



ALMA MATER STUDIORUM
UNIVERSITÀ DI BOLOGNA

ARCHIVIO ISTITUZIONALE DELLA RICERCA

Alma Mater Studiorum Università di Bologna Archivio istituzionale della ricerca

Language Professionals and Culture Professionals

This is the final peer-reviewed author's accepted manuscript (postprint) of the following publication:

Published Version:

Miličević Petrović, M. (2022). Language Professionals and Culture Professionals. Newcastle upon Tyne : Cambridge Scholars Publishing.

Availability:

This version is available at: <https://hdl.handle.net/11585/901703> since: 2022-11-22

Published:

DOI: <http://doi.org/>

Terms of use:

Some rights reserved. The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

This item was downloaded from IRIS Università di Bologna (<https://cris.unibo.it/>).
When citing, please refer to the published version.

(Article begins on next page)

This is the final peer-reviewed accepted manuscript of:

Miličević Petrović, Maja (2022). Language professionals and culture professionals. In J. Toyota, I. Richards and B. Kovačević (Eds), *Second Language Learning and Cultural Acquisition: New Perspectives*. Newcastle upon Tyne: Cambridge Scholars Publishing. 92-107.

The final published version is available online at:
<https://www.cambridgescholars.com/product/978-1-5275-8676-5>

Rights / License: Copyright

The terms and conditions for the reuse of this version of the manuscript are specified in the publishing policy. For all terms of use and more information see the publisher's website.

CHAPTER ***

LANGUAGE PROFESSIONALS AND CULTURE PROFESSIONALS¹

MAJA MILIČEVIĆ PETROVIĆ

Abstract. The contemporary language industry is characterised by a growing presence of new professions requiring competences in language and technology. Even though it might seem that such developments could marginalise culture-related knowledge, this chapter claims that this is not the case, and that (inter)cultural competence remains an important asset even for the tech-focused professions. The evidence presented for this claim comes from data sources ranging from a literature review to job advertisements and interviews with industry representatives, conducted and collected within the ongoing project *UPgrading the SKills of Linguistics and Language Students*. The project identifies seven competence clusters that it proposes for inclusion in the university education of future language professionals. An (inter)cultural cluster is placed at the core, jointly with the disciplinary (language-related) and transversal knowledge and skills, and is seen as required for all students of languages and linguistics.

Introduction

Throughout history, language-related professions have been both constant and dynamically reshaped by developments in science and society. Even the longest standing professions such as those of language teachers and translators have undergone shifts in terms of methods (as in the move away from the grammar-translation to more communicative foreign language instruction and to computer-assisted language learning), as well as tools (as in the ever-growing reliance on the support of terminology databases and other automatised systems in translation). New job prospects also kept opening up, for example in interdisciplinary areas such

¹ The work presented in this chapter was conducted within, or is connected to, the Erasmus+ strategic partnership *UPgrading the SKills of Linguistics and Language Students - UPSKILLS* (grant number 2020-1-MT01-KA203-074246). Further details about the partnership are provided in section 3 of the paper.

as speech therapy or language data analytics. The educators of language professionals have typically tried to keep up with the trends, through new course offers or curricula modernisation. Today, however, we are witnessing changes that happen at an unprecedented pace, with artificial intelligence (AI) and technology improving practically on daily basis, and with new kinds of language-related job opportunities constantly emerging. As companies and public institutions across the world see their language data processing needs grow, and as big data, technology and AI become inevitable components of language professions, it is only natural to wonder if university training for such professions should be shifting more towards computer science.

In addition, given the strong contemporary focus on technical skills, a question arises if the more traditional aspects of the language professions are being supplemented or entirely replaced. In terms of education, what is the right direction to take with regard to the teaching of the current core of most degrees, languages and cultures? As the knowledge of specific languages and/or linguistics is likely to still be a pre-requisite for most language-related positions, the question seems particularly relevant for the cultural and intercultural contents. Essential for language teachers, translators, but also for positions such as brand namers, (inter)cultural competence has been one of the main pillars of the profiles associated with traditional language professions. Is this kind of competence still valued by employers or does the job market currently have more to offer to those who can program (inter)cultural knowledge into automatic systems (contributing, for example, to AI-powered brand naming platforms)?

This chapter briefly introduces the notions of cultural and intercultural competence and their role in the education and work of (traditional) language professionals, focusing then on the role these kinds of competence have in contemporary jobs related to language technology. It is shown that despite a more technical overall focus, contemporary language industry positions also need, and contemporary employers still value, (inter)cultural knowledge, skills and competences. The basis for this claim is provided in the form of some of the initial results of an ongoing Erasmus+ project *UPgrading the SKills of Linguistics and Language Students – UPSKILLS*.

The chapter is structured as follows. Section 2 defines (inter)cultural competence and it outlines how it is seen in the literature dedicated to the education of language teachers and translators. Section 3 presents some of the findings of the needs analysis conducted within the UPSKILLS project, also adding some new insights. Section 4 concludes the chapter with some

remarks on the status of (inter)cultural competence in the contemporary job market for graduates in language and linguistics related subjects.

(Inter)cultural competence and traditional language professions

Sometimes referred to as a “nebulous concept” (Deardorff 2011: 66), intercultural competence is both a complex notion and a vibrant area of research in fields ranging from business and management to language and communication. It is also labelled as cultural competence, multicultural competence, global competence, intercultural maturity, intercultural sensitivity, cross-cultural awareness (among other terms; see the overview in Deardorff 2011: 65-66), and is fairly difficult to define and characterise precisely. Deardorff (2006) can be taken as an example of a model that attempts to define intercultural competence including measurable learning outcomes that should help lecturers and other stakeholder set goals and evaluate its presence in students; the outcomes are divided into internal (adaptability, flexibility), and external (appropriate communication and behaviour), both based on the development of specific attitudes (respect, openness, tolerance to ambiguity), knowledge (cultural self-awareness, deep cultural knowledge), and skills (listening, observing).

When it comes to the study of language(s), cultural and intercultural competence have received a lot of attention in particular in relation to language learning/teaching and translation, where they have long been recognised as vital, and where their appropriate incorporation in study programmes has been extensively studied. Even though a distinction can be made between cultural competence as related to a single linguistic and/or cultural community (e.g. general knowledge of a country’s institutions, current affairs, or the arts), and intercultural competence as a more complex construct that captures multiple communities (in the words of Tomozeiu *et al.* 2016: 253, “moving between two entities or residing in a hybrid space in-between or being able to adapt fluently to situations with coexisting cultural influences from various directions”), separating these two constructs is not of primary interest for this chapter and in what follows they will be referred to jointly.

A widely used framework in the context of language learning and teaching is M. Byram’s (1997) intercultural communicative competence model, which builds up on the sociolinguistic notion of communicative competence, and which views intercultural communication as “interaction among people of complex cultural and social identities” (Byram 1997: 4). Intercultural communicative competence thus conceived is composed of

attitudes (curiosity, openness), knowledge (of social groups and processes of societal interaction), skills of interpreting and relating (ability to interpret an event from another culture and relate it to one's own), skills of discovery and interaction (ability to acquire new knowledge of a culture and cultural practices), and critical cultural awareness (an ability to critically evaluate one's own and other's culture).

Since translation necessarily constitutes an interlinguistic *and* intercultural enterprise, intercultural competence has also been under the spotlight in translation studies, including the training of translators. A dedicated project, *Promoting Intercultural Competence in Translators* (PICT 2012), established a widely-used intercultural competence framework and offered plans and materials for incorporating intercultural competence in translator training. Alongside other authors, Tomozeiu *et al.* further discuss the teaching of intercultural competence; according to their position paper, “an intercultural competent translator is one who demonstrates a high level of intercultural knowledge, skills, attitude and flexibility throughout his or her professional engagements” (2016: 256). The building blocks of intercultural competence these authors extract from the literature substantially overlap with those proposed in language learning/teaching (and other contexts), including curiosity, the capacity to identify differences between cultures, and the ability to handle differences and uncertainty; the authors also caution about distinguishing between elements such as curiosity and adaptability as personality traits versus intercultural attitudes whose acquisition can be assessed.

Overall, (inter)cultural competence is widely recognised as essential for the traditional language professions (and beyond). While divergences between theoretical approaches are inevitably present, there appears to be a consensus about (inter)cultural competence being a complex, multi-component construct that needs to be both implicitly nurtured and explicitly taught – in the case of the language professions, alongside the core competences related to the knowledge of language(s).

(Inter)cultural competence and the contemporary job market – insights from the UPSKILLS project

Turning to the language professions that can be referred to as contemporary, in the sense that they are more inherently related to language technology and its development, (inter)cultural competence becomes a central issue in a possibly different way, as the question arises if it is still to be seen as crucial. As an opening to the discussion of this issue, a quote is reported from Leung *et al.* (2014: 490), who begin their

literature review dedicated to intercultural competence in organisational contexts in the following way:

At the turn of the century, Bandura (2001, p. 12) remarked, ‘Revolutionary advances in electronic technologies and globalization are transforming the nature, reach, speed, and loci of human influence.’ Although an emerging global village offers exciting new experiences and ideas, persisting hot spots of intercultural conflict around the world serve as stark reminders of the malevolence of cultural misunderstandings, tensions, and intolerance.

Slightly less than ten years later, technology is even more advanced, AI is an integral part of many people’s daily lives, but the intercultural conflict appears to be as present as ever, highlighting the need for continued work and focus on competences that will prevent, or at least reduce such conflicts.

This section provides evidence of (inter)cultural competence being required for the contemporary job market by presenting some of the findings related to a project focused on the language-and-technology job positions and the knowledge, skills and competences typically associated with them. The project in question, *UPgrading the SKills of Linguistics and Language Students – UPSKILLS*, is an Erasmus+ strategic partnership involving six core partner institutions (University of Malta as the coordinator, University of Belgrade, University of Rijeka, University of Bologna, University of Graz and CLARIN ERIC), with two associate partners from Switzerland (University of Zurich and University of Geneva).² The planned duration of the project is three years, from September 2020 to August 2023.

The UPSKILLS partnership is dedicated to precisely identifying and tackling gaps between the typical knowledge, skills and competences obtained in current language and linguistics courses (especially at the BA level), and those required by the contemporary job market. The rationale is that compared to the language industry, increasingly oriented towards using AI and automated data processing, university courses in languages and linguistics still tend to be rather traditional, possibly depriving students of some new job opportunities. The final objective of UPSKILLS

² The main funding body is the national Erasmus+ agency of Malta (<https://erasmusplus.eupa.org.mt>), while the Swiss partners are funded by the agency *Movetia - Exchange and Mobility* (<https://www.movetia.ch/en/>). The project website can be found at <https://upskillsproject.eu>.

is to provide learning/teaching materials that can easily be implemented in existing courses to help enhance the student profile towards typical industry requirements, enabling language and linguistics graduates to have a fair standing in the competition with graduates in areas such as computer science, who currently have an advantage when applying for language technology jobs despite typically lacking in-depth knowledge about language.

The following subsections outline some of the findings that emerged from the needs analysis conducted as the first intellectual output of the UPSKILLS project. The analysis included six components: (1) a survey of existing European university curricula in languages and linguistics, (2) a literature review, (3) a creation and study of a corpus of language-and-technology job advertisements, (4) a questionnaire for representatives of the language industry, (5) interviews with a group of industry stakeholders, and (6) a summary report that proposed a new target profile for graduates from language and linguistics courses.³ Since this needs analysis primarily focused on what is missing rather than on what is traditionally present in language-related university degrees, (inter)cultural knowledge, skills and competences did not feature prominently in it; the findings of the analysis will for this reason be supplemented with some additional explorations of the collected data.

Survey of curricula

The first step in the UPSKILLS needs analysis was a survey of Bachelor and Master's curricula in language and linguistics degrees implemented at European universities (see Gledić, Đukanović *et al.* 2021). This survey explored the extent to which the skills, experience, and knowledge expected to be underrepresented (based on a previous preliminary analysis) are indeed absent from the curricula of the relevant degrees. The focus was on the presence of research skills (research methods, problem solving, project management), data acquisition skills (experimental data collection, the use of linguistic corpora, programming), data handling skills (standards and repositories for data conservation, statistical analysis, machine learning), and cross-cutting components (linguistic theory, research management). Since (inter)cultural competence was not among the areas judged as critical, for the purposes of the present chapter, we revisit the data collected in the survey and conduct a focused (basic) textual analysis on them.

³ A full set of six reports is available at <https://upskillsproject.eu/deliverables/>. Items (4) and (5) will be presented together in this chapter.

The survey of curricula consisted in drawing a list of European language and linguistics degrees, followed by the creation and analysis of a smaller representative sample.⁴ The initial list was built from the teaching offer of European higher education institutions included in the QS World University Rankings in the areas of linguistics and modern languages.⁵ Since the UPSKILLS project is focused on skills most likely to be found in linguistics courses, where degrees in linguistics were offered, degrees focusing more on philology, literature, culture, translation or language teaching were not included. A smaller sample was then drawn taking into account the country where the degree is offered, the level of study (BA vs. MA), and the QS ranking in linguistics (1-50, 51-100, 101-150, 151-200, 201-250, 251-300, not ranked). The final sample included 122 degrees, for which detailed information was gathered on subject lists and learning outcomes.

Gledić, Đukanović *et al.* (2021: 13) report three occurrences of culture-related terms (two of *cultural* and one of *intercultural*) in degree names, further confirming the overall linguistic focus of the analysis. The frequencies of relevant terms found through additional searches in the text of degree descriptions, learning outcomes and subject lists (a total of 43,397 word tokens) is shown in Table 1; the searches were performed in AntConc (Anthony 2020) using a combination of regular expressions and words with the root *cultur*. Note that the reported frequencies are to be taken as an approximation, since some of the course descriptions and learning outcomes were available only in local languages (e.g., Romanian or Italian), and were translated into English with the help of the Google Translate service (<https://translate.google.com>).⁶

Given the approach adopted in the selection of degrees, it was expected for frequencies of culture-related terms to be much lower than those of terms such as *linguistic(s)* (1031) or *language(s)* (1405). However, the very fact that learning outcomes and courses concerned with (inter)cultural topics are present even in clearly linguistically focused degrees testifies to their being indeed fairly well covered in existing curricula. In addition, it can be noted that some of the contexts within course descriptions and presentations clearly assign a positive value to (inter)cultural competence.

⁴ An additional sub-study was performed on a selection of degrees that the partners identified as exemplary; however, these degrees will not be analysed here.

⁵ The QS Rankings (<https://www.topuniversities.com/university-rankings>), published by the UK-based company Quacquarelli Symonds, represent one of the most influential and longest standing university ranking systems.

⁶ Given the fundamentally non-translational nature of the analysis, this specific machine translation engine was chosen as a fast and easily accessible solution, without performing any quality checks.

A description of a course at the Royal Holloway University of London can be taken as an example, which presents the students' study and career prospects as follows: "You will have developed the kind of sensitivity to different cultures that is highly prized in the workplace." (see Gledić, Đukanović *et al.* 2021: 17).

Table 1. The frequency of culture-related terms in the UPSKILLS survey data

Term	Frequency of occurrence	Term	Frequency of occurrence
<i>cultural</i>	76	<i>interculturalism</i>	2
<i>culture</i>	72	<i>interculturality</i>	2
<i>intercultural</i>	29	<i>transcultural</i>	1
<i>cultures</i>	27	<i>culturology</i>	1
<i>cross-cultural</i>	10	<i>socio-cultural</i>	1
<i>multicultural</i>	4	<i>historical-cultural</i>	1
<i>multiculturalism</i>	2		

Insights from literature

The review of the literature (Bernardini and Miličević Petrović 2021) focused on three different types of sources that discuss the knowledge, skills and competences required of 21st-century language and linguistics students: industry surveys, institutional position papers, and academic papers by scholars in languages/linguistics and education studies. The objective was to discover how the rapid changes in the job market, and especially those related to the development of technology and AI, are perceived and addressed by different stakeholders.

A total of six clusters of knowledge and skills emerged as important for twenty-first century students of language and linguistics, with (inter)cultural awareness as one of them (the remaining clusters are the core disciplinary knowledge related to language, interpersonal and entrepreneurial skills, technical skills, data manipulation skills and research skills). "Cultural agility", "cultural awareness", "awareness of cultural differences", and "a thorough understanding of the local context" were specifically mentioned as important, as was a more practical "ability to localize and personalize content accordingly" (an ability dependent on (inter)cultural knowledge, skills and competences). In line with the survey of curricula, the skills from the (inter)cultural cluster are typically seen by the authors of the reviewed papers as non-problematic and well-covered in existing education.

Evidence from a corpus of job advertisements

The third component in the UPSKILLS needs analysis was a corpus-driven study of job advertisements (Ferraresi *et al.* 2021). This part of the analysis had the objective of providing an overview of the knowledge, skills and competences listed in job advertisements targeting graduates in language-related degrees, as well as typical tasks and responsibilities associated with the advertised positions. The corpus was created through manual searches and collection of job adverts published on websites of technology companies, job announcement boards on linguistics-related websites (e.g., the LinguistList)⁷, and general-purpose job platforms such as LinkedIn⁸. Similarly to what was decided in other components of the needs analysis, there was a clear focus towards linguistics (some websites were explored through focused searches using the terms “linguist”, “linguistics”, “data”, and “language specialist”), which lead to a fairly modest presence of cultural components.

The corpus features around 200 advertisements that describe positions requiring a combination of language/linguistics and digital or research skills (for a more detailed description, see Ferraresi *et al.* 2021; the corpus itself can be consulted via the NoSketch Engine platform of the Department of Interpreting and Translation at the University of Bologna, by selecting UPSKILLS at https://corpora.dipintra.it/public/run.cgi/first_form).

Since the initial analysis by Ferraresi *et al.* (2021) reported no terms related to (inter)cultural competence, an additional targeted search was performed in the corpus. Applying the regular expression *.*cultur.**, 111 instances of words with “culture” or “cultural” as the root were identified and manually inspected. The frequency of occurrence of each individual term is shown in Table 2.

Table 2. The frequency of culture-related terms in the UPSKILLS job ad corpus

Term	Frequency of occurrence	Term	Frequency of occurrence
<i>culture</i>	53	<i>intercultural</i>	1
<i>cultural</i>	29	<i>culturally</i>	1
<i>multicultural</i>	13	<i>cross-culturally</i>	1
<i>socio-cultural</i>	5	<i>subcultures</i>	1
<i>cultures</i>	4	<i>cultural-specific</i>	1
<i>cross-cultural</i>	2		

⁷ <https://linguistlist.org>

⁸ <https://www.linkedin.com>

Zooming in on the individual words, the most frequent noun, *culture(s)*, constitutes an interesting case of uses split between those related to specific languages and cultures or to interculturality (see examples (1) and (2))⁹, those related to other specific types of culture (e.g., *pop culture*; see also (3)), and those related to the workplace (*employee-first culture*, *collaborative culture*, *experimentation culture*, *culture of diversity and inclusion*, *a culture of innovation*; see also examples (4)-(5)).

- (1) You are passionate about Japanese *culture* and language. (Amazon001)
- (2) Most of our analysts and strategists are bilingual, allowing us to not just understand language from real people, but also the local nuances of *culture*. (Freemav001)
- (3) Expert knowledge of GenZ *culture*, languages and trends in your market (Linkedin009)
- (4) Brand new, state-of-the-art offices with a fun and engaging *culture*. (Jora002)
- (5) We are dedicated to fostering a *culture* that celebrates unique backgrounds, ideas and experiences. (Lexia001)

As illustrated in (6)-(7), the adjective *cultural* occurs in contexts referring to *knowledge*, *skills*, *expertise* and *proficiency*, but also to *diversity*, *nuances and implications*, *issues and concerns*, as well as *topics*, *evaluation*, *advisement*, *norms*, *awareness* and *sensitivity*.

- (6) You will use your *cultural* and linguistic acumen to tackle some of society's toughest challenges. (Linkedin003)
- (7) Knowledgeable of idioms, colloquialisms, slang, and have a sophisticated understanding of the *cultural*, social, and political environment in which the language is used (Linkedin031)

Finally, adjectives referring to a crossing of multiple cultures (*cross-cultural*, *intercultural*, *multicultural*) tend to co-occur with *communication* on the one hand and with “group/setting words” such as *team*, *group*, *environment*, *setup* or *atmosphere* on the other, with *experience* also

⁹ Examples are extracted from the concordances obtained in the search for the regular expression **culture** using CQL as query type. The text ID is provided in brackets.

occurring (see examples (8) and (9)). Interestingly, being “autonomous cross-culturally” is also listed as a requirement in one of the adverts.

- (8) [...] hosts an open, friendly and *multicultural* atmosphere with different nationalities (Toplang002)
- (9) Experience in *intercultural* communication and problem-solving (Lexia001)

Feedback from industry representatives

The fourth and fifth steps in the UPSKILLS needs analysis were dedicated to feedback from industry representatives, collected through a questionnaire (Gledić, Budimirović *et al.* 2021) and a series of interviews (Assimakopoulos *et al.* 2021) with business sectors hiring linguists and language professionals.

The questionnaire contained questions formulated based on the analysis of the corpus of job advertisements. Most questions were closed-ended, with an “Other” option that could be used for expressing more personalised views, and with some space at the end for comments. The target group were employers from digital and data-intensive sectors; a total of 70 responses were collected from companies of different sizes, coming from several European countries and from businesses ranging from language service providers to marketing and finance. Since the closed-ended questions did not contain any options related to it, (inter)cultural competence was unsurprisingly quite underrepresented in the answers, with only one industry representative listing “linguistic and cultural awareness” under “Other” in response to the question “What are the most important skills you look for in the staff you hire for language and/or linguistics tasks?”.

Some more information was obtained in the semi-structured interviews with eleven industry representatives (language service providers, language technology companies, but also automotive industry and insurance services). The interviewees were shown slides with the questionnaire results and were asked to comment on whether these were in line with their own experience. The responses were written down in the form of structured notes whose content was analysed.

Sensitivity towards cultural diversity and knowing the local context in addition to the local language with its different registers were commented on as important, as illustrated by a quote from Assimakopoulos *et al.* (2021: 35): “We need resources that are globally marketable. Our approach relies on understanding the logic of a language. We value the

knowledge of language differences more than specific language knowledge. Having some experience abroad is highly valued as it makes prospective employees more sensitive towards cultural diversity.” On a more practical side, cultural knowledge has been emphasised as needed for translating and localising (Assimakopoulos *et al.* 2021: 36): “[...] if they have to translate software, some cultural knowledge is needed because the software products need to be localised to meet the needs of the people who live in that country.”

Even if not explicitly mentioned as already being satisfactory, (inter)cultural awareness it is not listed under areas in need of improvement, meaning that it is generally judged as adequate.

The *language data and project specialist* profile

The findings of all of the individual elements in the UPSKILLS needs analysis are summed up in the profile of *language data and project specialist*. This profile is intended as a generic target for contemporary students of languages and linguistics. As can be seen in Figure 1 (from Miličević Petrović 2021a), the knowledge, skills and competences related to this profile are grouped in seven clusters, one of which is labelled as “(inter)cultural.”

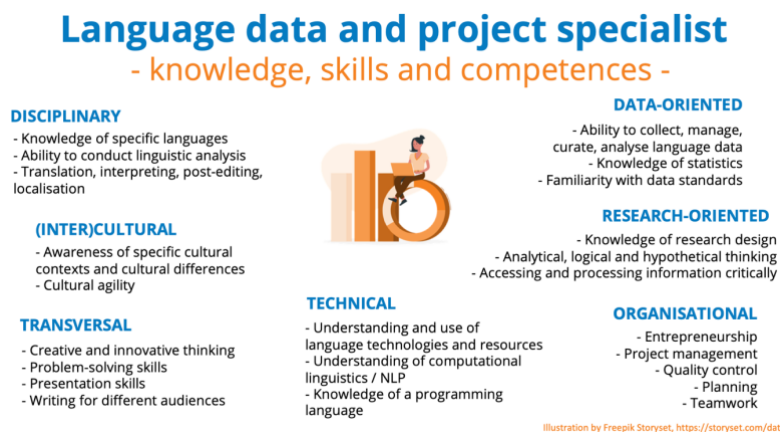


Figure 1. The *language data and project specialist* profile

Miličević Petrović *et al.* (2021: 17) provide a more detailed description of this cluster, repeated in Table 3 below. In doing so, the authors also clarify (*ibid.*, p. 18) that the comparatively low number of items listed

does not imply a lack of importance of this cluster, but represents a consequence of the fact that the UPSKILLS needs analysis was primarily oriented towards what is highlighted as missing or insufficiently present in existing curricula and in the graduates formed through them. Jointly with disciplinary and transversal clusters, a high level of (inter)cultural knowledge, skills and competences is seen as crucial for all tasks and responsibilities related to the outlined profile, from linguistic data collection to communication with teams, vendors and clients (*ibid.*, pp. 19-20).

Table 3. The language data and project specialist profile – learning outcomes in the (inter)cultural cluster

Knowledge	Skills	Competences
<ul style="list-style-type: none"> • Knowledge of specific cultural contexts • Awareness of cultural differences 	<ul style="list-style-type: none"> • Ability to understand different local contexts • Cultural agility 	<ul style="list-style-type: none"> • Transcreating, localising and personalising content in accordance with cultural differences

Lastly, the (inter)cultural cluster remains central in the definition of four sub-profiles shown in Figure 2 (from Miličević Petrović 2021b). While these sub-profiles capture inclinations towards more research-oriented vs. more management-oriented careers, they all have an underlying basis composed of the core disciplinary knowledge coupled with (inter)cultural elements, transversal and technical skills.

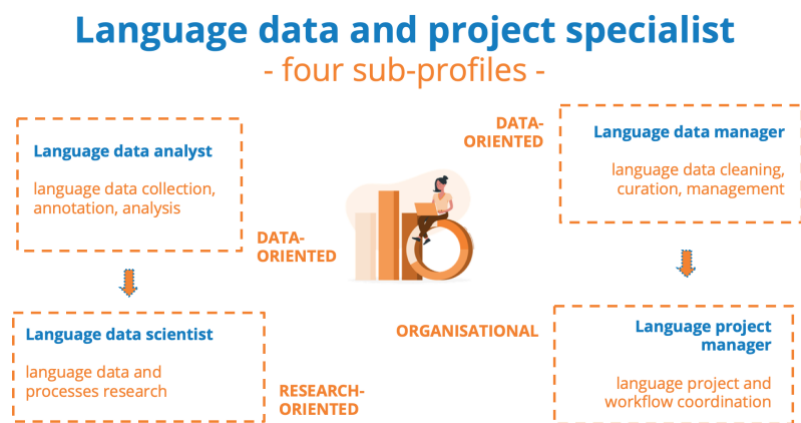


Figure 2. The sub-profiles of the language data and project specialist profile

Conclusion: Do language professionals still need to be culture professionals?

Language professions are undoubtedly undergoing major changes, mostly brought about by the developments in the domain of AI and automated language processing. Advances in recent years have been such that systems capable of creative writing already exist, some strikingly successful (see Brown *et al.*'s 2020 GPT-3 as an example), and machine translation is in some cases more accurate than student translations (see e.g. Bernardini 2020). With such developments in mind, it appears justified to ponder over the career prospects of current and future language and linguistics students, and to dedicate attention to introducing in their study programmes new topics and skills that could put them in a more equal position when competing with graduates from computer science, data science, or computational linguistics. Automatic text processing, programming, machine learning, quantitative data analysis all constitute domains that certainly deserve more presence in existing curricula, together with problem-solving and other research skills.

However, as evidenced both by the literature and by the results of the UPSKILLS project outlined above, these (relatively) new areas should not be seen as a replacement for the currently prominent ones. Disciplinary knowledge related to specific languages and linguistics remains at the core of the new UPSKILLS profile(s) proposed as target(s) for language and linguistics graduates, immediately followed by (inter)cultural knowledge, skills and competences. In other words, in order to become language professionals, 21st-century graduates from language and linguistics courses should also receive appropriate education for becoming culture professionals.

References

- Anthony, L. 2020. *AntConc (Version 3.5.9)*. Tokyo, Japan: Waseda University. Online <https://www.laurenceanthony.net/software>
- Assimakopoulos, S., M. Vella, L. van der Plas, M. Miličević Petrović, T. Samardžić, I. van der Lek, S. Bernardini, A. Ferraresi & M. Pallottino. 2021. Graduate skills and employability: Focus interviews with selected job market stakeholders. *UPSKILLS task report*.
- Bandura, A. 2001. The changing face of psychology at the dawning of a globalization era. *Canadian Psychology*, 42, 12-24.

- Bernardini, S. 2020. If artificial intelligence is making our students dumb, can CADS make them smarter? Learning from corpora in the time of big data. Plenary address at the *Corpora and Discourse International Conference 2020*, University of Sussex/online, 17-19 June 2020. <https://corporadisoursecom.wpcomstaging.com/plenary-speakers/>
- Bernardini, S. & M. Miličević Petrović. 2021. Toward a new profile for twenty-first century language specialists: Industry, institutional and academic insights. *UPSKILLS task report*.
- Brown, T.B., B. Mann, N. Ryder, M. Subbiah, J.D. Kaplan, P. Dhariwal, A. Neelakantan, P. Shyam, G. Sastry, A. Askell, S. Agarwal, A. Herbert-Voss, G. Krueger, T. Henighan, R. Child, A. Ramesh, D. Ziegler, J., Wu, C. Winter, C. Hesse, M. Chen, E. Sigler, M. Litwin, S. Gray, B. Chess, J. Clark, C. Berner, S. McCandlish, A. Radford, I. Sutskever & D. Amodei. 2020. Language models are few-shot learners. *Advances in Neural Information Processing Systems*, 33, 1877-1901.
- Byram, M. 1997. *Teaching and Assessing Intercultural Communicative Competence*. Clevedon: Multilingual Matters.
- Deardorff, D. K. 2006. The Identification and Assessment of Intercultural Competence as a Student Outcome of Internationalization at Institutions of Higher Education in the United States. *Journal of Studies in International Education*, 10, 241-266.
- Deardorff, D. K. 2011. Assessing intercultural competence. *New Directions for Institutional Research*, 149, 65-79.
- Ferraresi, A., G. Aragrande, A. Barrón-Cedeño, S. Bernardini & M. Miličević Petrović. 2021. Competences, skills and tasks in today's jobs for linguists: Evidence from a corpus of job advertisements. *UPSKILLS task report*.
- Gledić, J., M. Đukanović, M. Miličević Petrović, I. van der Lek & S. Assimakopoulos. 2021. Survey of curricula: Linguistics and language-related degrees in Europe. *UPSKILLS task report*.
- Gledić, J., J. Budimirović, M. Đukanović, T. Samardžić, S. Jukić, A. Ferraresi, G. Aragrande, L. van der Plas, I. van der Lek & N. Soldatić. 2021. Survey of business sectors hiring linguists and language professionals. *UPSKILLS task report*.
- Leung, K., S. Ang & M.L. Tan. 2014. Intercultural competence. *The Annual Review of Organizational Psychology and Organizational Behavior*, 1, 489-519.
- Miličević Petrović, M. 2021a. The UPSKILLS profile(s). Presentation at the first UPSKILLS multiplier event *Every time I hire a linguist... Emergent tech profiles for linguists, translators and language experts*. Online event on Zoom, 25 June 2021.

- Miličević Petrović, M. 2021b. A new Profile for Language Data and Project Specialists. Presentation at the *CLARIN Café: Towards Guidelines for Integrating CLARIN into Teaching - Lessons Learnt from UPSKILLS*. Online event on Zoom, 1 December 2021. pp. 24-27.
- Miličević Petrović, M., S. Bernardini, A. Ferraresi, G. Aragrande & A. Barrón-Cedeño. 2021. Language data and project specialist: A new modular profile for graduates in language-related disciplines. *UPSKILLS task report*.
- PICT – Promoting Intercultural Competence in Translators. 2012. Intercultural Competence Curriculum Framework.
- Tomozeiu, D., K. Koskinen & A. D’Arcangelo. 2016. Teaching intercultural competence in translator training. *The Interpreter and Translator Trainer*, 10, 251-267.