Translator Training and Competence in the Arab World: Policies and Methodological Bases

By

Mohammad Amin Hawamdeh
Faculty of Arts, Jerash University, Jordan
Email: m.a.hawamdeh78@gmail.com

Mohammed H. AlAqad
Management and Science University, Malaysia
Email: alakkadmohmad@yahoo.com

Abstract

The purpose of this study is to investigate the policies and methodological basis of translator training and competence in the Arab world. As the translator's profession is constantly developing due to technological advances and the industry's growing needs for language services and solutions, a translator needs to be well-trained and really competent to keep up with the ever-changing conditions the whole world is witnessing. Methodically, a four-facet interview was made in person with professors of translation studies at Jordanian universities and virtually with others from different Arab countries. The subject participants were asked to discuss what university curricula and/or training programs should emphasize in terms of bilingualism, culture, technology, and personal development. A solid methodological foundation was discovered to be necessary for training translators in such an Arab environment as Jordan, in the form of short-term courses (at the tertiary level with renewable curricula by universities) emphasizing mother and foreign language proficiency, general knowledge, and subject-matter specialty, and ii) long-term practices (with relevant policies and appropriate actions by higher councils) addressing CAT tools, machine translation engines, and project management tools. Expected to cater to specific market niches, practicums (or internships) were also found to be good places for novice or trainee translators to be capable of addressing long texts, working to deadlines, interacting with clients, and processing poorly written SL texts. It is an academic-vocational dichotomy to bridge the gap between what is being taught to student translators and what the market is willing to pay for.

Keywords: Translator training, translation competence, university curricula, Arab world/Jordan, challenges.

1. Introduction

From a purely linguistic perspective, translation competence (TC) might be first tackled as a specific term by Chomsky (1965). It is almost defined to be the ideal user's perfect knowledge of the language in a homogeneous speech community. In a translational context, however, this definition still lacks an important aspect, which is the user's familiarity with both source and target languages (cf. Neubert, 2000), along with such other competencies as the cultural, textual, subject-specific, and research ones (Schäffner & Beverly, 2000; Pym, 2003). In 2010, Seböková created a competency model to train translators more efficiently and productively. Along with several other factors to be classified into primary and secondary, she argued that linguistic competence is essential for the translation profession (see Figure 1 for further illustration). TC can eventually be "the underlying system of knowledge and skills

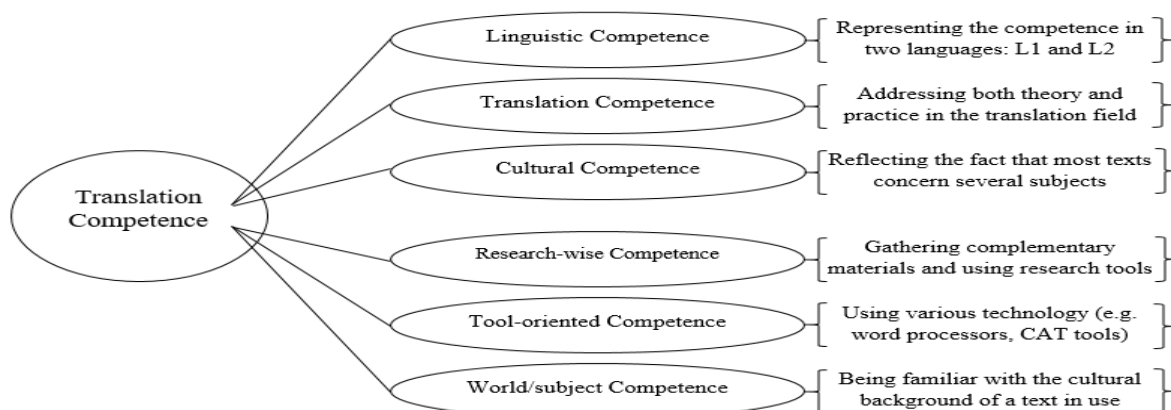needed [for a translator] to be able to translate" (PACTE, 2011).[1]

Figure 1. Translation Competence Model Adapted from Sebokova's (2010)

The knowledge of the language on all critical, analytical, and practical levels is what translators almost need nowadays, along with transferable abilities for professional performance and considerable translation skills and technologies. In this vein, a translator's progressive profile results in a shift in any academic or training program, the matter of which helps improve those translation-related skills and abilities (cf. Horbacauskiene, 2017) and, hence, meet the employers' expectations in the translation industry. Actually, the Arab world is still witnessing significant changes in this vibrant industry, with employers deciding that fresh graduates need to be empowered so that they can act skillfully in changing settings. As a result, the current study seeks to answer the following two research questions:

1) What principal factors (or parameters) does a good model of competence involve for translator training in the Arab world?

2) Are there any ancillary components needed for enhancing the competence of the Arab translators?

2. Related Literature

2.1 Human Translator and 'Tools'

Qinai (2010) presented an eclectic multi-component approach involving an interdisciplinary set of skills aimed at meeting market demands after reviewing traditional methodologies of translator training. He contended that special-purpose translation courses and think-aloud protocols, along with mechanisms such as self-monitoring and evaluation, could complement group enterprises by providing student translators with: i) a good understanding of the productive tactics of a TL text and ii) labor division and teamwork collaboration. In the same respect, Ketola et al. (2018) examined an international online course on multi-modality for a number of postgraduate candidates majoring in the field of translation in 2016 taught by 13 lecturers in Europe. They attempted to find ways for students to interact with each other in an e-learning environment as the used sets of data were collected from their virtual discussions on the given platform, peer grading submissions, and final course evaluation forms.

On a related topic, Núñeza & Bolaños-Medina (2018) stressed that in connection with problem-solving activities, translation as a decision-making process is still at the core of

---

[1] PACTE stands for the process of acquisition of translation competence and evaluation.

process-oriented research. Reviewing all and any key contributions to this particular area, they analyzed both concepts of competence and self-motivation in translation and psychology. As a descriptive, correlational study of three variables, it assessed the possible effect(s) of those concepts on the achievement of the self-perceived problem-solving efficacy of trainee translators. Actually, much interest has been paid to this issue of translator training in the research community of translation studies (cf. Salamah, 2021; Çetin, 2020). This necessity has motivated research into the skills, abilities, and competencies that a highly qualified and skillful translator really needs for effectively performing his/her tasks.

Technically, developing information literacy on online translator-training platforms is a necessity. The role(s) such an information skill as web-searching could play as a cognitive activity in translation is highly important (cf. Raido, 2011). In point of fact, translator competence must be re-thought against the rapid and dramatic advances in technology (Öner Bulut, 2019; Göral, 2021; Hürman, 2020). In line with the social constructivist approach to translator training, his study focuses on a pathway to be followed for framing the competence of the human translator supposed to compete or collaborate with machines. In this vein, Rumaih (2021) investigated the integration of computer-assisted translation tools into translator-training courses in Saudi Arabia. These tools could be very useful in various translating tasks as long as they are effectively integrated into the translator-training programs in university contexts.

2.2 Culture and Language in Competence

Translators of specialized/LSP texts must be culturally educated and trained using effective methods. Ilynska et al. (2017) investigated this efficient methodology in developing a student translator's thematic, linguistic, and cultural competencies using popular LSP texts in the respective fields as one of the main media. The methodology was previously tested on a group of professional Master's students at Riga Technical University, Latvia. An opportunity could be provided for structuring and expanding the students' background knowledge to account for linguistic innovation with highly relevant teaching methods in an online learning setting. In the same respect, Gubanova & Shirokolobova (2019) attempted to organize and individualize the learning activities of student translators in keeping with their specialized activities in the future. Professionally oriented teaching of translation also includes how to work with all and any related terms and concepts.

Even though the two fields share a communicative orientation, teaching translation in conjunction with EFL pedagogy is not entirely positive. Atari and Radwan (2013) attempted to characterize the shortcomings of L2 reading strategies and genre writing conventions for undergraduate trainee translators from a bilingual perspective. They revealed how those persons failed to employ any top-down or bottom-up processes in a bi-directional manner in reading SL texts and identify the genre conventions in such (completely different) language systems as Arabic and English. In actual fact, it is highly essential to maximize the training curricula in English taking into account the courses on language abilities. For this purpose, Sharif (2016) examined Sebökova's (2010) model of TC for measuring the areas of competency in need of development at a Master's level of education.

As to the asymmetry between endangered and dominant languages, a focus is also to be paid to individual agents learning and practicing translation. Koskinen & Kuusi (2017) reported the basic obstacles facing translator-training courses scheduled in 2015-2016 for language activists of Karelian in Finland. They analyzed three data sets: course materials in the form of lectures and exercises, field notes those activists could keep by observation, and

reflective assignments with feedback. Also, García (2017) argued that teaching and learning a foreign language is considerable across different stages of education in Spanish universities. Aside from general language training, language for special purposes also establishes an abundant field of study. The classroom teaching strategies used by 58 foreign language lecturers were investigated in order to get insight into actual practices in this particular domain.

3. Research Method

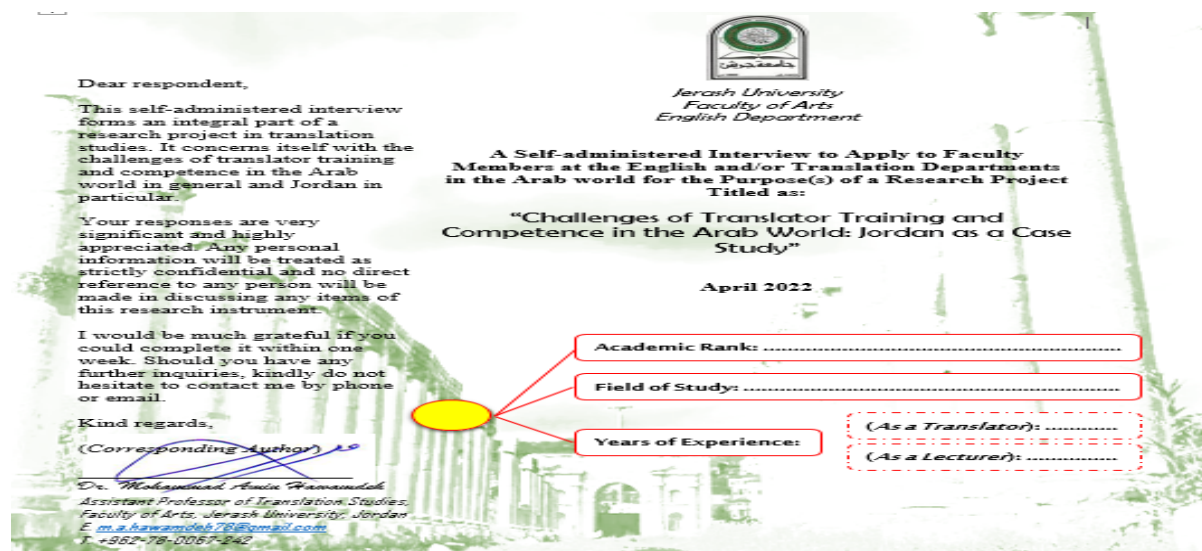## 3.1 Sampling Frame and Sample Size

Figure 2. *The Cover Page of the Self-administered Interview Distributed*

All future university professors and/or translator educators in the Arab world who work in the Arabic-English and English-Arabic language pairs are considered to be members of the population of concern (PoC). In general, academics who had neither taught translation nor conducted translation work were untargeted. They might not be able to comprehend the obstacles, challenges, policies, or issues local translators are dealing with. According to the aforementioned sampling frame, each respondent might be chosen as a sample size by themselves, which could explain why just 30 copies were given out. A separate study could be conducted on each respondent or group of respondents (Dornyei, 2003, p. 70). Actually, the precise locations targeted for the aim of the present study were universities and educational institutions.

Thirty copies of the self-administered interview were given to translation teachers in Jordan and other Arab nations. The Jordanian respondents were either reached by phone or met in person, whilst the other respondents were simply contacted via Facebook or WhatsApp because the researcher had already communicated with them through a number of online events or webinars. For practical purposes, a specific (convenience or opportunity) sample that was close by, available at a specific time, and located in a convenient location was chosen (cf. Dornyei, 2003). A number of twenty-three (23) copies were returned within a period of about three weeks (i.e., February 26 to March 11, 2022). The subject respondents were 13 faculty members from five Jordanian universities plus 11 others from such Arab countries as Egypt, Palestine, Algeria, and Iraq.

3.2 Instrument: Self-administered Interview

The self-administered interview was created using four binary sets of data based on the relevant literature. Each set focused on one of the four TC components: bilingual, cultural, technical, and personal, with two items per set: major and minor (see Figure 2 below). Such a research tool resembled a questionnaire that was delivered to a particular group of respondents with open-ended questions in order to gather information or opinions in a predetermined order. It could be good as "a widely used and useful instrument for collecting survey information" (Cohen et al., 2000, p. 245), although it is sometimes "accused of the simplicity of answers yielded and the effect of fatigue for being a long and low rate of response" (Bryman, 2001, p. 129). As "a pre-formulated written [...] questions to which respondents record their answers" (Sekaran, 2003, p. 236), it is still, however, easy to construct, extremely adaptable, and capable of gathering a large amount of data.
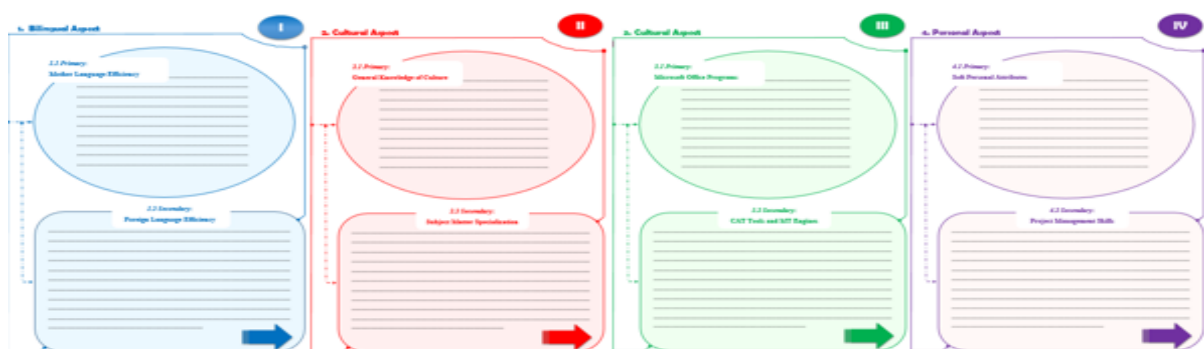

Figure 3. *Four Sheets of Answer as the Main Part of the Instrument*

This survey-based instrument was created using a generic structure that involved three phases: planning, development, and piloting. Careful measures were taken to make sure the content and layout were perfect. Four answer sheets were presented in order through a flow that was chosen to achieve a sequence of questions and the best response rates (see Figure 3 above). Three experts were consulted to determine whether the subject was worthwhile studying and to test the consistency and repeatability of the instrument. The sets of data required for these study components were demonstrated to have been successfully gathered, and as a result, useful sets of information were anticipated to be introduced. With a "level of agreement or correspondence" among the coders, the instrument was determined to be consistent and repeatable (cf. Neuendorf, 2002). In this regard, Cohen et al. (2000, p. 105) contend that a study can't be 100% valid and that coding errors may only be decreased, not completely removed. Regarding the goal of the current study:

1) The survey was represented appropriately, being comprehensive enough to collect the needed sets of data, and

2) The instrument produced equivalent results when used on a similar population in a similar situation.

4. Data Analysis/Results

4.1 Principal Factors of Competence

Short-term courses at the tertiary level with renewable curricula provided by universities make it possible to emphasize general knowledge, mother/foreign language ability,

and subject-matter specialization. With two categories each, the bilingual and cultural sides are the main determinants of competency. The bilingual factor was discovered to be connected to the soundness of the first/mother tongue (i.e. Arabic for a Jordanian translator) and the fluency of a foreign language like English or, say, French as noticeable in some Arab countries (see Table 1). The other cultural factor was discovered to be represented by the broad range of knowledge a translator can possess, which serves as an umbrella for how they operate in the job market. It was followed by specialization in one or two related fields such as legal and business, literary and religious, political and military (see Table 2). The translator's proficiency in either the native tongue or general knowledge might be viewed as the main components of his/her competency, while the proficiency in a foreign language and subject-matter expertise could be viewed as the lesser ones.

4.1.1 Factor 1: Bilingual

Table 1. *The Bilingual Factor of Translator Training and Competence*

Sr.	Principal Factors of Competence Factor 1: Bilingual	Jordan	Egypt	Palestine	Algeria	Iraq
1	Trainee translators misconstrue theme to rheme arrangements in transferring SL texts and might fail to make necessary corrections for an adequate text for the TL readership.	✓		✓		✓
2	A set of preparatory exercises are proposed for guiding trainee translators toward the usage of background knowledge with top-down or bottom-up processes.		✓		✓	
3	To be willing is a central issue in any innovative context and provides a shared reassuring intention to translate, focusing on the perception of agency of a student translator.	✓	✓			
4	A trainee translator's abilities in language and translation should be viewed as a shared competence, which is to favor perceiving agency as to multiple translatorships.		✓	✓		✓
5	A compulsory course applies suitable content that is essential for the educational/vocational context of translator training, considering the elective ones as problematic areas.	✓	✓		✓	
6	Although instructors are given significant responsibilities in the administration of curriculum, there is room for improvement, and there is not enough time set aside for practice.			✓	✓	✓
7	Most of an instructor's goals are occupied by the lexical, semantic, and morpho-syntactic features to possibly imply teaching methods akin to those used in other settings.	✓	✓	✓	✓	

The learning environment is itself an essential key to success in enhancing translators' proficiency. Virtually or in person, both group discussion and mutual understanding are reliable components of an interactive environment where novice or student translators could set a suitable or necessary level of competence for themselves. They are self-motivated by unveiling any deficits or points of weakness in the bilingual or cultural training(s) they receive and propose and really identify appropriate treatments for the same. As it happens, such environments were helpful to a group of European students in putting forth virtual methods of interaction through a multi-purpose international online course (Ketola et al., 2018), considering translation as a process directly related to such could-be-psychological activities as decision-making and problem-solving. In this spirit, the more incentives a trainee translator has, the more competent he/she can be with skills and abilities to fit the various needs of this industry.

4.1.2 Factor 2: Cultural

Table 2. *The Cultural Factor of Translator Training and Competence*

Sr.	Principal Factors of Competence Factor 2: Cultural	Jordan	Egypt	Palestine	Algeria	Iraq
1	The reading, writing, report-writing, and presentation skills of a trainee translator in a second or foreign language should be strengthened, as well as their capacity to conduct independent research.		✓	✓	✓	
2	On the basis of a good blend of cognitive, interactive, and communicative methods in both mother and foreign tongues, scientific and technical translations can be taught.	✓	✓		✓	
3	Future training goals for a student translator include the development of a professional personality in order to perform tasks more effectively and possess the requisite communicative abilities.			✓		✓
4	Applying popular texts with a specialized language other than neutrally-styled highly technical ones helps trainee translators develop creative text decoding and processing skills.	✓	✓			
5	Applying common specialized texts other than highly scientific ones with rigid genre norms helps trainee translators develop an awareness of expressive SL/TL resources.	✓	✓	✓		
6	The usage of specialized texts instead of purely scientific or technical texts can improve the translator's socio-pragmatic understanding of language use.		✓		✓	✓
7	To provide Arab student translators with new perspectives on general knowledge and culture, a professional method of translation training must be used.	✓	✓	✓	✓	✓

The current undergraduate program curricula measure the skills that beginner translators need to develop in a university setting and place more emphasis on some skills than others. In various amounts, the bilingual and cultural components could be more prevalent than any other types (including technical, personal, and research-oriented). The same might be said to be a significant obstacle to teaching translation at the collegiate level, specifically when it comes to four training techniques: theoretical frameworks, hands-on training, field research, and interactive projects. In this vein, let's highlight the significance of:

1.   enhancing academic courses that primarily focus on teaching a foreign language or languages for specific needs, and

2.   making available a genuine opportunity for trainees to broaden their scope of knowledge and maximize their word choices.

4.2 Ancillary Factors of Competence

Long-term practices addressing the translators' project management abilities, CAT/MT tools, and soft/personal aptitudes are required, together with pertinent policies and suitable measures by higher councils. With two items for each, they emphasize the technical as well as the interpersonal aspects of competency. For the technological aspect, it was discovered to be connected to the computer-assisted translation tools that relevant professionals have created. These technologies, which include machine translation engines, are many and very practical for increasing the translator's productivity at work (see Table 3). However, despite significant technological advancements, the human factor can be seen as being primarily represented by the personal aspect of translation skills. A translator's own common or private life skills, such as problem-solving, project management, and self-organization, were discovered to be its best representation (see Table 4). The ancillary major components of a translator's competency may be his/her overall personal aptitude and CAT tools, while the lesser ones may include the knowledge of machine translation, web search engines, and project management techniques.

4.2.1 Factor 1: Technical

Table 3. *The Technical Factor of Translator Training and Competence*

Sr.	Ancillary Factors of Competence Factor 1: Technical	Jordan	Egypt	Palestine	Algeria	Iraq
1	The types of users and tasks performed are dependent on seeking, using, and generating translation-related information, focusing on the needs of real users and learning contexts.	✓	✓		✓	
2	The integration of CATs into university training programs is still up for debate because many students don't use them for their translation work.		✓		✓	
3	CAT tools as integrated into the translator-training programs by universities are highly proposed for enlarging the job opportunities of their graduates in the market.		✓		✓	
4	To help students become more aware of the duties that a human translator might have in the future, MT might be incorporated into training programs as soon as practicable.	✓		✓		✓
5	Pre- and post-editing skills could be an integral part of the training on MT systems for assessing training data in cooperation with certified developers as expert translators.	✓	✓	✓		✓
6	Having more knowledge enables aspiring translators to continue learning to handle any unforeseen or, shall we say, unexpected obstacles in the future.	✓	✓		✓	
7	The potential of a social media platform for utilizing the pedagogical advantages of an e-learning tool can have an impact on how online training courses are built.			✓		✓

Revisiting the idea of "competence" for an Arab translator is important to shed light on the technical or technological aspects of practically all global sectors, including translation in particular. A unique competence-related path needs to be identified concerning the superiority of the human factor to machines in light of the rapidly expanding advancements and alterations. By skillfully integrating machine translation with the training programs they teach, teachers can raise their students' knowledge of what true professionalism is and what a competitive edge looks like while still adding the term "human" to their translation ability. Enhancing the translators' skills of all various types was found to help increase their level of eligibility (Salamah, 2021), and enrich self-confidence and sense of responsibility in the job market by

making use of any tools they might need to manage.

4.2.2 Factor 2: Personal

Table 4. *The Personal Factor of Translator Training and Competence*

Sr.	Ancillary Factors of Competence Factor 2: Personal	Jordan	Egypt	Palestine	Algeria	Iraq
1	The topic of translation competency in an Arab context hasn't received much attention because more study is needed on both translator education and translation services.		✓		✓	
2	Working together on a virtual platform can result in both learning opportunities and challenges, with many of the issues brought on by peer evaluation activities.	✓		✓	✓	
3	A trainee translator's drive for success and competence can be a reliable indicator of how effectively and significantly they will solve problems.		✓		✓	✓
4	Both competence and self-motivation among trainee translators are best addressed by strategies in university settings for improving the learning/teaching process.				✓	
5	Research terms refer to documents from any previous conferences help trainees get prepared for simulated tasks, focusing on memory, attention, and automaticity.	✓			✓	✓
6	Peer reviews can help teachers and student translators provide constructive criticism in the classroom and determine why a translation might not be accurate.	✓	✓			✓
7	Along with the capacity to represent a source material orally or in writing, improving a trainee translator's delivery abilities is still a crucial factor in the translation industry.		✓	✓		

There is no doubt that tools and technologies have become an essential part of our modern life. Today, they represent a significant component of the work in the field of translation man is making use of along with other various skills. What the subject experts in this study really needed to point at in this respect is to enhance the Arab translator's technical and personal potential for keeping up with the changes in this industry for a more efficient process. In light of the technological advances the world is witnessing, the labor burden of a translator for continuous learning has increased; the information skill in a translation context (e.g. search on the Internet) is still part of the same as an ability to perform an action with determined results and good execution. If we really wish to have well-trained Arab translators (as well as interpreters) in all various disciplines, our focus needs to move from merely acquiring general or special knowledge to developing such skills as decision-making and problem-solving, which strengthen the translator's personal aptitudes toward critical reading and content writing.

5. Conclusion

A new norm in translation focusing on translator training and competence is what the present study seeks to develop (see Figure 4). Generally speaking, competence refers to the types of ability and/or expertise that translators (and interpreters alike) need in their jobs. Developing new technologies in information and communication also has an impact on the ever-changing competence with constant updating (Aula Int, 2005). The translation industry is still undergoing significant changes that aim at enhancing the environment for training translators and, hence, provide them with the skills they need to conduct themselves professionally. Basic competencies are common throughout interlingual communication domains, and numerous talents are required to achieve communicative objectives, giving translators and interpreters
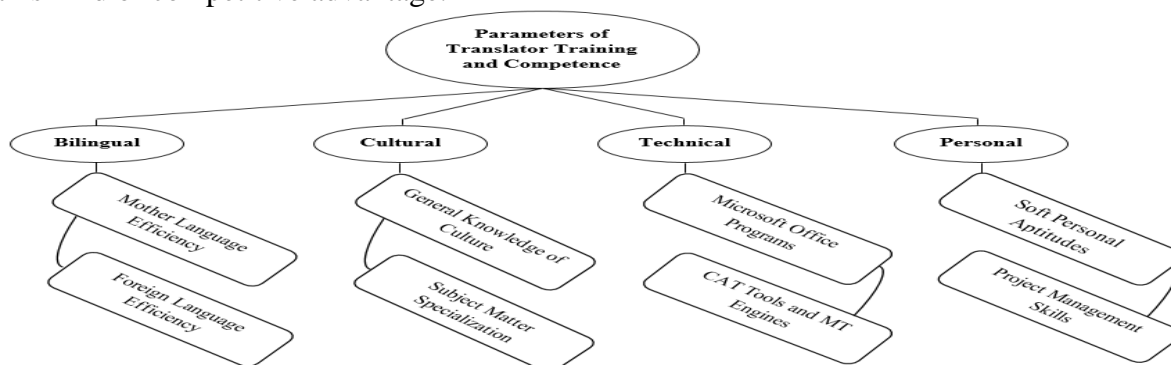
this kind of competitive advantage.

Figure 4. *A Special Norm of Translation Competence*

In a nutshell, the four training components of bilingual, cultural, technical, and personal competence in translation are encountered in the Arab job market in general and Jordan in particular. The first two characteristics, with bilingualism being primarily major and cultural knowledge being primarily minor, address the ability(s) that an Arab translator (or interpreter) needs at work. Concerning such two classical factors in measuring the Arab translator's competence, translation technology (i.e. CAT tools and MT engines) and personal skills and aptitudes (e.g. self-organization, project management, etc.) are ancillary factors. They could be necessitated by the expertise and existing state of affairs in this vital industry; one is ancillary major and the other is minor. This methodological base can be considered an improvement to the relevant translational norm in the Arab world:

The translator's training environment should be expanded to include a wide variety of abilities, and

The knowledge gap between what is taught in the classroom and what the market will pay for should be closed.

References

Atari, Omar F. & Radwan, Adel A.. (2013). Translator Training: A Mirror Image of EFL Pedagogy Inadequacies. Arab World English Journal, 11(2), 5-25.

Chomsky, Naom. (1965). Aspects of the Theory of Syntax. Cambridge: The MIT Press.

Çetin, Ü. (2020). Unregulated Desires: Anomie, the "Rainbow Underclass" and Second-generation Alevi Kurdish Gangs in London. *Kurdish Studies, 8*(1), 185-208. https://doi.org/10.33182/ks.v8i1.541

García, Cruz L. (2017). Foreign Language Training in Translation and Interpreting Degrees in Spain: a Study of Textual Factors. Revista Digital de Investigación en Docencia Universitaria, 11(2), 75-89.

Gubanova, Inna & Shirokolobova, Anastasia. (2019). Scientific and Technical Translation Training of Non-Linguistic University Students in ELearning Environment. MATEC Web of Conferences, 297, 1-7.

Göral, Ö. S. (2021). Memory as experience in times of perpetual violence: the challenge of Saturday Mothers vis-à-vis cultural aphasia. *Kurdish Studies, 9*(1), 77-95. https://doi.org/10.33182/ks.v9i1.569

Hürman, H. (2020). Penalisation of Kurdish children under the Turkish Anti-Terror Law: Abandonment, sovereignty and lawfare. *Kurdish Studies, 8*(2), 271-295. https://doi.org/10.33182/ks.v8i2.464

Horbačauskienė, Jolita. (2017). Translation Studies: Translator Training vs Employers' Expectations. Journal of Language and Cultural Education, 5(1), 145-159.

Ilynska, Larisa et. al. (2017). Application of LSP Texts in Translator Training. SSLLT 7(2), 275-293.

Int, Aula. (2005). Translator Training and Modern Market Demands. Perspectives: Studies in Translatology, 13(2), 132-142.

Ketola, Anne, et al. (2018). Social Media Platforms in Translator Training: Socialising or Separating? Trans-kom 11(2), 183–200

Koskinen, Kaisa & Kuusi, Päivi. (2017). Translator Training for Language Activists: Agency and Empowerment of Minority Language Translators. Trans-kom 10(2), 188-213.

Neubert, A. (2000). Defining Translation Competence. In C. Schäffner & A. Beverly (eds.) Developing Translation Competence, 3-17.

Núñeza, Juan L. & Bolaños-Medina, Alicia. (2018). Predictors of Problem-solving in Translation: Implications for Translator Training. The Interpreter and Translator Trainer, 12(3), 282-298.

Oner-Bulut, Senem. (2019). Integrating Machine Translation into Translator Training: Towards Human Translator Competence. TransLogos, 2(2), 1-26.

PACTE. (2011). Results of the Validation of the PACTE Translation Competence Model. Translation Project and Dynamic Translation Index.

Pym, A. (2003). Redefining Translation Competence in an Electronic Age: In Defence of a Minimalist Approach. Meta Translators' Journal, 481-97.

Qinai, Jamal. (2010). Training Tools for Translators and Interpreters. Journal of Pan-Pacific Association of Applied Linguistics, 14(2), 121-139.

Raido, Vanessa E. (2011). Developing Web Searching Skills in Translator Training. Redit 6, 60-80.

Rumaih, Lama. A. (2021). The Integration of Computer-Aided Translation Tools in Translator-Training Programs in Saudi Universities: Toward a More Visible State. Arab World English Journal for Translation & Literary Studies, 5(1), 336 362.

Salamah, Dania. (2021). Translation Competence and Translator Training: A Review. International Journal of Linguistics, Literature, and Translation, 4(3), 276-291.

Schäffner, C. & Beverly, A. (2000). Developing Translation Competence. Amsterdam: John Benjamins Publishing Company.

Šeböková, S. (2010). Comparing Translation Competence. M.A. Brno: Masaryk University.

Sharif, Forouzan D. (2016). Evaluation of the Translation Competency Areas in the Iranian National Translators' Training Curriculum. International Journal of Innovation and Research in Educational Sciences, 3(6), 2349-5219.