The core idea of this research is initiated basic to the belief that translation research is still developing and there is a lack of a solid common body of knowledge whose mastery can be defined as a research competence. Its content and framework are structured in a way to involve varied issues along with related practical solutions. Its reliability is made possible by facts and notions derived from related published literature and other analytical observations. Common and remarkable translation attributes, at both theoretical and practical levels, are explained along with ideas that would inspire practical solutions to deficiencies in translation knowledge base. It is the hope that the inspiring ideas included in this research would bridge the aforementioned gap and in turn contribute to a better performance in the translators' act.

INTRODUCTION

There seems to be consensus among the major interpreting and translation schools (I/T) in the West that at the time of admission into any I/T course, students should already have a reliable command of their working languages. Keiser (1970) argues that it is stressed by instructors from professional interpretation and translation schools that full mastery of the source and target languages is a prerequisite for admission to any translation training program. Major interpretation schools in the West even refuse to be regarded as language schools. This claim is founded on the belief that insufficient command of the source language is not a legitimate complaint for a translator. Gentile (1991) argues that the symptoms of insufficient comprehension of the source language are similar to those of insufficient analysis of the source language text. Maillot (1981) advocates the idea that "interpreters and translators must have good passive knowledge of their working languages". According to Keiser (1970), Nilski (1967) and Seleskovitch (1981) once this prerequisite is met, knowledge acquisition should involve an acquisition of tactics related to written translation, conference-specific-phraseology, speech comprehension and production, precise selection of terminologies, equivalents, and other cultural and technical provisions.

From a cognitive perspective, translation is a "crisis management" – in the sense that the linguistic crises that unexpectedly emerge demand cognitive skills through which logic-based-solutions are provided.

In his book "The practical value of translation theory" Kimossarov (1985) argues that this interchangeability between crisis and cognition accounts for the unique talents possessed by all qualified professional translators.
Since it is axiomatic that any translation act should result in a publishable text, the highest priority should be given to writing-skills with respect to variables-qualifying-sources. The processing-capacity-constrains that stay active throughout any translation process involve a variety of writing skills. Carroll (1978) argues that students in a translation training program have to realize and improve their potential cognitive and other linguistic talents that they bring to any training course. In his discussion of the difference between a mediocre translator and a good translator of pragmatic texts he argues that the difference lies: (A) in the approach each one adopts, the size of the existing knowledge-base, talents utilized for writing. In this regard Aitchison (1987) argues that with more talent and more knowledge, cognitive operations in translation may get faster provided the translators are endowed with the aforementioned basic prerequisites and in particular an aptitude for writing. Lederer (1992) claims that conscientious translators who systematically adhere to some sound methodology should be more able to produce better translation than translators who are less systematic.

The knowledge base of interpreters and translators of non-literary texts seldom contains all the information they need to perform their work. Gentile (1991) argues that knowledge acquisition in translation courses is customary and with proper training the knowledge base of the trainees can expand even if the prospective translators start at a fairly low level.

RESEARCH COMPETENCE

What aggravates the problem of translation research competence is that I/T research is still developing as a discipline (or inter discipline) and does not yet have a solid common body of knowledge and methods whose mastery could be defined as research competence in I/T. But the varied literatures presented on the issue of interpretation and/or translation involves valuable materials that include facts and ideas which are likely to inspire new prospective and promising ideas. For instance,

Lederer (1992) argues that among many good teaching approaches is a methodology that presents a rich-fishing pond for translation writing skills with an emphasis on contrastive approach between two or more given languages. A non-technical source language text with ambiguities can be a good fishing pond and it, naturally, leaves the door wide open for students to apply and utilize cognition and logic in varied translation techniques. An instructor, for psychological considerations, may like to present a segment of a text from an assignment done in previous years rather than one from the current group of students. The ground would thus be laid for encouraging the plausibility of contrastive and logic-based discussion among class participants.
Throughout the course of training, the instructor should remind the class of the translator's ethical obligation: to produce a text that should serve the author in particular. This service can be rendered through a linguistically acceptable target language text. In this regard Healey (1978) argues that as the trainees work on any given translation assignment, they should strive to optimize the editorial quality of the product. A good way to do this is to scrutinize the text, to try out a change, and to scrutinize it again and again. At this point it should be noted that there are two basic strategies for arriving at an editorially acceptable target language text: One is to start with a word-for-word translation and then work one's way up toward acceptable wording through the reformulation loop. Another is to start reformulation from the content of the translation unit, dissociated from its linguistic clothing. This is a process which is precisely what the reformulation loop below describes.

**REFORMULATION LOOP**

All initial translation exercises should be performed on texts for which the comprehension is plausible and can be completed. Accordingly, the reformulation loop starts only after the comprehension phase is completed. When the participants in translation course get to a point where they can not complete the comprehension phase, they should be advised to follow the comprehension loop until they can originate some progress and then make a decision. Kade/Cartellieri (1971) argue that an unresolved comprehension difficulty can lead to problems in the reformulation stage, especially when the translator has to find a way to overcome or bypass a culture-related difficulty for which there is no equivalent in the target language.

Oftentimes, the translator does not admit a meaning hypothesis until after verbalizing it in the target language – even if it is only mentally. Aitchison (1987) argues that following a complicated cognitive processes involving knowledge of the probabilistic structure of the given language, the context, and the situation, the translator decides that the word being scrutinized corresponds to a particular word in his/her mental dictionary. This cognition related process does not exist in machine translation programs. They present an inability to relate linguistic signs to knowledge of the world, and consequently they can not disambiguate and solve other problems arising from linguistic errors, mistakes in substance, and deviations from standard language and logic. Human cognition is solely capable of doing such a procedure. One of the most interesting observations is that beginning translators tend to be tempted and constrained to recourse to ready made verbal sentences, phrases and clichés. Cherry (1978: 79) argues that

"We become prone to verbal habits. It is only too easy to use clichés, proverbs and slogans as a substitute for reasoned statements."
This recourse is justified on the ground that it is easier and it often takes time and mental effort, on the part of the translator, to find the right equivalent and then decide how to steer the sentence at a syntactic juncture. Besides, in actual translation practice there is no regular linear flow of well-defined and clearly bounded translation units that follow each other in a smooth movement from comprehension to reformulation. There may be some interpretation of translation units or some forward and backward movement between different translation units and between the comprehension and reformulation phases. Castellano (1983) argues that poor reformulation is, sometimes, due not to a methodological weakness but to a poor command of the target language, and in particular to poor writing skills. A good remedy to this potential problem is for the training administrators to design technical writing courses with enough time to allow the administration of such basic training requirement. This side of translation training technique, being an essential part of all translation-training proper, contributes bring students up to the required level.

The knowledge base, which is necessary for both comprehension and reformulation, comprises both knowledge of the source and target languages (linguistic knowledge) and knowledge of the world (extra-linguistic knowledge). The vast majority of errors found in translation can be ascribed to an inadequate preexisting knowledge base. This deficiency is rooted mostly in the following forms:

1) Insufficient command of the target language,
2) Insufficient command of the source language; or to
3) Faulty procedures such as: a) insufficient analysis in the comprehension phase, b) insufficient efforts exerted in knowledge acquisition, c) insufficient efforts in the reformulation loop.

When the translation products contain statements that run contrary to common sense or to what they are believed to reflect about the subject matter, chances are that the translators did not read critically what they wrote; or if they did, they did not challenge deep enough what the translation units seemed to be saying. Both students and instructors should work within the conceptual framework that the better the match between the text and the author's specialty and subspecialty is, the greater is its reliability. Another striking fact is a common view advanced by psycholinguists e. g. Richaudau (1981) argues that some syntactic structures facilitate comprehension and others make comprehension more difficult. Embedded structures, in this regard, seem to impose an important short term memory-effort on the translation practitioner. Pöchhacker (1992) argues that above and beyond each writer's individual style there are cultural components that determine, to a varying extent, the way information is expressed in each language. Stylistic, grammatical, and syntactic properties of individual languages add a tiresome burden on the translator's cognition. Selection of
lexical items (equivalents) and decision-making pertinent to certain grammatical and syntactic structures may be more difficult in one language than in another. This difficulty can be attributed to differences in the variety of possible choices and in the flexibility of linguistic rules. Aitchison (1987) argues that the similarity or dissimilarity between the source language text (SLT) and the target language text (TLT) are noticed in lexical syntactic and in general information terms. Lexically, a phonetic or morphological similarity may accelerate the retrieval of an appropriate target language equivalent.

As for informational dissimilarity, it turns to be a problematic matter especially when differences in linguistically induced information force the translator to choose round-about ways to avoid providing for information required in the SL but not available in the target language and vice versa.

The order of information presentation in the two languages also produces an additional translation difficulty. A higher workload for the translator's short-term memory component is expected when the order poles apart. Translation training can be optimized when issues related to the above potential discrepancies are highlighted and presented to students from a logical and mindful analytical framework.

**TACTICS**

Decision-making is a salient attribute in translation processes. After collecting as much information as possible, translators must decide what how and at what point they will start the writing process. In the decision-making phase two variables are involved: risk of error and loss. The former means the likelihood of the translator making the wrong choice, (wrong technical term, wrong interpretation of an ambiguous statement, etc.). Loss: refers to the potential consequences of such an error. According to Pöhhammer (1992) translators should try to reach the best possible combination of risk and loss values. Some errors are associated with such a small loss that even a high probability of error is acceptable. For instance, the translator may select a technical term in the particular target group of readers for whom the translation is written, but which is nevertheless semantically correct but not acceptable. Some losses may be so critical that risk of error should be close to nil, as it is the case of the translation of user instructions for vital medical equipment. Only rarely do professional and conscientious translators write texts which satisfy them completely based on their first attempt. Most often they have to go around the loop two or three times at least, stopping only when they feel they can do no better.

Sometimes some authors express their ideas in a language they have not really mastered; or they may have to write under certain pressure. These phenomena initiate, in the source language texts (SLT), segments that do not seem to make sense. The principle
which the translators should follow is to convince themselves that the given author is not a fool and he knows what he or she is talking about. Consequently, they can go through the comprehension loop again and again until they reach a meaning hypothesis that makes sense. Another difficulty arises when authors belong to cultures in which much leeway is allowed in the formulation of their ideas. But irrespective of all these abnormalities, the target language text should contain no linguistically incorrect words, or clumsy technical terms for that matter.

Students are often stuck with a particular sentence structure in which they have trouble finding the appropriate noun, verb, or adjective in the target language. In such a case it is often possible to break the deadlock by reconstructing the sentence in a totally different way, or by merging sentences, or sometimes by an associated change in the order of information. The bottom line of any proper editorial approach is to train translators on how to grasp the underlying logic of each sentence in both the SLT and TLT. In order for translators to get to that logic they should have efficient training based on which they can, at least, recognize the semantic aspects of words and utilizes such recognition in a reliable translation product. Castellano (1983: 47) argues: "It would be proper for the client commissioning a translator to judge the work by its intellectual quality".

LEXICON & SYNTAX

Habitual combination of words generally differs from language to language and makes the translator's production task more difficult. Following the source language structure and lexical choices in one's target language (transcoding) is risky. The translator may get stuck at a certain point because of lexical, syntactic and/or grammatical differences between given languages. Besides the risk of getting stuck, the translator may get deprived of part of his or her own linguistic resources and skills as a writer, which might be put to use if he or she were to produce a target language text based on meaning rather than on the basis of a linguistic structure borrowed from the writer of the SLT. This kind of transcoding is associated with greater danger of linguistic interference between the two languages, be it (1) gross interference resulting in grammatical errors; or (2) resulting in words that look familiar in the two languages but do not have the same meaning, connotation, or usage; or (3) in a subtler inference that will make the translation text less-native like, less clear, or less pleasant to read or to listen to. Carroll (1978) argues that by focusing on language, the translator is in greater danger of processing the source language text more superficially than if he or she would produce the target language text based on meaning.

In every language words follow each other not at random, but with highly differentiated probabilities. Richaudeau (1973: 21) argues that this stylistic phenomenon is an integral
part of human language perception. The more numerous and precise such sequential probabilities are, and the better they are known to the translator, the less processing capacity is required for speech, reading, and verbal comprehension and production.

A high level of linguistic proficiency in individual translator means not only that they know words and structures and can recognize them, but it also means that they have good knowledge of transitional probabilities and can use them in comprehension. According to Cherry (1978) production criteria for the translator are not dependent on the criteria which apply to the text being translated. Gile (1985) argues that technical terms require more processing capacity for understanding and/or for reformulation in the target language if they are not readily available in the translator's immediate memory.

The problem that is frequently encountered is that translators may understand a term but do know in which linguistic frame of mind they can explain it. A practical example is what actually happened in one of the conferences where the data processing term "tableur" (spreadsheet) was interpreted as "the problem which defines rows and columns and allows calculations to be made." This tactic can be sufficient as far as information is concerned; but it has two drawbacks: one is the mind-numbing processing capacity it demands on the part of the interpreter and the other is that it may draw the delegates' attention to the fact that the interpreter does not know the proper term in the target language. Such perceived notion possibly would lower the translator's credibility and reduce the impact of the translation product accordingly.

At another level, some translators resort to transcoding as a process that consists of translating a source-language term or a speech segment into the target language word for word. For example in the field of accounting, the English term "maturity date" (the equivalent of which is "date d' echeance") was interpreted as "date de maturite". This is indicative that translators are expected to have full mastery of the written system of their creative working languages in terms of grammar, stylistics, and other editorial criteria.

Gérard Ilg of the E.T.I University of Geneva (1978, 1980) strives to enrich and make his students' expression skill more flexible. His set of exercises include: permutation exercises, which consist of syntactic transformations such as inversions, conversion from active to passive and vice versa, addition or deletion of double negations; summary exercises and expansion exercises; the search for synonyms, and super ordinates.

Professional translators know for sure that lexical command is highly variable. This variability, according to Aitchison (1987: 5–8), is attributed to the fact that an educated person’s vocabulary consists of several tens of thousands to more than a hundred thousand different words. A small fraction of this vocabulary is encountered daily and a large proportion is rarely encountered, that depends on the individual's living environment and professional and personal activities. In view of the importance of the lexical component of
language skill in translation, it can happen that the translator knows the "word" but is reluctant to use it for one reason or another. He or she may not be sure that the word is appropriate for the particular situation as regards style or level of politeness. He may not be sure of the precise meaning of the word, or may fear that the word that comes to mind is a "false friend", i.e. an unwanted intruder from another language which looks similar to a word in the language intended to be used. Administrators and designers of any translation course have to keep in mind the following fact and have their students trained accordingly.

A very important attribute of lexical and stylistic availability is its dynamic nature. Aitchison (1987) argues that words are learned, become more or less available, but if not stimulated they tend to drift away from the center of active memory. When words are not used, they tend to become less active, then become passive exclusively, then less available as passive entities, and then disappear from the subject's system. A newly learned word can become very active within minutes. The more frequently words are used, the faster they move inward or towards active memory. According to Matthei/Roeper (1985: 182) the frequency of occurrence of a word in a language affects the time the translator takes to gain access to that word in the mental lexicon. Frequently used words are perceived more easily and read more rapidly (Miller 1956: 272 f.). Clark and Clark (1977: 56) argue that rare words are more difficult to process. The more frequent a linguistic element is, the more deeply it is rooted in the psychology of the translator (Mahmoudian 1982: 189). Instructors have to bear in mind that automatic repetition without a context and without cognitive operations does not appear to be very efficient. When a word becomes more available other words that sound or look similar and have been associated with it psychologically also tend to become more available. These notions as advanced by a number of reliable authors stress the fact that translators' lexicons should, as much as possible, be associated with their sensational and semantic dimensions. Matthei/Roeper (1985) argue that since active stimulation tends to be stronger than passive stimulation, students should be encouraged to speak rather than listen to optimize optimum efficiency. The instructor's fundamental training approach should be founded on meaning-based translation tactics. The aim here is to optimize teaching methods, rather than letting students follow the learning curve in a random way as determined by the problems encountered during a series of translation exercises along with their corrections by the instructor. This strategy should be designed and well planned rather than left to haphazard probabilities and possibilities. The instructor's plan can be designed based on Carroll's (1978: 266) discernment who argues that translators vary not only in terms of their cognitive information but also in the speed and facility with which they store, retrieve and manipulate elements of information. Most of the required skills in translation can be cherished by practice, by acquired linguistic intelligence, and by a promotion of their writing skills.
Finally, it does not seem very efficient for I/T students and teachers to invest much time and effort in the study of theoretical linguistics or general neurology, because the path leading from such knowledge to applications is long and uncertain. Besides, much of the literature on human communication is too general to be of direct use to the I/T teachers. Much of the literature on the philosophy of language is even too general to provide specific guidance for interpretation and translation required skills. According to Viaggo (1992) a moderate but not excessive self acquaintance of such branches of knowledge would be helpful. In this regards, it is useful to have some notions of cognitive psychology, especially issues related to attention sharing (Matthei/Roeper 1985).

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