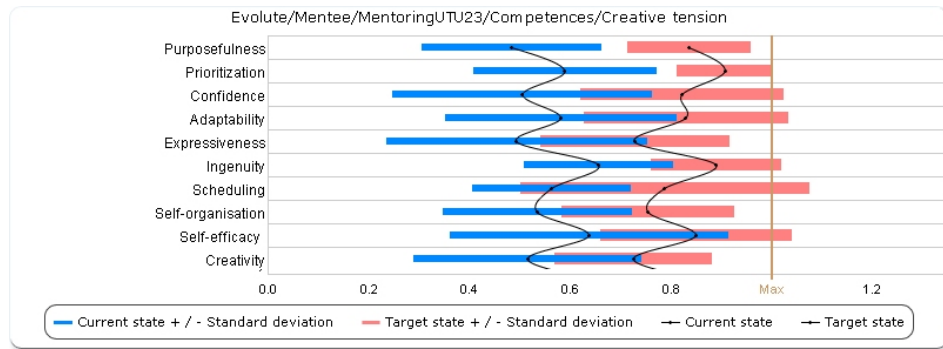
**Figure 1:** Sample of statement evaluation.

The system then visualized individual profiles depicting current versus target competence levels within each subdomain and included them in group analysis. The gap between current reality and envisioned future is referred to as creative tension, generating emotional and energetic stress that fosters creativity and change. It signifies the difference between current and desired status, thereby indicating the direction and extent of development required across various domains highlighted by the statements. Figures 2 to 4 show examples of group-level results.



**Figure 2:** Group level results of current and target state of the competence groups based on creative tension.

Figure 2 shows the group-level results according to the subcategories/competence groups. The results are sorted based on creative tension. The highest collective creative tension is in Time Management, followed by Resilience and Confidence in one's own ability to perform. Figure 3 presents the results on a more detailed competence level. It displays the 10 competences with the highest creative tension, along with the standard deviations from the participants.



**Figure 3:** Group level results of current and target state results, including standard deviations of the 10 competences with the highest creative tension.

The results from the three highest collective creative tensions could be interpreted as follows. The Purposefulness scores indicate that on average, participants feel less purposeful in their current state than their target state. The statements suggest a need to enhance focus, goal clarity, and motivation, particularly in challenging situations. The notable gap suggests that mentees may benefit from interventions focused on maintaining focus during difficulties, setting clear goals, and fostering motivation, especially in the face of setbacks. There is also a noticeable gap in Prioritization skills. Improvement is needed in time management, project focus, and setting specific objectives for mentoring relationships. Mentees acknowledge a need for improvement in managing time effectively, setting learning objectives, and maintaining focus on overarching project goals. These data highlights opportunities for mentorship in project management and goal-setting. The substantial gap in confidence levels points towards a need for mentees to build belief in their abilities, handle failures positively, and maintain optimism about the future. Mentorship programs could include confidence-building activities and positive reinforcement.

## CONCLUSION

The present research provides a notable advancement in our understanding of how the assessment of mentee competences can enrich mentoring experiences for students. We conducted a real-life test of the Evolute mentee competence assessment instrument to validate its usability in capturing the competencies of university students, focusing on identifying strengths and areas for



development. The findings, particularly in categories with significant creative tension, offer valuable insights for refining mentoring programs and tailoring interventions to foster targeted growth in specific competencies. The work underscores the efficacy of the Evolute system in providing actionable insights into mentees' developmental needs, positioning it as a valuable tool for enhancing mentoring experiences across various contexts.

By integrating these profiles within Career 4.0's talent diagnosis and personalized development planning, mentoring programs can be designed to holistically support personalized learning recommendations and career preparation. Regular reassessments enable mentors and mentees to track progress, ensuring continuous improvement and maximizing outcomes throughout the mentoring relationship. Through the implementation of structured yet flexible tools like Evolute, mentoring can assume an even more impactful role in cultivating the human capital essential for success in today's dynamic work environments.

The case study conducted as part of this research further validates the effectiveness and practicality of the competency assessment approach, affirming its ability to provide a comprehensive view of skills and attributes while identifying areas for growth. These preliminary findings highlight the usability, clarity, and relevance of the assessment instrument for mentee evaluation, offering valuable insights into participants' competency strengths and developmental needs.

## ACKNOWLEDGMENT

This research paper is a part of the European Union (EU)-supported project "Career Intelligence" (2021-2-DE02-KA220-VET-000050347), led by the Institute of Work Science at Ruhr-Universität Bochum (RUB).

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