UNIVERSITÄT LEIPZIG

GEFÖRDERT VOM

Bundesministerium für Bildung und Forschung

TECH4COMP

MATCHING TOOLS FOR MENTORING IN HIGHER EDUCATION

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"EVERYONE WHO MAKES IT HAS A MENTOR"

LUNDING, CLEMENTS & PERKINS (1978) - HARVARD BUSINESS REVIEW

Simo Liu
https://hbr.org/2022/09/why-your-mentoring-program-should-be-mandatory

OUTLINE

1 | Research project tech4comp

2 | Mentoring in higher education: digital support

3 | Matching: studies & findings

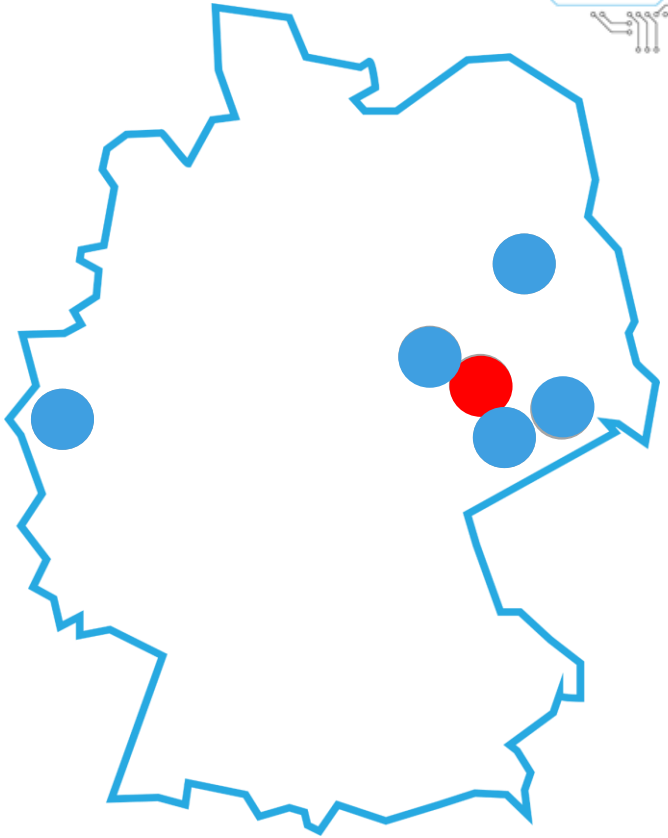
4 | Matching: challenges

5 | References

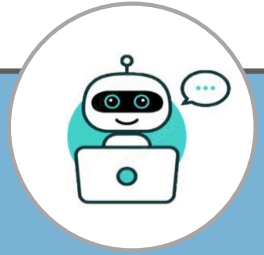
6 | Q&A

1. RESEARCH PROJECT TECH4COMP

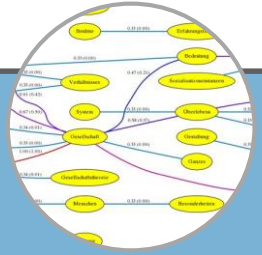
- Project goal: Personalized competence development through scalable mentoring processes - tech4comp (R&D!)
- Project participants: interdisciplinary research team at eight universities and research institutes:
  - RWTH Aachen – TU Dresden
  - DFKI Berlin – FU Berlin
  - TU Chemnitz – MLU Halle-Wittenberg
  - HTWK Leipzig – Universität Leipzig



1. RESEARCH PROJECT TECH4COMP



Tool 1
Chatbots



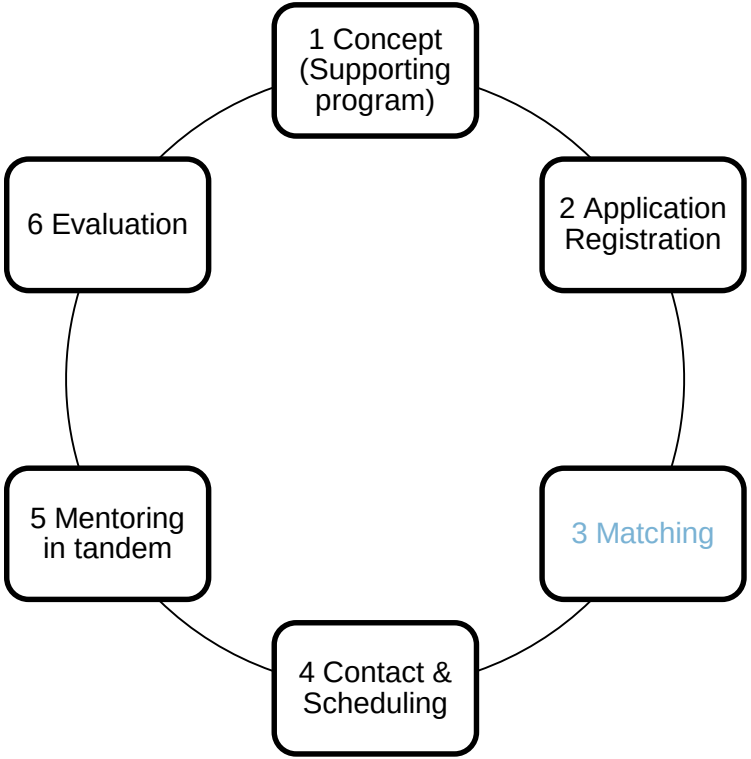
Tool 2
Text Analysis Software

Tool 3
Knowledge Map Tool

Tool 4
Matching Tool

2. MENTORING IN HIGHER EDUCATION: DIGITAL SUPPORT

- Access: giving more students the opportunity to find a mentor
- Personalisation: using the benefits of 1:1 mentoring
- Network: student-alumni mentoring is a win-win-win; not only mentees benefit (e.g. finding skilled workers, binding alumni to the university)
- Resources: time & money saving
- One Platform?



MATCHING TOOLS FOR MENTORING IN HIGHER EDUCATION

universität wien

Laura Köbiss Profil DE Abmelden

Hinweise für Mentees Hinweise für Mentor*innen Unterstützer*innen Das alma Team

home / Profil / Susanne B.

Susanne B.

Stammdaten

Studienrichtung(en)	| Wirtschaftsinformatik | Betriebswirtschaft |
Andere Sprachen, in denen ich Mentoring anbieten kann	
Warum ich mich als Mentor*in zur Verfügung stelle	In meinem bisherigen Leben war es immer wichtig Menschen in ihrer Arbeitswelt zu unterstützen, zu fördern, weiterzuentwickeln
Was ich mir von Mentees wünsche	Ernst nehmen diese Unterstützung, Termine vereinbaren und einhalten, sowie vereinbarte Arbeiten bis zum nächsten Treffen/ zu sonstigem Termin durchführen
First Generation Alumni /	Ja

Erfolge

Levels

Mentoring:
Kommunikation:
Website Aktivitäten:

ForumMentoring
Bundesverband
Mentoring in der Wissenschaft

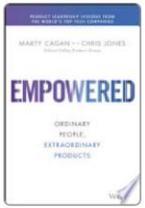
The Mentoring Club

Find your Mentors | Book Recommendations | Learning Resources | Join | Login

Our Library

A list of awesome books and learning resources, handpicked and curated by our mentors.

The 20 most recommended books



EMPOWERED - Ordinary People, Extraordinary Products

Marty Cagan

What is it about the top tech product companies such as Amazon, Apple, Google, Netflix and Tesla that enables their record of consistent innovation? Most...

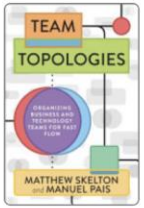
View

The Lean Startup - How Constant Innovation Creates Radically...

Eric Ries

Most new businesses fail. But most of those failures are preventable. The Lean Startup is a new approach to business that's being adopted around the world. It is...

View

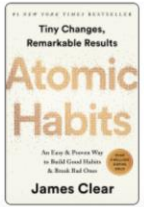


Team Topologies - Organizing Business and Technology Teams...

Matthew Skelton, Manuel Pais

Effective software teams are essential for any organization to deliver value continuously and sustainably. But how do you build the best team...

View

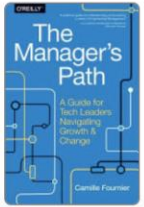


Atomic Habits - An Easy & Proven Way to Build Good Habits & Break...

James Clear

The #1 New York Times bestseller. Over 4 million copies sold! Tiny Changes, Remarkable Results No matter your goals, Atomic Habits offers a proven...

View



The Manager's Path - A Guide for Tech Leaders Navigating Growth...

Camille Fournier

Managing people is difficult wherever you work. But in the tech industry, where management is also a technical discipline, the learning curve can be brutal–...

View

The Phoenix Project - A Novel about IT, DevOps, and Helping You...

Gene Kim, Kevin Behr, George Spafford

Over a half-million sold! And available now, the Wall Street Journal Bestselling sequel The Unicorn Project "Every person involved in a failed IT projec...

View

3. MATCHING: STUDIES & FINDINGS

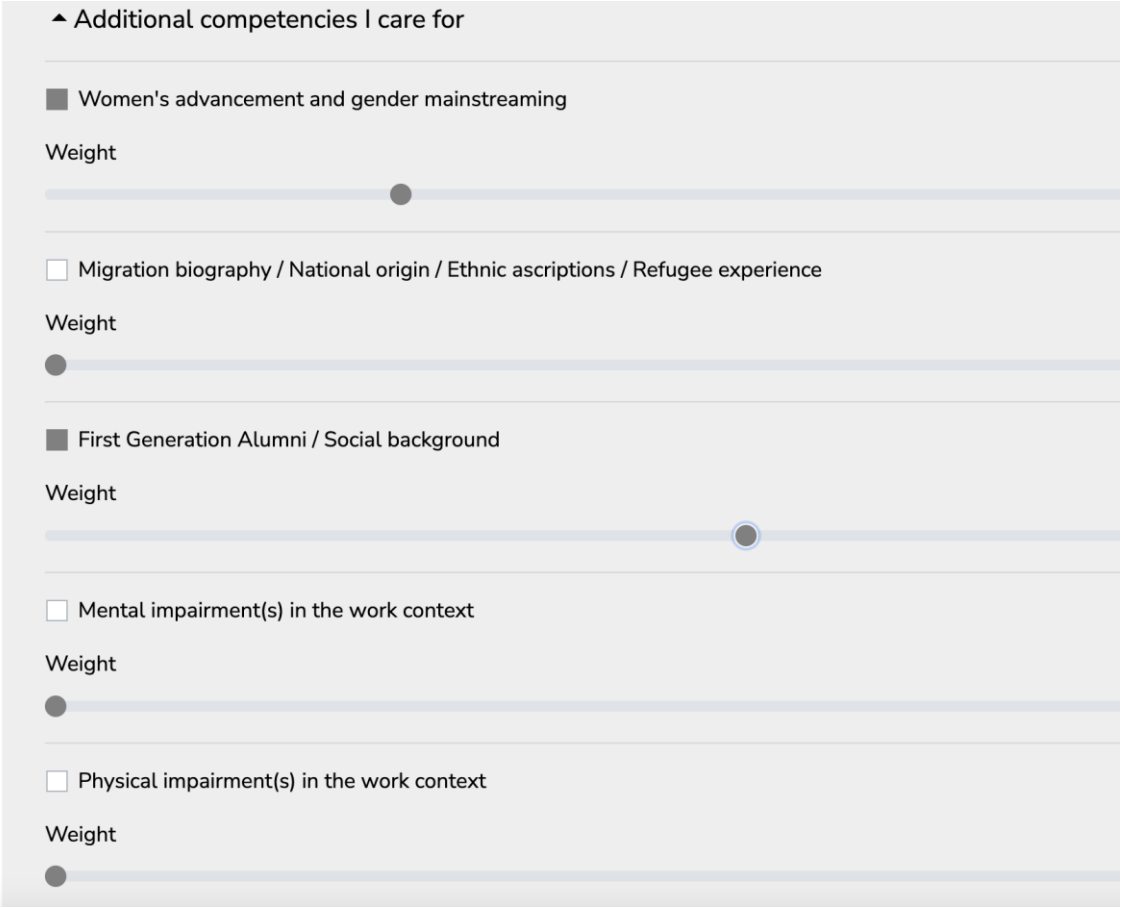
- Common interests, similar values, and shared expectations can benefit the relationship (Allen & Eby, 2007)
- beneficial personal characteristics for a mentoring relationship: "emotional stability, internal locus of control, coachability, emotional intelligence, and commitment to the profession" (Johnson and Huwe, 2003)
- Similarity between mentor and mentee with regard to the specific personal characteristics "openness to experience" and "conscientiousness" improves the results of mentoring relationships (Menges, 2016)
- Paying attention to demographic factors as well as personal interests (Fassinger and HenslerMcGinnis, 2005)
- positive effects on the mentoring relationship and higher satisfaction of the mentees by involving the mentees in the matching process (Bracher, 2018; Cornelius et al., 2016)

3. MATCHING: STUDIES & FINDINGS

DIFFERENT APPROACHES

- Who? Program coordination or the participating mentees or mentors themselves – or a combination?
- Digitally supported? Manual or automated, e. g. with the support of appropriate tools – or a combination?
- How? Criteria-guided or free (based on interviews, letters of application, questionnaires or profiles, matching criteria differ depending on the program goals and the context of the mentoring program)
- Similarity or diversity matching?

MATCHING TOOLS FOR MENTORING IN HIGHER EDUCATION



https://mentoring.uni-graz.at/en/matchmaking

3. MATCHING: STUDIES & FINDINGS

- **Study by Schäfer et al. (2016):** Mentoring program of the medical faculty (LMU Munich), examined three different matching methods regarding the establishment of a relationship and the satisfaction of the mentees with the relationship
- **190 students were randomly assigned to three methods:** 1) Personal matching (interviews) 2) Automated matching with an algorithm (on the basis of completed online profiles with questions about interests and future aspirations in the form of dropdown menus and Likert scales, mentees were given ten suggestions for suitable mentors from which they could select one mentor) 3) Own search in the online profiles of the mentors
- **Results:** through personal matching, more mentees were able to enter into a mentoring relationship; no significant differences were recorded between the different matching methods. → all matching methods are of comparable quality.

- **Study by Köbis et al. (2022):** University-wide alumni-student mentoring program at Leipzig University; two matching procedures were examined with regard to the possibility of digitization, time savings and the satisfaction of the mentees and mentors with the relationship
- **50% of the participants were matched manually** by the program coordinators, **50% by a matching tool** (Hungarian Algorithm, based on similarity measures), **42 mentoring tandems in total**
- Matching categories: „field of study, industry, expectations of the mentoring, interests & personality traits“ (registration forms on LimeSurvey)
- **Results:** Digitization of all processes was possible; time savings; both comparison groups were very satisfied with the mentoring, → the use of the matching tool made work easier and can be recommended.

4. MATCHING: CHALLENGES

- Data protection at German universities
- Data ethics (e.g. algorithmic bias)
- Interface "computer science – pedagogy"
- Transparency of the tools
- User-centric design / Usability
- Program integration and face-to-face meetings are still important, Complete digitization of the mentoring process does not seem expedient
- Empirical data on effectiveness, evaluation & further development

5. REFERENCES

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6. Q&A

1. Do you know of a career or alumni mentoring program at your university?
2. Did you ever participate in a (university) mentoring program?
3. Have you ever come into contact with a matching algorithm (dating, conference, games, movie recommendations etc.)?

THANK YOU!

Please get in touch if you are interested in this topic.

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