DECODING TERMINOLOGICAL AWARENESS: DEVELOPING TERMINOLOGICAL COMPETENCE

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Abstract
In the dynamically changing scientific and academic environment it is rather difficult to imagine efficient communication among professionals in any field and across domains unless terminological deficiencies are properly addressed and solved. Bridging the existing terminological gap implies considering the issues of availability of terms, terminological work, acceptability of terms, responsibility of the respective authorities, degree of erudition of the actors, the performed needs analysis, term elaboration mechanisms, sensitivity and tolerance of the stakeholders, and last but not least, a well-defined scientific approach to term creation, harmonization and alignment across the languages.
Therefore, raising terminological awareness is an essential part of curriculum at all levels of tertiary education, fundamental and/or applied research as well as vocational traineeship. It especially concerns the design of the contemporary technical translator profile, developing terminological competence and addressing the issues of cultural sensitivity and domain knowledge.
The present paper aims at discussing the notion of terminological awareness and testing it against the number of the relevant terminological sub-competences a user should possess.

Keywords: Terminological awareness, terminological competence, translator training, curriculum design, cognitive flexibility, act of awareness.

1. Introduction

The complicated concept of *awareness* is open to many contradictory readings, as it lies at the crossroads of many scientific disciplines including, e.g., neurology, anatomy, chemistry, information processing, psychology and/or linguistics. However, it has gained additional impulse for development since it has been merged with and/or integrated into many theories across different disciplines simultaneously, acquiring an evident multidisciplinary character, and thus, contributing to the introduction of the principle of awareness in such spheres as, for instance, neurolinguistics, ecological spirituality, somatic psychology, heuristic pedagogy, digital humanities, and cognitive phenomenology.

Nowadays, awareness is frequently applied as a buzzword in the context of information receiving and processing. On the one hand, awareness concerns the ability to recognize information, on the other hand, it implies the awareness of awareness (of awareness …*n*), which concerns the ability to learn, build arguments, cognitively process and conceptualize the acquired knowledge. Consequently, the complex nature of the concept of awareness encompasses certain dichotomies evident at different levels, including ***recognition*** (covert and overt), *perception* and ***cognition*** of the meaning (conscious and unconscious). It means that it can be analysed on different planes, employing, for instance, the relevance theory, phenomenology and communication theory, ultimately leading to thematising different acts of awareness. Within the framework of the given research, the analysis of the thematised acts of awareness is going to be reduced to a few assumptions and theoretical findings relevant to the process of establishing and developing terminological awareness of the university students majoring in technical translation.

From the standpoint of translation studies, it was traditionally believed that "translation primarily focuses on the communication process, whereas terminology receives a secondary focus" (Velasquez, 2002: 447 in Martinez and Benitez, 2011:92). However, along with the changing nature of communication practice in general and the introduction of new interdisciplinary communication paradigms in particular, the precision of terms to a great extent influences the communication process and determines the accuracy of the communicated data.

The comprehensive link between the terminological awareness and the subtypes and/or subcategories of the terminological competence should be investigated to provide clear-cut answers to the following questions: What construes the notion of terminological awareness and to what competences does it refer? What actually determines the type of the terminological competence required? Can it be seen as a standard suitable for all disciplines or is it rather a custom-tailored collection of the skills a student should acquire and further develop to efficiently operate within a required field of knowledge? It means that raising terminological awareness is an essential part of curricula at all levels of tertiary education, fundamental and/or applied research as well as vocational traineeship. It especially concerns the design of the contemporary technical translator profile, which requires developing terminological competence addressing the issues of availability of terms, terminological work, acceptability of terms, responsibility of the respective authorities, degree of erudition of the actors, the performed needs analysis, term elaboration mechanisms, sensitivity and tolerance of the stakeholders, last but not least, a well-defined scientific approach to term creation, harmonization, and alignment across the languages.

The present paper aims at discussing the notion of terminological awareness, investigating both its inner context (i.e., structure, which concerns analysing its possible constituent elements) and outer context (i.e., image, which is reflected in the communicative setting and affects the introduction of other concepts), and

testing it against the number of the relevant terminological sub-competences a user should possess. The study focuses on the set of internal subtypes of the terminological competence developed within the framework of the courses on terminology, terminography of the Master Study Programme "Technical Translation" at Riga Technical University.

2. Dichotomies Within Terminological Awareness: Recognition and Cognition

The idea of dichotomies at the levels of ***recognition*** (covert and overt) and ***cognition*** of the meaning (conscious and unconscious) embedded within the concept of awareness is accentuated employing different premises of pragmatic theory (such as relevance theory and communication theory) and emphasizing the role of pragmatic variables in ensuring professional advancement and in raising awareness.

The analysis of awareness as the dichotomy of *overtly and covertly recognized* facts and/or situations can be performed in close correlation with the explicit and implicit communication approach studied within the framework of relevance theory. It concerns the ability of a human not just to explicitly transfer the message, but to explicate the implicated meaning, referring to "the whole range of contextual assumptions and implications from which the speaker expects the hearer to select in interpreting her utterance in accordance with the Principle of Relevance" (Blakemore 1987:70). The context, in this sense, is seen not only as linguistic, but also as the extra-linguistic phenomenon, which implies person's preferences, competences and abilities, traditions, views and beliefs; as well as rules and norms one has to follow. The combination of the existing contextual assumptions contributes to the formation of "the specific epistemological cognitive environment that members of […] the community share" (Aguilar, 2008: 116), demonstrating different types of awareness, including metacognitive or epistemological awareness, cognitive or metacultural awareness and metalinguistic awareness. Moreover, this cognitive environment "is expected to explain notions like degree of explicitness and implicitness and the speaker's (linguistically reflected) stance and relationship with the audience" (Aguilar, 2008: 116). The manifold analysis of the cognitive environment implies studying the societal, exploratory and linguistic behaviour of its members, analysing their social interactions, assessing their epistemological commitment and approaching their communicative practice as philosophical and rhetorical phenomena.

In this regard, having a metacognitive or epistemological awareness "means that a person sees at least a potential distinction between her understanding of the world and the way the world really is; this is a distinction between knowledge and reality" (Sumser 2016:131). Epistemological awareness is treated as the necessary foundation of scientific reasoning (cf. Kuhn, 2011), which, in its turn, "involves a

diverse collection of cognitive activities rather than a single cognitive process" (Schunn and Anderson 1999: 337) and, among the other things, is seen as a possible approach to explaining the mechanisms of scientific discovery, knowledge acquisition and conceptual understanding, as well as cognitive development (cf. Zeineddin 2008: 22). Therefore, having epistemological awareness is of particular importance for successive analysis of terminology, which is not only "an interdisciplinary research field that has emerged from linguistics and cognitive science" (Yearwood and Stranieri 2012: 188), but has even grown to an international platform, to a global terminology management system. This terminology system respects the unique nature and autonomy of each linguistic community represented, but simultaneously aims at developing universal standards and rules, which should strengthen terminology research worldwide, promote academic excellence, and, hence, facilitate professional communication.

Therefore, developing terminological awareness of the students would certainly mean enhancing their metacultural awareness, which is "meant to be a tool kit that learners take with them to the foreign context" (Barrett and Johnson 2011:1325), when they conduct terminological research in the contrastive perspective, construing conceptual relations encoded within the terms in one language and matching them against the relations existing within the aligned terms in another language. This implies possessing metalinguistic awareness, which includes syntactic awareness, semantic awareness, pragmatic awareness and morphological awareness, and according to Gillon (2007:10) "may be particularly important in word recognition processes once the reader or writer has mastered basic decoding and encoding skills".

However within the framework of professional communication awareness should imply the ability of the user not only to recognize information, but also to develop full understanding that this information has been recognized. It concerns analysing awareness as the *dichotomy of unconscious and conscious perception and cognition* of the meaning, in other words, as the dichotomy of initial awareness (pure awareness) and higher levels of awareness (the summative term is applied on purpose). In this sense, unconsciousness and consciousness may be both regarded as instances of personal experience. If pure awareness or the unconscious one is referred to as "implicit experience, be it implicit memory, implicit emotion, implicit perception or implicit sensation" (Schwartz 1996: 290), then higher levels of awareness concern conscious experience and are reflected by the "concepts of knowledge, understanding and wisdom" (ibid 291), which, if paired with self-awareness and confidence, lead to the development of cognitive flexibility.

The term *cognitive flexibility* is used to designate "the ability to spontaneously restructure one's knowledge, in many ways, in adaptive response to radically changing situational demands…" (Spiro & Jehng, 1990: 165). This phenomenon emphasizes the role of pragmatic variables in enhancing the development of any

field of human activity (including the themes, functions, intentions and modes of communication), as well as in ensuring continuous personal evolution. Cognitive flexibility is required to advance to the next stages of scientific and academic excellence. Being cognitively flexible implies demonstrating full professional proficiency, profound understanding of the situation, attaining the ability to manipulate the available data and ability to creatively tailor them to the needs of the variety of contexts, which certainly demands a person to possess advanced metalinguistic awareness. It means that nowadays such factors as "the evidence of increased metalinguistic awareness, creativity and cognitive flexibility" (Birch, 2014) characterize a *multicompetent* person, who can demonstrate full understanding of the way knowledge is represented and who shows a certain degree of "intellectual autonomy and expertise" (Diezmann and Watters 2000). The latter implies the ability to formulate individual judgments and critically evaluate contribution of self and others, and, hence, to be ready to express his/her "skills with a vocabulary referring specifically to [the] discipline" (Boucher et al 1997: 453) and even beyond it.

This kind of vocabulary is referred to as 'terminological language', and is regarded as "a subset of natural language, composed of all the terms shared by the actors of a skills-network within their field of application" (Crest 1995 in Boucher et al 1997: 453), which, nevertheless, may be very broad and may be expanded both *vertically*, exploring the existing vocabulary and establishing clearer conceptual relations; and *horizontally*, contributing to extensive cross-referencing across the adjacent/related fields, welcoming introduction of new meanings thus enriching the vocabulary. As a result, the field of application or the field of professional activity "corresponds to a vast term bank in constant evolution, which the translator-monitor must ceaselessly organize and structure in order to be able to extract useful information" (Guidere 2010: 51). This ability to recognize information and process it employing cognitive skills such as "thinking, learning, reasoning, recognizing, and recalling, as well as metacognitive skills, which entail thinking about cognition (e.g. planning, strategizing, or choosing between reasoning or calculation types)" (von Nimwegen et al 2006:75) is required for an actor (a technical translator) to develop a high degree of terminological awareness, cultivate and enhance it consequently developing a sound multilingual terminological competence.

3. Decoding Terminological AWARENESS

Nowadays, there is no consensus concerning either the definition of the terminological awareness or the theoretical framework this concept encompasses and establishes. The variety of terms coined to designate this phenomenon as well as the multifaceted nature of the definitions standing behind them are analysed within the framework of parallel theories, result in the origination of multiple

strategies and formulation of diverse competences, which should be attained by the students. This ambiguity in reading the very concept accentuates the questions: What does the term terminological awareness mean? Can terminological awareness be recognized, trained, and developed?

Terminological awareness is a manifold concept emerging at the crossroads of many disciplines. In the mainstream literature and even beyond it, this phenomenon has been addressed through the prism of the following concepts, which either are implicitly or explicitly related to it and/or are employed to describe it:

- *Terminological dimension* of a certain process, e.g. of translation, and, which "contributes to the meaning of a sentence in context" (Melby and Warner 1995:174);
- *Terminological qualification*, which can be graded from initial to profound, and is seen as a certain number of skills required to understand the meaning;
- *Terminological aptitude*, which is required to be able to identify the "relation between the recognizable etymological content of a term and its conceptual content" (Garvin 1970:46);
- *Terminological knowledge*, which "is specialized knowledge about taxonomic relationships between the domain objects of a logical theory" (Guarino 1991:144);
- *Terminological skills* – this compound is used to designate the general objective of the study course and/or describe the learning outcomes the students have to achieve;
- *Terminological know-how,* which is "implicitly encompassed in the subject matter competency" (Salevsky and Müller 2011:119);
- *Terminological capacity* is the term applied to define limited ability of a person to solve terminological issues;
- *Terminological dexterity* is the term used to address terminology-related issues in the diverse profile literature (i.e. economics, management);
- *Terminological expertise* – a term used to denote accumulated knowledge and experience in the field of terminology and potential to be shared (cf. Wilss, 1999: 95);
- *Terminological wit*, which is considered to be a skill a person can sharpen (cf. Dobrina 2010: 93);
- *Terminological mastery* (e.g. in Lewin 2001: 78), which being coupled with specialized subject knowledge, is required for transferring verisimilar contents (cf. Pettini 2016: 64);
- *Terminological proficiency,* according to Brekke (2000:244), alongside with style and other factors clearly indicates "whose English are we dealing with", which is a very sensitive issue concerning the representativity of form and the quality of language of the documents produced in English (cf. ibid);

- *Terminological excellence* is the term created for marketing needs advertising the CAT tools, which can help the users to achieve excellence[1].

Moreover, there is a constant search for unusual and easy memorable terms designating the very concept of terminological awareness or its derivatives, which resulted in the introduction of such compounds as *terminological potency*[2], *terminological talent*[3], *terminological ability,*[4] and *terminological intuition*[5]. The decision to omit the term *terminological competence* from the list is substantiated by the necessity to ease the burden of application of the polysemous concept *competence* at least within the framework of the given paper, restricting its use to the formulation of particular learning outcomes the students have to attain upon completion of specific study courses.

The existing diversity of readings has resulted in a dual effect influencing both the image (outer context) and the structure (inner context) of the terminological awareness. The outer context involves investigating the manifestations of the constituent elements in the communicative setting and analysing the effect they produce on the whole process of meaning transfer, while the inner context implies identifying the constituent elements, which contribute to construing the meaning of the phenomenon in the given situation. Therefore, awareness in general and terminological awareness in particular is seen both as a key to cognition and processing of the acquired information, and, simultaneously, as a puzzle, a code, even a formula with many variables to be decoded and explained.

Hence, for a particular type of awareness the number of constituent elements, their definitions and functions, as well as the effect they produce, may vary considerably, which theoretically makes the concept of awareness immense. It means that it is possible to investigate only particular instances of awareness and speculate over the myriads of possible forms it can take, as "an act of awareness may be momentary, but its scope is not" (Dainton 2006:134).

The detailed analysis of the scope of data, functions, associations and links encoded within the concept of terminological awareness should be performed by approaching its inner context creatively through the prism of phenomenological intuition, which is required to "primarily gain knowledge of the essential nature of the phenomenon under investigation" (Blahnik 1997: 129) and is considered to be the necessary instance and "the event of creative vision" (Kearney 1995: 79) demanded to take full advantage of the heuristic potential. There is a certain

[1] For detailed information see http://amigocat.com

[2] In Roy Ascott, Gerald Bast, Wolfgang Fiel, Margarete Jahrmann, Ruth Schnell (eds) (2008). New Realities: Being Syncretic: IXth Consciousness Reframed Conference Vienna 2008, Springer, page 8.

[3] In Stanley Finger, Francois Boller, Kenneth L. Tyler (2009). History of Neurology. Elsevier, page 163.

[4] In Donald Phillip Verene (2008). The History of Philosophy: A Reader's Guide. Northwestern University Press, page 16.

[5] In Asian and African Studies (1966), Volume 2, Veda, page 18.

conceptual complexity and, simultaneously, the unlimited source for discoveries hidden within the label of AWARENESS, which within the framework of the present paper will be treated from the perspective of semantic compositionality of the integral content as an abbreviation for the collection of meaningful components with certain values assigned. Therefore, to promote terminological awareness among professionals in the respective field and across the domains it is necessary to address its constituent elements:

- ***A***vailability of the terms and other elements of professional jargon to the participants of the communicative act;
- ***W***ork (ongoing and intense) at all levels of terminology management, resource planning and language policy;
- ***A***cceptability of both the terms created over controlled mechanisms of term formation and emerging ad hoc in the LSP texts;
- ***R***esponsibility to be taken by the corresponding authorities and the users of the terms;
- ***E***rudition in the professional field and across domains;
- ***N***eeds analysis to be performed to identify the domains with less developed, poorly structured professional glossary;
- ***E***laboration mechanisms to be investigated to ensure both the efficient coinage of new terms and their registration in the monolingual and multilingual terminographic resources;
- ***S***ensitivity and tolerance towards the created and/or borrowed terms and other elements of professional jargon demonstrated by participants of the communicative act;
- ***S***cientific approach to terminology creation, registration, harmonization, standardization, and alignment across the languages.

Undoubtedly, the proposed, in a way creative, approach to analysing the inner structure of the concept of terminological AWARENESS is not exhaustive and can be complemented and deepened. The idea is to identify the constituent elements in the form of potential study aims and existing professional challenges, which can further be translated into the competences to be attained by the students mastering the study courses in terminology and terminography. Broad range of views on the phenomenon of terminological awareness makes the analysis of the relationships between terminological awareness and terminological competence very complicated.

It can even be argued that, to a certain extent, terminological awareness is employed for bridging the very precise concept of *terminological education (*with clear-cut aims, tasks and challenges to be faced) and the abstract concept of *terminological competence*, which frequently, can be neither formulated precisely, nor assessed accurately, as it is the most evident, when it is lacking.

4. Developing Terminological Competence: Case Study

Terminological competence is the issue, which is equally extensively addressed in the linguistic communities with both the centralized and decentralized approach to language planning, irrespective of the fact whether these communities are more or less tolerant to the external linguistic influences and more or less willingly accept any changes introduced into their languages.

The role of terminological competence in transdisciplinary communication, both monolingual and multilingual, cannot be overestimated, as it should be developed alongside with the relevant code-switching ability, which demands a person to demonstrate upper-level cognitive skills. Terminological variety contributes to the deepening and internal diversification of a terminological competence a specialist should possess depending on the primary focus of their professional activities, communicative setting and the cognitive environment, in which s/he operates. In other words, terminological competence demanded from a translator will be different in terms of prevailing components from the terminological competence necessary for an editor, localization specialist, etc. The scope of the practical multilingual terminological competence, which a professional translator or even a student majoring in technical translation has to demonstrate in the working languages, is enormous, which presupposes that this competence is characterised by a complex inner structure with many variables and allows for the multiplicity of interpretations.

There is no single exhaustive list of inner competences, subtypes or categories (at this point the name is facultative) collected under the umbrella term of terminological competence. It grants deliberate freedom to the researchers for compiling their own classifications and distributing the preferred values among its elements.

Certain dependency between the subtypes of the terminological competence and their role and manifestations in affecting and improving the quality of translation has been extensively addressed in the recent mainstream literature. Many authors, for instance, Faber (2004 in Martinez and Benitez 2011: 93) and Göpferich (2009), distinguish terminological competence as a part of translation competence, which concerns "the general and domain-specific knowledge that … is necessary to understand the source text and formulate the target text" (Göpferich 2009: 21). The same view is supported by Kalverkämper (cf. 1998a: 31 in Salevsky and Müller 2011:119), who stresses that specialized knowledge and specialized terminology become intermingled. However, the mastery of lexical relations in the specialized discourse and the ability to recognize and align the terms across the languages within a given domain (even with the CAT assistance) would indicate that the person possesses only a formal degree of terminological competence, as terminological competence "does not refer to the acquisition of a list of the terms, but rather to the ability of a translator to acquire the knowledge represented by these terms" (Martinez and Benitez, 2011: 93). Terminological

competence should at least concern "the sensitivity to recognize what additional knowledge is needed from external sources to fill one's knowledge gaps" Göpferich (2009:21), which demands from a person to demonstrate higher levels of AWARENESS.

It means that to have a full professional proficiency in a particular field, translators should be able to activate deeper layers of knowledge, which implies the ability to re-assess terminologically encoded knowledge, re-evaluate it against the modern realia and the demands of the particular linguistic community, and reproduce it in the compulsory capacity without distortion at all levels (meaning-concept; euphony, lexis, pragmatics, etc.). Therefore, a translator would be required to explore "again and again a new outline according to the new data and information he gathers by and by about that precise field" (Guidere 2010: 51). It is a win-win study process, which is further transferred into intense and ongoing work, as the more effort is invested into exploration of particular field, mastering the term banks, constructing conceptual models searching for professional development opportunities (i.e., for instance, studying, undergoing working placements, seeking vocational training, researching, and taking additional courses), the higher is the likelihood of developing terminological reasoning, raising the level of terminological AWARENESS, and, hence, acquiring terminological competence.

The key to the higher levels of terminological AWARENESS is hereby established with the help of smart practice-oriented curriculum development. The universities have realized the necessity to reassess translation competence, contrast it against modern realia, and strive to adjust it to the current market needs. As a result, within the framework of the curriculum of the Master study program implemented at RTU, a variety of study courses covertly or overtly addressing the issues of terminology theory and practice have been introduced, including, but not limited to the theoretical and practical study course *Terminology and Terminogrpahy*, which amounts to 3 ECTS points and *Terminology Internship*, which concerns recognizing term relationships, conceptualising links and building ontologies, which amounts to 9 ECTS points.

Within the framework of the abovementioned study courses, students are taught how to explore *available* terms, they learn how the terminology management *work* is organized, study *acceptability* strategies, analyze their scope of *responsibility*, train their terminological *erudition*, learn how to perform *needs analysis*, investigate efficient and successful *elaboration mechanisms*, develop required degree of *sensitivity*, recognize traditional terminology theories and discover new trends in the development of terminology *science*. Students acquire the necessary information concerning the digital management of terminology, which spans a range of interdependent phases, such as organizing documentation and capturing data from running text, storing, editing, maintaining and updating terminological data using various data structures. Particular attention is paid to new and developing subject areas such as terminotics, digital humanities, frame-

based approach to terminology, domain knowledge representation and transfer, meaning-formation and term-creation, information technology tools, expert systems, and terminological databases. Students share the samples of compiling personal term data bank for peer evaluation and discuss successful term creation strategies, common difficulties, and the ways of solving a variety of terminology alignment related tasks[6].

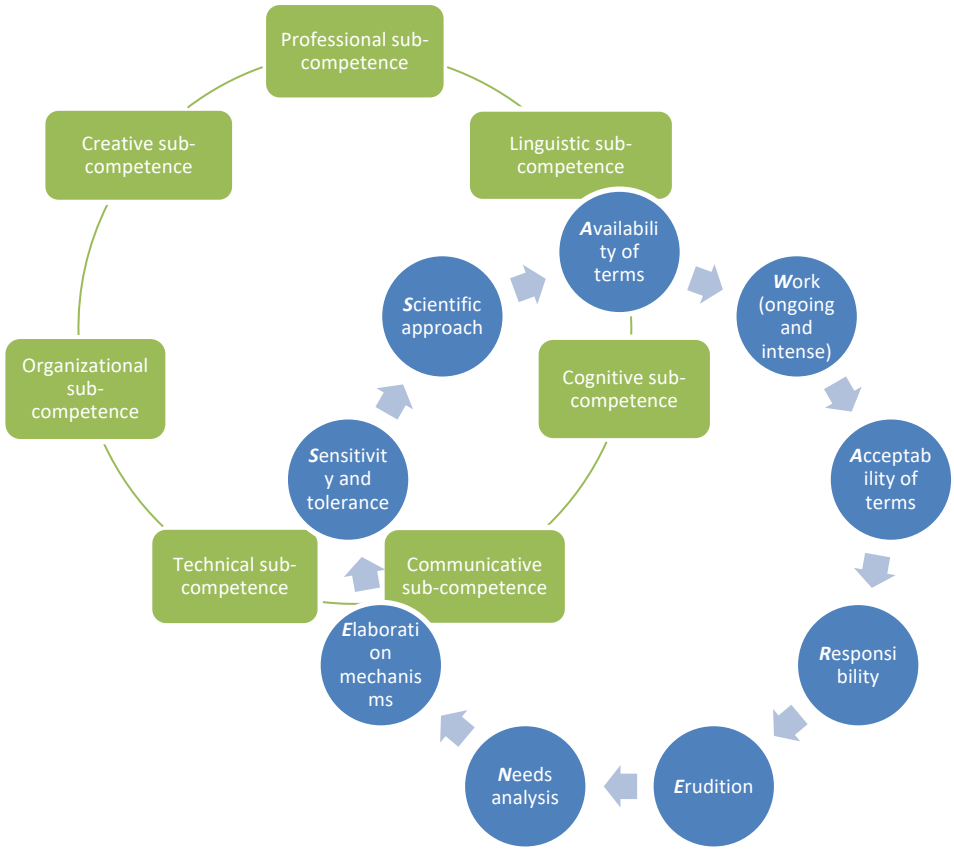

Figure 1: The wheel of terminological sub-competences and the wheel of terminological AWARENESS

Therefore, the list of subtypes of terminological competence to be addressed within the framework of the study courses has been adjusted examining the initial challenges faced by the students at the beginning of the course and comparing them against the results demonstrated during the intermediary assessments and upon the completion of the study course. For the sake of clarity and convenience, they were organized into the wheel of terminological sub-competences (Figure 1), where every element is not treated individually, but rather contributes to the

[6] Based on the outline of the study courses taught at Riga Technical University

completeness of the given model. At this stage, it is significant to highlight once again that the proposed wheel of terminological sub-competences should be analysed against the inner structure of terminological AWARENESS.

It is possible to steer the wheels forwards and backwards, analysing yet another combination of contiguous components and tracing the links to the distant ones, thus, influencing the focus of the study, scope of every terminological sub-competence, and the role of terminological AWARENESS components within.

Although this model provides for deliberate freedom in adjusting the focus of the study, its contents should remain unaffected, as it is important to recognize that the more frequently the curriculum gets changed, the more difficult it is to pursue both academic and scientific excellence, as constant introduction of new variables significantly hinders achieving a certain degree of congruity of the curriculum, which is directly linked to the validity of the assessment process. On the other hand, inability to introduce changes leads to stagnation, which, in its turn, results in the outdated, unfeasible and even invalid approach to knowledge transfer. Therefore, the key to success lies in the ability of a curriculum designer not to constantly change the contents increasing the number of sub-competences, but rather to update and refine them against the components of terminological AWARENESS, providing a more detailed specification of the existing ones and establishing cross-referencing links of a different order.

The proposed subtypes of the terminological competence have been further developed and underpinned with the list of learning outcomes students have to attain to acquire terminological competence and raise terminological AWARENESS. The author of the present paper shall address some of the sub-competences in a detail, providing relevant examples.

Professional sub-competence concerns the ability of the students to activate and apply lexical units (including terms, professionalisms, and words of general language) *available* within a particular scientific field, to define and explain terms in the given scientific field, as well as to understand the manifestation of the patterns of meaning formation and lexical nomination within the given scientific field. In order to make sure that students develop this sub-competence, they are asked to perform different tasks, which imply understanding the inner structure of a frame and the operations, which can be performed with information encoded within it. Students would know that any thematic field is the whole universe, exploring which would imply identifying multiple frames it contains, comprehending their structure, labelling and categorizing phenomena, establishing links with different types of context and recognizing intertextual and/or intermedial relations they can possibly create.

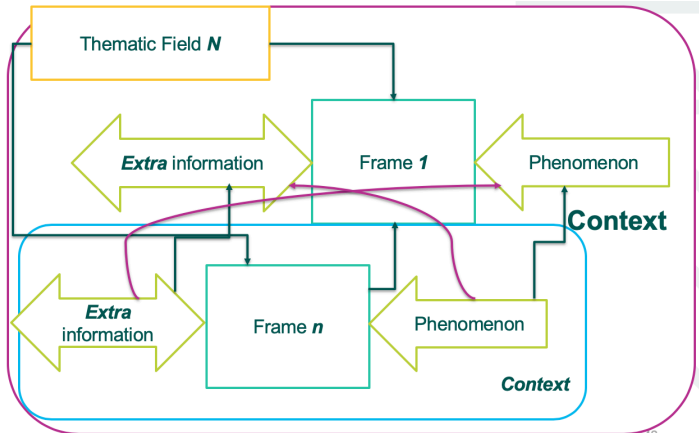

Figure 2: Basic scheme of thematic field, frame, context relations

If the field under discussion is hybrid along different dimensions, in order to promote student comprehension of the inner structure of the interdisciplinary frame, they are asked to label the subfields within it and illustrate their findings with the help of Venn Diagram.

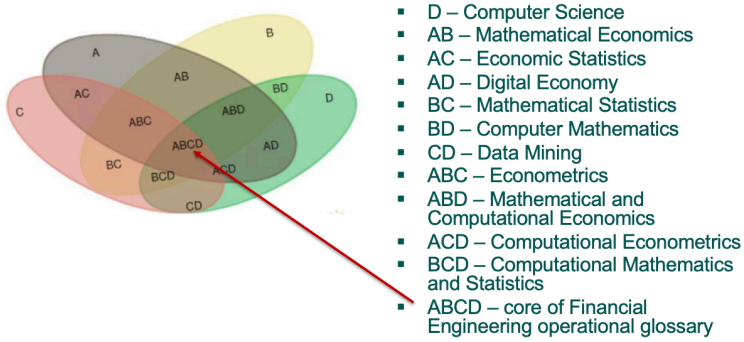

Figure 3: Use of Venn diagram for graphical representation of FE glossary (Platonova et al 2016, 72)

The Venn Diagram provided above has been initially created for the analysis of the scope and diversity of the terms within a glossary in Financial Engineering. The students are invited to learn how multi-layered the inner nature of the interdisciplinary field of Financial Engineering actually is. They are given information about the single constituent fields (A, B, C, D), which further on form the doubles (AB, AC, AD, BC, BD, CD) to be labelled. Then the triple coded fields (ABC, ABD, ACD, BCD) should be identified. Finally, the students would

learn that the operational glossary of the very field of Financial Engineering is encoded within ABCD, which is a relatively small part of the whole vocabulary massive employed. This is a great way to perform *needs analysis* and identify the gap in terminology creation, harmonization and/or application within the particular scientific field.

Undoubtedly, no sub-competence is attained individually, as every task the students are given has multiple layers, which would mean that, for instance, to efficiently and successfully develop professional sub-competence, the expertise in applying various technical tools is recommended. With the ever-growing influence of information technologies on the evolution of any scientific domain, the role of *technical sub-competence* cannot be overestimated. It is required to enhance the ability of the students to process a term corpus or data array using a variety of available IT instruments, to recognize the existing system relations and build the ontology, to design term databases, and, finally, to identify, select and extract terms from monolingual and/or multilingual text corpora.

Technical or frequently referred to as technological sub-competence is currently a buzzword, which is often used to reveal the progress in terminology development at all its stages. The advocates of this theory believe that the advancement of IT influences the pace and path the terminology science and practice would take. The author of this paper is aware of the multiplicity of opinions concerning the fact whether a computer can outperform a human in certain professional activities, including terminology management. However, since it is not the primary focus of the given research it would be sufficient to mention that an *intense and ongoing work* on the development of technologies facilitating and advancing the performance of terminologists, terminographers, etc. is of great importance, but it is not the only and major focus of the whole terminology research and training today and should not be used to reduce the value of other sub-competences or to indicate the incompetence or unskillfulness of the student if this sub-competence is less evident or underdeveloped.

The diverse nature of the communicated information and the necessity to consider many pragmatic variables simultaneously increases the role of *organizational sub-competence*, the essence of which is to attain the ability to comprehend techniques of electronic term corpus management, including the ability to systematize the outcomes gained implementing the sequence of operations at different mutually related stages, i.e. organizing documentation, extracting, storing, editing, controlling, maintaining, renewing and updating the data. The students are provided information on various terminology management systems (TMS) and are required to critically assess their pros and cons. The attainment of this sub-competence requires students to address the issue of *responsibility* for proposing, registering, and employing definite terms, as it best indicates that every decision they as translators take has several short-term and long-term effects. The short-term effects would concern the issues of *acceptability* of terms by the commissioner or target audience, whereas the long-term effects

would be related to, for example, multiple naming of the same concept, parallel use of a form, disagreement on the primary meaning of a term.

Full professional command of both working languages is the mandatory operational prerequisite for a technical translator, but apart from obviously required metalinguistic knowledge, the translator within the framework of *linguistic sub-competence* has to develop the ability to recognize and apply different term formation patterns in compliance with the language norms and conventions, as well as the ability to analyse and draw conclusions on the similarities and differences in term formation traditions typical of various linguistic environments. Knowledge and experience in employing various *elaboration mechanisms* across the languages are essential for translators to perform their tasks at the professional level. Even though translators are not expected to act as terminologists, proposing new labels for the concepts in the target languages, in reality, it is frequently their task. Therefore, nowadays in order to help students develop the linguistic sub-competence, it is recommended to simultaneously offer tasks, which should help improve their *cognitive sub-competence* and *creative sub-competence*.

If students possess *cognitive sub-competence*, they are able to understand the essence of the terminological concept, concept placement and concept mapping mechanisms within the concept system of the particular scientific field, they have acquired the ability to establish and activate cross-referencing, recognizing synonymic and other paradigmatic relations between the concepts. The attainment of cognitive sub-competence is related to planning, organizing and participating in scientific and academic terminology research and adopting wise and efficient *scientific approach* to developing terminological awareness.

In order to achieve cognitive and creative sub-competences in the required capacity, the students are often challenged to deal with *ad hoc* created terms, which are not registered in terminographic sources and which should be addressed to transfer the meaning of the source text. Undoubtedly, we are aware of the fact that most of these lexical items shall never gain the status of a term unless the concept they represent becomes recognized in the target community, however, it is such a great approach to help students explore the frontiers of creativity and acquire the advanced level of cognitive flexibility. This would demand students to demonstrate high orders of *erudition* across the domains and complete mastery of term formation mechanisms.

The author of the given paper frequently asks students to address the terms, which are not emotionally neutral as the terms, which are created following the traditional term formation patterns, and require addressing them from multiple (multilingual and multicultural) perspectives. The following example of such a lexical item is considered below.

Flip-flocks – The heinous combination of flip-flops and socks

The students are invited to analyse the given lexical item as the linguo-cultural construct. They would primarily require to recognize the phenomenon, then compare it against the other (seemingly) related constructs, formulate their personal attitude, i.e., perception of the given lexical item, demonstrate the cognitive flexibility skills and finally link this concept to other concepts and frames intertextually and/or intermedially. The author "…proposes to correlate the concept of 'intermediality' with the concept of 'intertextuality', "where intertextuality is the mono-medial (verbal) and intermediality is the cross-medial variant" (Wolf 1999: 46)" (Platonova 2019: 151). The sample group completing the test comprised the students with Latvian and Russian as their native languages, which provided the opportunity to compare the manifestation of the given concept in multiple linguistic and cultural environments.

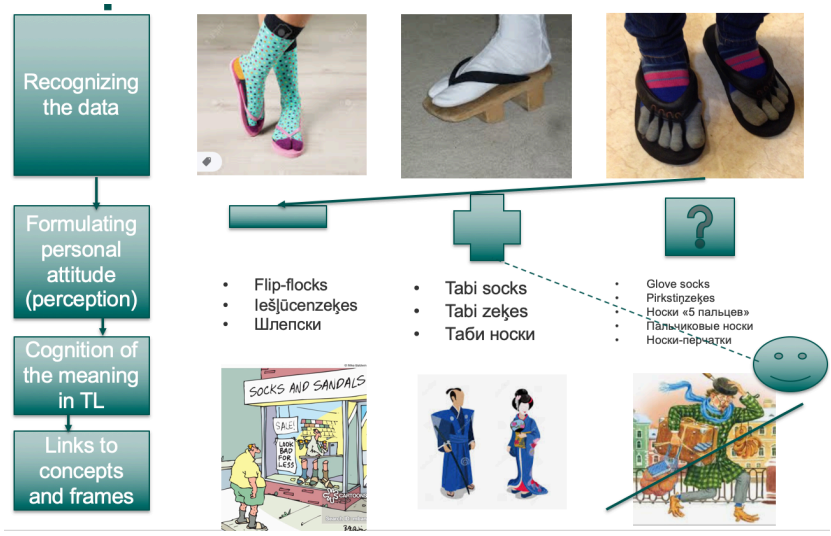

Figure 4: Basic algorithm processing the lexical item

It is interesting to note that irrespective of the native language all students clearly labelled *flip-flocks* as being negative. Searching for the closest equivalent they identified *Tabi socks*, which boosted absolutely positive perception as this is the element of a traditional Japanese outfit; and then came up with *glove socks*. The group was pretty homogenous in expressing their misunderstanding of such a fashion trend, however, when they were invited to think of the possible equivalent in their native language, the attitude had changed significantly. The students, who were aware of the famous children's poem "Such an Absent-minded Lad"[7] by the Russian author Samuil Marshak, had immediately linked the concept

[7] https://lyricstranslate.com/en/%D0%B2%D0%BE%D1%82-%D0%BA%D0%B0%D0%BA%D0%BE%D0%B9-%D1%80%D0%B0%D1%81%D1%81%D0%B5%D1%8F%D0%BD%D0%BD%D1%8B%D0%B9-such-absent-minded-lad.html

of *glove socks* to the poem hero and their attitude was rather positive than negative.

Making decisions resolving terminological challenges (the choice of the best equivalent, harmonized interlingual alignment, etc.) and often proposing term equivalent and/or creating new term *ad hoc,* would not have been possible if the students lacked *creative sub-competence*. The Russian and Latvian equivalents for the lexical item *flip-flocks* were proposed by the students and then peer-reviewed and contrasted. They opted for preserving the humour and aesthetic value of the English term in their native languages, having decided to employ the same pattern, i.e., *blending*.

It is significant to make sure that the aesthetic value an author expresses in their language matches with the aesthetic needs of the reader even in another language. Therefore, the translator is required to reinterpret them in non-prototypic ways, or even relocate them in the new perspective that must be created during reading. The development of creative sub-competence is inevitably related to raising the degree of *sensitivity and tolerance* towards the *ad hoc* created terms, as students are invited to critically assess every term not only against the immediate communicative setting, but also as the long-term project.

Several reasons behind the necessity to creatively approach term formation process can be distinguished, which could be legal, marketing, media, political, historical, and cultural, the list can be continued. Within the framework of the given paper, the author shall address only a few examples concerning the introduction of creative solutions for marketing needs, which imply addressing the qualities of the products, companies, services, making them more appealing to the customers. The students have analysed the introduction and use of the term *ecoleather*, which appeared quite simultaneously in Russian and Latvian and has gained considerable popularity.

The difficulty lies in the fact that there is no general agreement on the meaning of the given lexical item, as it can be used to represent multiple unrelated concepts, including, for instance:

- Just another name for faux leather and can be also called *vegan leather*, *pleather*, etc;
- By-product of another industry or craft, e.g., from meat and hunting industry;
- Leather, which has been crafted and processed (tanned) using only natural materials and therefore is considered ecologically friendly[8].

The list of the possible explanations is not complete and other definitions can be added in all languages. There are even people (hopefully a minority), who believe that *ecoleather* is a real leather being produced without actually harming animals.

[8] https://leatherfacts.org/types-of-leather/what-is-eco-leather (Available online in 10 May, 2022)

The task of the students is to analyse the meaning encoded within the given term in their working languages.

It is interesting to note that in Latvian the term *ecoleather* – LAT: *eko āda* (also *ekoāda*) is frequently used as the head component in the series of open compounds, e.g. *mākslīga eko āda* (ENG: *artificial ecoleather*), *poliestera eko āda* (ENG: *polyester ecoleather*), *poliuretāna eko āda* (ENG: *Polyurethane ecoleather*). The complementary emphasis on the artificial origin of the material implicitly indicates that there are still people, who would misunderstand the term.

Whereas in the Russian language the term экокожа (ENG: ecoleather) is frequently used in different combinations with the attribute '*natural'*. Since it is not possible to state that ecoleather is the natural one, companies use other ways to combine these two opposite terms in one sentence, e.g. *экокожа это натуральный продукт* (ENG: *ecoleather is the natural product*), экокожа гиппоалергенна (ENG: ecoleather is hypoallergic), *экокожа обладает всеми свойствами натуральной кожи* (ENG: *ecoleather possesses all qualities of the natural leather*), *экокожа приравнивается натуральной коже* (ENG: *ecoleather is equivalent to genuine leather*). The focus on *naturality* is a clear marketing strategy aimed at attracting customers.

The students speculated over possible reasons for such polar opposite trends in using the term and analysed different manifestations of the term in various combinations for different communication needs. Approaching terminology as communicative practice would require translators to attain *communicative sub-competence* in order to efficiently and accurately apply lexical items in the professional environment. Communicative sub-competence concerns the ability to choose terms and their equivalents across the languages following certain language norms, and to understand term dependency on the context of their application.

Frequently, the specific characteristics of the translated material even determine the subtype of terminological competence required *ad hoc*, which, however, does not mean that other subtypes should be neglected. It means that terminological competence should not be, and it even cannot be, developed formally. It is not the ultimate aim in itself that the student should achieve. Terminological competence can only be ensured on the regular basis, as it becomes evident only when it is lacking. Therefore, terminological awareness and terminological competence are created, raised and developed through a never-ending process of studying, self-studying, and pursuit of professional excellence.

5. Instead of Conclusions

Having postulated that raising terminological awareness and attaining terminological competence is a never-ending quest for professional advancement

and self-improvement, no concluding remarks seem to be required, unless to highlight this idea once again.

The remits of the language service providers, including translation agencies, should find clear reflection in the curriculum of the translation-focused terminological study courses implemented within universities. Whereas the best terminological and terminographic practices adopted by the language service providers should be employed by the universities to advance knowledge and improve training and academic performance. This reciprocal relation should contribute to training and educating specialists, who are able to demonstrate higher levels of *awareness* within a particular field of professional activity, rather than are able to demonstrate only false erudition and being literally *awareless* of anything.

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References

Aguilar, Marta (2008). Metadiscourse in Academic Speech: A Relevance-theoretic Approach. Peter Lang. https://doi.org/10.3726/978-3-0351-0403-5

Barrett, K.A. and Johnson, W. Lewis (2011) Developing Serious Games for Learning Language-in-Culture. In Gaming and Simulations: Concepts, Methodologies, Tools and Applications. Volume 1. Information Science Reference, Hershey, New York, pp. 1313-1343. https://doi.org/10.4018/978-1-60960-195-9.ch505

Birch, Barbara M. (2014). English Grammar Pedagogy: A Global Perspective. Routledge: Taylor and Francis. https://doi.org/10.4324/9780203838747

Blahnik, Michael, G. (1997). Experience: An Exploration Into the Structure and Dynamics of Human Consciousness. University Press of America. Blakemore, Diane. (1987) Semantic Constraints on Relevance. Oxford: Blackwell.

Boucher, Xavier, Kieffer, Jean Paul, Cerezuela, Catherine (1997) Towards a formal framework to characterize skills-networks aiming at improving concurrent engineering and production of complex products. In Advances in Concurrent Engineering: CE97 Proceedings. *Advances in concurrent engineering*. CRC Press, pp. 451-461.

Brekke, Magnar in Kirk, M. John (2000). From the BNC towards the Cybercorpus: a quantum leap into chaos? Poetic Castles in Spain: British Romanticism and Figurations of Iberia. *Internationale Forschungen zur allgemeinen und vergleichenden. Literaturwissenschaft (Volume 39)*, ISSN 0929-6999. *Language and Computers (Volume 30)*, ISSN 0921-5034. *Language and computers : studies in practical linguistics (Volume 30)*. Rodopi, pp. 228-248.

Dainton, Barry (2006). Stream of Consciousness: Unity and Continuity in Conscious Experience. Taylor & Francis.

Diezmann, C. M., & Watters, J. J. (2000). Characteristics of young gifted children. *Educating Young Children, 6*(2), pp. 41–42. https://doi.org/10.1080/15332276.2000.11672925

Dobrina, Claudia (2010). Terminology on Demand: Maintaining a terminological query service. In *Terminology in Everyday Life*, edited by Marcel Thelen and Frieda Steurs. John Benjamins Publishing Company, pp. 81-96. https://doi.org/10.1075/tlrp.13.07dob

Garvin, Paul, L. (1970). Method and Theory in Linguistics. Walter de Gruyter GmbH & Co KG. https://doi.org/10.1515/9783110872521

Gillon, Gail, T. (2012). Phonological Awareness: From Research to Practice. *Challenges in Language and Literacy*. Guilford Press.

Göpferich, S. (2009). Towards a model of translation competence and its acquisition: The longitudinal study TransComp. In *Behind the Mind: Methods, Models, and Results in Translation Process Research*, edited by S. Göpferich, A.L. Jakobsen, & I.M. Mees. Copenhagen, Denmark: Samfundslitteratur, pp. 11-37.

Guarino, Nicola (1991). A Concise Presentation of ITL. In *Processing Declarative Knowledge* edited by H. Boley and M. M. Richter. Springer-Verlag Berlin Heidelberg. https://doi.org/10.1007/BFb0013526

Guidere, Mathieu (2010). Translation and multilingual monitoring. Globalization and Aspects of Translation. *EBSCO ebook academic collection*, edited by Said M. Shiyab, Marilyn Gaddis Rose, Julian House. Cambridge Scholars Publishing, pp. 43-52.

Kearney, Richard (2013). Surplus Being: The Kantian Legacy. In *From Phenomenology to Thought, Errancy, and Desire: Essays in Honor of William J. Richardson, S.J.*, edited by Babette E. Babich. Springer Science & Business Media, pp. 71 – 88. https://doi.org/10.1007/978-94-017-1624-6_5

Kuhn, D. (2011). What is scientific thinking and how does it develop? In *The Wiley-Blackwell Handbook of childhood Cognitive Development*, edited by U. Goswami. Wiley Blackwell, pp. 497–523. http://dx.doi.org/10.1002/9781444325485.ch19

Lewin, Bruno (2001). Mori Ogai and German Aesthetics. In *A History of Modern Japanese Aesthetic*, edited by Michael F. Marra. University of Hawaii Press, pp. 68-92.

Martinez, Silvia Montero and Benitez, Pamela Faber (2011). Terminological Competence in Translation. In *Teaching and Learning Terminology: New Strategies and Methods*, edited by Amparo Alcina. Benjamins current topics (Volume 35). John Benjamins Publishing, pp. 89-106. https://doi.org/10.1075/bct.35.05mon

Melby, Alan, K., Warner, Terry (1995). *The Possibility of Language: A discussion of the nature of language, with implications for human and machine translation.* John Benjamins Publishing. https://doi.org/10.1075/btl.14

Nimwegen van, Christof, Tabachneck-Schijf, Hermina, Oostendorp van, Herre (2006). Guidance in the Interface: Effects on Externalizing Information During Problem Solving. In Eshaa Alkhalifa (Ed.), *Cognitively Informed Systems: Utilizing Practical Approaches to Enrich Information Presentation and Transfer: Utilizing Practical Approaches to Enrich Information Presentation and Transfer*. IGI Global research collection, pp. 74 – 101. https://doi.org/10.4018/978-1-59140-842-0.ch004

Pettini, Silvia (2016). On the Translational Specialisation of Digital Interactive Entertainment. In *Language for Specific Purposes: Research and Translation across Cultures and Media*, edited by Giuliana Elena Garzone, Heaney Dermot and Giorgia Riboni. Cambridge Scholar Publishing.

Platonova, M. (2019). Poster, Poster on the Wall, Do You Really Mean it All? Decoding Visual Metaphor 'Global Warming' in Public Awareness Campaigns. *Research in Language*, *17*(2), 147–166. https://doi.org/10.18778/1731-7533.17.2.03

Platonova, Marina & Erins, Ingars & Miltina, Zane. (2016). Application of Tagging Services for Term Analysis on Visual Plane in Financial Engineering. *Procedia - Social and Behavioral Sciences*. 231. 69-75. https://doi.org/10.1016/j.sbspro.2016.09.073

Rousselot, F., Barthelemy, T., de Beuvron, F., Frath, P. and Oueslati, R. (1996). Terminological competence and knowledge acquisition from texts. In *Proceedings of the EKAW'1996 Workshop*.

Salevsky Heidemarie and Müller Ina (2011). *Translation as Systemic Interaction. A New Perspective and a New Methodology*. Frank & Timme.

Schunn, C. D., & Anderson, J. R. (1999). The generality/specificity of expertise in scientific reasoning. *Cognitive Science, 23*(3), 337-370. https://doi.org/10.1207/s15516709cog2303_3

Schwartz, Gary, E. (1996). Levels of Awareness and "Awareness Without Awareness": From Data to Theory. In *Towards a Science of Consciousness. The First Tucson Discussion and Debates*, edited by Stuart R. Hameroff, Alfred W. Kaszniak, Alwyn Scott, MIT Press, pp. 279 – 294.

Spiro, R., & Jehng, J. (1990). Cognitive flexibility and hypertext: theory and technology for the non-linear and multidimensional traversal of complex subject matter. In *Cognition, Education and Multimédia: Exploring Ideas in High Technology*, edited by D. Nix & R. Spiro. Hillsdale New Jersey: Lawrence Erlbaum Associates, pp. 163-205.

Sumser, John (2016). *The Conflict between Secular and Religious Narratives in the United Sates. Wittgenstein, Social Construction, and Communication*. Lexington Books.

Wilss, Wolfram (1999). *Translation and Interpreting in the 20th Century: Focus on German*. Benjamins Translation Library (vol. 29). John Benjamins. https://doi.org/10.1075/btl.29

Yearwood, John & Stranieri, Andrew (2012). *Approaches for Community Decision Making and Collective Reasoning: Knowledge Technology Support: Knowledge Technology Support. IGI Global*. https://doi.org/10.4018/978-1-4666-1818-3

Zeineddin, Ava (2008). Scientific Reasoning and Epistemological Commitments: Coordination of Theory and Evidence Among College Science Students. Thesis (Ph.D.) University of Illinois at Urbana-Champaign.