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Certification and Job Task Analysis (JTA): Establishing Validity of Translator Certification Examinations

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Abstract: Translator certification examinations are offered by many entities worldwide. This article considers the question of how such examinations can be strengthened by applying certification theory and practice. ISO standards are used as a basis to describe how job task analysis is typically used in establishing the validity of a certification examination. The article describes a job task analysis that was conducted by the American Translators Association, then summarizes the literature on translator competence and compares a recent European project with the ATA job task analysis results. The ATA job task analysis results are compared with the current ATA examination and the broader certification program. Finally, the significance of the ATA job task analysis for both ATA and other professional translator associations is discussed.

Keywords: translator certification, job task analysis, American Translators Association (ATA)

1. Certification Examinations

There are many translator certification programs around the world. In 2005, the International Federation of Translators (FIT, www.fit-ift.org) published a report by Jiri Stejskal (currently one of the vice-presidents of FIT but then chair of the FIT committee on the status of the translation and interpretation profession) showing that the vast majority (96%) of the 63 FIT member organizations responding to a survey included an examination as part of their credentialing program (Stejskal, 2005). Clearly, most of the professional associations that are members of FIT conduct some sort of certification examination. This article assumes that translator certification is desirable and examines the question of how to strengthen an existing certification program, both in the general case and in the specific case of translator certification.

All organizations that conduct certification examinations benefit from establishing that their examinations are sound and defensible. By "sound" we mean that the examination is a good indicator of professional competence, and by "defensible" we mean that if someone challenges his or her failure to receive a credential, the examination can be defended on the grounds that it was developed based on widely accepted principles and requirements of assessment.

The rest of this section explores the ISO standards that formalize these widely accepted principles and requirements. The focus of this article is

the principle of *validity*, which is a crucial aspect of establishing that an examination is sound.

Section 2 describes how job task analysis is typically used in establishing the validity of a certification examination. Section 3 describes how the American Translators Association (ATA), a member of FIT, conducted a job task analysis of translator competence. Section 4 surveys the literature on translator competence and compares a recent European project with the ATA job task analysis results. Section 5 compares the ATA job task analysis results with the current ATA examination and the broader certification program, which includes eligibility to take the examination and continuing professional development even after obtaining certification. Finally, section 6 explores the significance of the ATA job task analysis for both ATA and other professional translator associations.

1.1. Certification vs. Accreditation

When investigating credentialing examinations for translators, it is necessary to take the ISO 17000 series of standards into account. Although not as well known as the ISO 9000 series, the 17000 series is nonetheless very influential and is managed by CASCO (2012), the ISO committee on conformity assessment. The starting point standard of the series, ISO 17000:2004, defines conformity assessment as follows:

> (2.1) demonstration that specified requirements relating to a product, process, system, person, or body are fulfilled

The first note on this definition makes it clear that *certification* is used for persons while *accreditation* is used for assessment bodies. Thus, even though in some countries, such as Australia and South Africa, individual translators are *accredited*, this paper uses only the term *translator* ***certification***. In accordance with ISO 17000, *accreditation* will be reserved for a third-party review of a certification body to determine whether it is properly conducting the certification process.

Licensure is generally used in a governmental context for regulated professions. For example, a licensed electrician is authorized by some unit of government to install, modify, and repair electrical wiring in buildings. When buildings are inspected, it must be demonstrated that the electrical work was done or at least approved by a licensed electrician. Certification is generally used in the private sector and is voluntary. For example, in the United States, professional translators are not required to be certified. Licensure and certification, together, are often referred to as credentialing.

1.2. ISO 17024, KSAs, and competence

Today, the most common standard used for accrediting certification bodies is another member of the ISO[1] 17100 series: ISO 17204 (Conformity Assessment – General requirements for bodies operating certification of persons). For example, the Irish National Accreditation Board (www.inab.ie/aboutus/) uses ISO 17204, and the United Kingdom Accreditation Service (www.ukas.com) points out (in document P16 on accreditation of approved and notified bodies) that as of August 2009 its use of the EN 45000 series of standards was being re-evaluated, since they were being largely replaced by the ISO 17000 series.

[1] Information about ISO standards is available at the ISO website (www.iso.org).

Indeed, as of January 1, 2010, EU Regulation 765/08 on Accreditation and Market Surveillance has been in effect, which includes the use of ISO 17000 standards harmonized with EN 45000 standards. In the United States, ISO 17024 has been adopted by ANSI (www.ansi.org), the U.S. member body of ISO, as ANSI/ISO/IEC 17024 for use by accreditation bodies. Thus, ISO 17024 is recognized in the United States and Europe as the relevant international standard providing minimal requirements for a personnel certification body.

Given the use of ISO 17204 in various countries and across multiple disciplines, a basic question arises: If a certification body is an organization that determines whether a person is to be certified, and an accreditation body is a higher-level organization that determines whether certification bodies are recognized, then who watches over the accreditation bodies to make sure they are using ISO 17024 properly? This top-level "watchdog" function is performed by national governments, e.g. through EA (www.european-accreditation.org) or the International Accreditation Forum (www.iaf.nu), which are organizations whose members are established accreditation bodies in various areas. The International Accreditation Forum is the ultimate world-wide authority on whether to recognize an accreditation body and it recognizes EA. In all cases around the world, these watchdog organizations expect an accreditation body that certifies persons to implement ISO 17024.

The requirements of ISO 17024 fall into two categories: (1) the operation of the certification body as an organization and (2) the development and maintenance of what is called the "certification scheme". A certification scheme is essentially the certification examination, along with the procedures used to create new versions of the examination and to grade the examination. The requirements for the operation of the certification body are focused on (a) making sure the certification process is fair for all candidates, (b) documenting all procedures for granting, renewing, and suspending or withdrawing certification, and keeping proper records, and (c) involvement of all stakeholders in an advisory council.

The requirements for the certification scheme itself are focused on *validity* and *reliability*. These are terms from assessment theory. Here is a simplified description of them:

- An examination is *valid* when you are testing what you want to test.
- An examination is *reliable* when the candidate gets the same score, within a reasonable range of variation, regardless of who grades the examination.

Of course, an examination cannot be reliable in isolation. The grading criteria and the training of graders are crucial elements of an examination system and are implied when an examination is referred to as reliable.

An examination that is solid and defensible must, among other things, be both valid and reliable. Being one without the other is strange. Consider the case of an examination that is reliable but not valid. For example, suppose you want to test how well someone reads Russian. Your "invalid" examination consists of measuring how tall the candidate is when barefoot. The score is associated with Russian as follows: the bigger the score (in centimeters) the better they speak Russian. The result will be highly reliable. No matter who the grader is, the height will come out the same, so long as they measure carefully. However, the result is completely invalid, since there is no connection between height and Russian language reading proficiency. Thus, the examination is useless.

An examination could also be valid but not reliable, that is valid as an assessment instrument but invalidated through unreliable scoring. For example, suppose you want to test how well someone can read an MRI scan. Your "valid" examination consists of looking at real MRI scans of patients who are healthy and scans of patients who have various diseases, such as cancer, along with questions about the scans. The candidate is asked to distinguish between the two types of scans. But further suppose that the graders are not properly trained and some of them grade the candidates on how long it takes the candidates to make their decisions, regardless of whether they properly categorize the scans. Thus, the grade received by a candidate would depend heavily on who grades their examination. The examination would be valid but not reliable, and thus useless.

The notions of validity and reliability as applicable across many types of testing involving humans (as opposed to other kinds of testing, such as measuring properties of physical materials) are discussed in the widely referenced book of testing standards, *Standards for Educational and Psychological Testing* (AERA, APA, & NCME, 1999). For much more detail on reliability and validity in various kinds of language testing, see the classic book in this area by Bachmann (1990).

For translator certification exams, the principal domain is the work of producing professional translations typically found in professional practice at a high level of quality, that is source-target accuracy and target-language fluency, in the opinion of the graders, and the construct that is being tested is professional competence. But what is competence? Is it only about texts? The ISO 17024 definition of *competence* is:

> (3.6) demonstrated ability to apply knowledge and/or skills and, where relevant, demonstrated personal attributes, as defined in the certification scheme

Thus, following ISO 17024, developing a translator certification examination involves identifying various abilities that are needed by a competent professional translator, along with the knowledge that must be acquired, the skills that must be developed based on those abilities, and any personal attributes that are relevant to the job of being a professional translator. Then it must be shown that the examination actually measures those abilities, areas of knowledge, skills, and attributes that comprise translation competence. Finally, it must be shown that the examination can be graded reliably.

1.3. Competence and the Nature of Translation Quality

Defining translation competence as a measurable construct is not trivial, nor is it theory neutral. Sandberg (2000) provides some philosophical background for the study of competence. Sandberg distinguishes between a rationalistic and an interpretive approach to competence (based on phenomenology as developed by Husserl, Searle, and others in philosophy). The Sandberg article is particularly relevant to translator certification, since it implies that the performance of a professional (including a professional translator) is influenced by his or her attitudes and beliefs. Thus, translation competence is connected with the perceived nature of translation and translation quality. For the purposes of translator certification, this article is built on Functionalism in translation studies (as described and promoted by Christiane Nord [1997] and others), with emphasis on the importance of a "translation brief" that is negotiated between the requester and the provider of translation services. Functionalism is also the basis of the ISO guidance document for translation projects (ISO/TS-11669 2012), which builds on the notion of a

translation brief and recommends use of structured translation specifications instead of an unstructured brief. Social and ethical factors are also relevant.

For the purposes of this article, the definition of translation quality based on Functionalism, ISO/TS 11669, and cross-industry studies of quality management is as follows:

> A quality translation demonstrates required accuracy and fluency for the audience and purpose and complies with all other negotiated specifications, taking into account end-user needs. (Melby, in press)

The practical consequence of Functionalism and ISO/TS 11669 is that the translation performance component of a translator certification examination must include both a source text and a set of specifications (i.e., instructions) for the translator. An examination in which a translator is presented with a source text and no specifications is not valid. Neither is a translation project without specifications.[2] Specifications must include the audience and purpose of the translation. A list of all 21 translation parameters from ISO/TS 11669 can be found at www.ttt.org/specs.

One might be tempted to assume that a translator certification examination should consist solely of a performance examination in which a translator is given a source text and structured specifications and is expected to produce a quality translation. Few would question the need for a performance component in a translator certification examination. However, a valid examination may well involve more than a performance component. All aspects of competence must be taken into account. The next section explores how competence is typically analyzed in the development or re-evaluation of an examination.

2. Developing Validity for a Certification Examination

This section focuses on how validity can be developed and verified for certification examinations. While reliability is also essential, a study of it is beyond the scope of this article.

2.1. Knowledge, Skills, and Abilities

Established practice dictates that competence be broken down into knowledge, skills, and abilities (see, e.g., Wang's discussion on developing certification exams [2005], and the previously quoted definition of competence from ISO 17024). In the United States, the acronym *KSAs* is often used for knowledge, skills, and abilities. In the case of a professional activity, this breaking down is done using a technique called *job analysis*. The results of a job analysis are used in establishing examination validity.

The official European Union explanation of competence used in the European Qualifications Framework (EQF) is as follows:

> [Competence] is thus used in an integrative manner; as an expression of the ability of individuals to combine – in a self-directed way, tacitly or explicitly and in a particular context – the different

[2] We are, of course, aware that in the professional practice of translation many projects are successfully completed without explicit specifications. In these cases, the professional translator is often forced to infer the specifications from the internal context of the document. The definition reflects a desire to improve the world of translation.

elements of knowledge and skills they possess. (European Union, 2008)

The EQF definition is actually quite close to the ISO 17024 definition. It should be noted that the ISO definition includes a fourth element: attributes. Sometimes the boundaries among skills, abilities, and attributes are fuzzy. However, in both definitions it is clear that inherent personal attributes and abilities of a competent professional are the basis for integrating knowledge and skills in a particular context in order to accomplish needed tasks.

The knowledge-skills-abilities approach to defining competence has long been a recognized method. Lundberg (1972) provides some historical insight into the origin of descriptions of competence. He cites Summer (1956) as providing the following early description of executive competencies (Lundberg, p. 13):

- knowledge
- attitudes
- ability (consisting of skill, art, judgment, and wisdom)

Over the years, this breakdown has evolved to emphasize knowledge, skills, and the ability to integrate them, with a de-emphasis on "attitudes" as a basic component of competence, although it is an open question whether attitudes should be re-emphasized.

2.2. Job analysis

Regardless of whether the American or European definition of competence is used, or some other minor variation, the establishment of the validity of a translator certification examination typically involves conducting a job analysis. An informational publication of the Institute of Work Psychology of the University of Sheffield (UK)—"What is Job Analysis?"—indicates that there are three popular types of job analysis: Critical Incident Technique (CIT), Hierarchical Task Analysis (HTA), and Position Analysis Questionnaire (PAQ). CIT involves asking people who are already hired for a particular job to describe specific incidents in which they either succeeded or failed to achieve a particular objective. PAQ is a commercial system that is used primarily to develop job descriptions for use by a Human Resource Department. A task-oriented approach involves dividing a job into various tasks that need to be performed and gathering data about these tasks from a number of sources. Job analysis is a field of endeavor that applies far beyond the development of certification exams. Wang (2005) points out that within the development of certification exams, the most common type of job analysis is task-oriented. She furthermore identifies five steps typically followed in a certification-oriented job task analysis:

(1) Ask subject matter experts (SMEs) to identify the job tasks or other activities performed by professionals in the domain in question and to define possible items for test content (that is knowledge, skills, and abilities). (For some jobs, the phases of developing a list of tasks and of linking KSAs to various tasks are separated. However, in the case of the domain of translation, the primary task, translation, is not in question, and these two parts can be combined.)
(2) Develop a survey questionnaire using the results of the first step.
(3) Select a representative sample of practitioners in the profession to respond to the survey.

(4) Ask the survey respondents to rate each task-oriented item according to frequency and importance to being a competent professional in the domain.
(5) Analyze the survey data to determine the relative importance of each task.

Wang (2005, pp. 16–17) further cites the previously referenced book of standards for the development of tests on humans (AERA, APA, & NCME, 1999). This book confirms the basic principles discussed so far in this article, including the notions of validity and reliability, and includes a section on testing for licensing and certification that confirms the use of a job task analysis in developing a certification examination. The first phase of a job task analysis consists of the five steps described above. The second phase is the application of the results of a job task analysis to the design of a new examination system or the re-evaluation of an existing examination system.

2.3. Establishing validity

In summary, the use of job task analysis is widely viewed as the primary basis for the development of a valid certification examination. However, once an examination has been developed, regardless of the means, it must be periodically reviewed to confirm its validity as the profession in question evolves. Job task analysis is also used to assess the validity of an existing certification program and to make adjustments, as needed. This action is exactly what is being done in the case of the existing translator certification program offered by the American Translators Association. A certification program involves more than an examination, which is one reason ISO 17024 refers to a *certification scheme* rather than a *certification examination*. We will see at the end of this article that a job task analysis can inform all aspects of a certification program (eligibility, credentialing, and professional development), not just the examination component.

Malmkjær sets up a different set of categories: "…the translator engages in at least five activities which all subsume other activities. The five activities are (i) Anticipation; (ii) Resource Exploitation; (iii) Co-operation; (iv) Revision; and (v) Translating" (1998, p. 7). Malmkjær does not, however, list what skills are necessary to perform these activities. On the other hand, Neubert also lists five categories, which he calls "five parameters of translational competence, viz. (1) language competence, (2) textual competence, (3) subject competence, (4) cultural competence, and, last but not least, (5) transfer competence" (2000, p. 5). He then specifies the necessary level of language competence at least in general terms: "…literary, technical, or legal translators have to combine a level of knowledge, at least of the language expert, i.e. of the mother tongue as well as of the language pair with the specific artistry or expertise of the writer or expert" (2000, p. 4). Neubert also points out that translation competence makes the translator able to "approximate the subject area to such an extent that they can enable and facilitate easy and flawless understanding among the average reader as well as among the experts" (2000, p. 4), while at the same time being creative and remaining flexible to adjust to constant situational challenges. In addition to the five parameters, Neubert also sets up "seven features of translation competence, i.e., complexity, heterogeneity, approximation, open-endedness, creativity, situationality and historicity..." (2000, p. 5).

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3. The ATA Job Task Analysis

3.1. Focus Groups and Survey

In 2009, the ATA Board of Directors authorized a Job Task Analysis as part of a comprehensive review of its translator certification program. This analysis was intended to strengthen the validity of its certification examination, which awards the designation Certified Translator (CT). The intent was to define the job of a professional translator more clearly by identifying the knowledge, skills and abilities (KSAs) needed to perform professional translation services competently.

Translators who self-identified as experienced professionals (by their membership in the ATA) were invited to participate in four focus groups (step 1 of job task analysis as described in the previous section). The four groups brought together various stakeholder groups from the translation profession: two consisted primarily of freelance translators in the private

sector, one of government translators, and one of translation project managers. They were asked to identify the tasks performed by translators and to describe the KSAs needed to perform these tasks competently. There was substantial consistency in the KSAs identified by the four groups, which allowed ATA to proceed with one questionnaire (job task analysis step 2) and to consider it feasible to offer one certification examination for all various types of translators. This resulted in a list of 52 discrete items, 36 of which were KSAs and 16 of which were personal attributes such as "open-minded" and "culturally sensitive." The KSAs were then used to conduct a survey of a large number of practicing professional translators, who ranked the importance of each KSA in their view. The survey also asked for the personal attributes, education, and training needed in order to succeed as a translator.

ATA conducted the survey from mid-October 2010 to mid-January 2011 using Qualtrics software (www.qualtrics.com) provided through Brigham Young University. Practicing translators holding membership in the ATA or other professional translator associations were invited to take the survey, which was voluntary and anonymous. 1453 surveys were completed during the survey period, resulting in a margin of error of approximately 2.5 percent on the proportions estimated from the responses. Inviting translators and conducting the survey constituted job task analysis steps 3 and 4.

3.2. Results

The survey was analyzed and the results of the survey analysis were described in a ten-page report prepared for the ATA Board (ATA, 2011). This report constituted step 5 of phase one of the job task analysis. Briefly, the results can be summarized as follows

3.2.1. Demographics

Although the survey puts demographic information last, we believe that this information is a useful place to start in order to put the survey results in context. This information was collected in the categories Age Distribution, Level of Education, Professional Translation Experience, and Certification Status and Demographic Factors. Of the respondents, 69% were female and 31% were male[3]; 86% stated that they were free-lance translators while only 15% worked in-house; and 50% reported that they were certified and 50% were not. The average age range was 46 to 55 years old, mid- to late-career professionals. More than 1000 of the respondents fell within the range of 36 to 65 years old. Their highest level of education was generally a bachelor's degree or higher degree, with just under 500 holding a B.A., over 600 holding an M.A., and somewhat less than 200 holding a doctoral degree. The breakdown by level of experience was fairly even across age groups. Although the average level was 16 to 20 years, the groups with more or less experience were fairly similar in size, with a large proportion having less experience, as follows:

<6 years:	approx. 175
6 to 10 years:	approx. 225
11 to 15 years:	approx. 270
16 to 20 years:	approx. 215
21 to 25 years:	approx. 185
26 to 30 years:	approx. 150

[3] This correlates with the gender breakdown in the 2007 ATA *Translation and Interpreting Compensation Survey*, which shows an identical proportion of female to male respondents (68.6% to 31.4%).

31 to 35 years:	approx. 90
>35 years:	approx. 100

Thus the group of individuals with fewer than 15 years of experience makes up roughly 45% of the sample.

As for certification status compared with demographic factors, two factors showed no association—gender and professional status. Males and females, and free-lance and in-house translators were equally likely to be certified translators. On the other hand, two factors showed a significant positive association—age and education. The older and more highly educated a translator was, the more likely they were to be certified. (9) In addition, and not surprisingly, there was a highly significant association between experience and certification status—the more years of experience, the more likely a translator was to be certified. The percentage of translators reporting being certified increases from 18% with fewer than 6 years of experience to over 60% in the groups with 16 or more years of experience. However, "[t]he certification exam is challenging, with the current overall pass rate below 20%" (ATA, 2012). The large percentage of certified translators in the responding group shows that individuals were more likely to respond if they were certified.

3.2.2. KSAs

The most important KSAs and attributes were found to be the following:

- **Knowledge:** Grammar and vocabulary knowledge for a language pair have the highest importance.
- **Skills:** Terminology research and general writing skills have the highest importance.
- **Abilities:** Ability to read a source language and write in a target language has the highest importance.
- **Attributes:** Thoroughness, meticulousness, and attention-to-detail were the highest ranking attributes.

The entire list of KSAs and personal attributes is shown below, broken down by the ten major categories, with relevant rankings within each category. In the first six categories, respondents were asked to evaluate the importance of each area on a three-point scale with the categories of "Vitally important," "Somewhat important," and "Relatively less important." The areas deemed vitally important by the survey respondents are shown in bold. In almost all of the areas rated, one of two patterns is apparent. Either a large majority of respondents ranked the area as "vitally important," or the response was split between "vitally important" and "somewhat important," with "relatively less important" ranked much lower. There are also a few items where a larger majority of respondents marked "somewhat important." Thus of the 36 KSAs listed below, 22 (61%) were ranked "vitally" important, 9 (25%) were balanced between "vitally" and "somewhat" important, and 4 (11%) were ranked "somewhat" important to the practice of professional translation. Only the item "translation theory knowledge" (3%) was exceptional, being rated well below all other items, with the response roughly balanced between "somewhat important" with just over 500 respondents and "relatively less important" with just under 500 respondents. The apparent disconnect between translation theory and practice is an important topic that is beyond the scope of this article. Note however, that the ability to follow specifications was considered vital, and specifications, which are based on

the notion of "translation brief" in Functionalist approaches to translation (Nord, 1997), can be considered an application of translation theory.

As can be seen, there are 13 knowledge areas, 13 skills, and 10 abilities, for a total of 36 KSAs.

- Language Pair Knowledge Areas (importance and frequency of use were identical)
    - **Vocabulary knowledge** (*vital*, well over 1000 respondents)
    - **Grammar knowledge** (*vital*, well over 1000 respondents)
    - **Idiomatic knowledge** (*vital*, over 1000 respondents)
    - Slang usage knowledge (*somewhat*, over 500 respondents)
    - Usage trends knowledge (split, over 500 respondents each)
- Other Knowledge Areas (importance and frequency of use were identical)
    - **General knowledge** (*vital*, over 1000 respondents)
    - Current events knowledge (split, over 500 respondents each)
    - Cultural, historical and political knowledge (split, over 500 respondents each)
    - **Subject-matter specific knowledge** (*vital*, over 1000 respondents)
    - Translation theory knowledge (split between somewhat (over 500 respondents) and relatively less (just under 500 respondents)
    - Translation methods knowledge (split, over 500 respondents each)
    - Translation standards knowledge (split, over 500 respondents each, tending to vital)
    - **Translators ethical obligations** (*vital*, over 1000 respondents)
- Translation Skills
    - **Textual analysis skills** (*vital*, over 1000 respondents)
    - **Terminology research skills** (*vital*, over 1200 respondents)
    - **General writing skills** (*vital*, over 1200 respondents)
    - Technical writing skills (split, over 600 respondents each)
    - Editing and proofreading skills (*vital*, over 1000 respondents)
- Other Skills
    - **Computer skills**: word processor (*vital*, over 1000 respondents)
    - **Computer skills: Internet** (*vital*, over 1000 respondents)
    - Computer skills: CAT (*somewhat*, over 600 respondents)
    - **Organizational skills** (*vital*, over 800 respondents)
    - Interpersonal skills (split, over 500 respondents each, tending to *somewhat*)
    - Oral communication skills (split, over 500 respondents each, tending to *somewhat*)
    - **Personal time management skills** (*vital*, over 1000 respondents)
    - Business skills (split, over 500 respondents each, tending to *somewhat*)
- Translation Abilities[4]
    - **Able to read a source language and write in a target language of a language pair** (*vital*, over 1300 respondents)

[4] In the survey, the expressions "verify correspondence" and "perform language transfer" were not explained in detail. We assume that the participants understood they referred to the ability to recognize an accurate correspondence between existing source and target texts and to actually produce a translation, respectively. The survey avoided the terms "equivalence" and "meaning" because they are so controversial in translation theories.

    - **Able to understand nuances and registers of a language pair** (*vital*, over 1200 respondents)
    - **Able to recognize and verify correspondence for a language pair** (*vital*, over 1000 respondents)
    - **Able to perform language transfer** (*vital*, over 1000 respondents)
    - Able to use a corpus (*somewhat*, over 500 respondents)
    - Able to create and maintain a term base (*somewhat*, over 500 respondents)

- Other Abilities
    - **Able to use common sense** (*vital*, over 1000 respondents)
    - Able to follow specifications: audience, purpose and terminology (*vital*, over 1000 respondents)
    - **Able to think analytically** (*vital*, over 1000 respondents)
    - **Able to think intuitively**(*vital*, over 800 respondents)
- Personal Attributes.
  In addition to the 36 KSAs, the survey included six personal attributes. *In this category, respondents were asked to rank personal attributes for relative usefulness or importance relative to each other. They are shown below with their rankings.*
    1. Thorough, meticulous, attentive-to-detail
       (ranked highest by far, with over 800 respondents ranking this first. The next highest category was ranked first by less than 200 respondents.)
    2. Persevering, reliable, trustworthy, sense-of-integrity
    3. Desire-to-excel, curious, willing-to-learn, intellectually honest
    4. Open-minded, objective, accepting-of-criticism
    5. Diplomatic, professional manner, respectful, culturally sensitive
    6. Team-player, collegial, collaborative
       (ranked lowest by far, with over 600 respondents ranking this last.)

3.2.3. Importance of Education and Professional Associations

Finally, the survey gathered information about the education and training of participants and about their view of the importance of belonging to a professional association and obtaining certification.

- Education and Training

In this category, respondents rated the usefulness of four education options. An undergraduate or graduate degree in a subject-matter discipline was considered to be equally most useful, although a degree in translation was also considered useful.

    - Undergraduate degree in a subject-matter discipline (~68%)
    - Undergraduate degree in translation (~59%)
    - Graduate degree in a subject-matter discipline (~68%)
    - Graduate degree in translation (~62%)

- Non-Degree Education and Training

Similarly, this category asked respondents to rate non-degree education and training. The four categories were almost equal (between 60% and 70%); "mentorship, internships or apprenticeships" ranked highest at almost 70%.

    - Conferences, workshops and seminars
    - In-house training
    - Institution-based certificate program in translation
    - Mentorship, internships or apprenticeships

- Professional Association

The survey asked respondents to rank the role of a professional association and certification in a translator's professional development. Both items were ranked at 73%.

  - Membership in a professional society or association
  - Certification by a professional society or association

The next section examines the literature on translation competence and compares it with the results of phase one of the ATA job task analysis. Section 5 describes the beginnings of phase two of the job task analysis, that is, using the results of phase one to re-evaluate the existing ATA certification examination system.

4. Comparing ATA results and the literature

These focus groups results do not exist in a vacuum. There is an extensive literature on translation competence, much of which is based on translation or translation pedagogy experience rather than empirical data. We considered it necessary to survey the literature in order to discover to what extent the academic literature on translation competence is consistent with the results reported above on the ATA job task analysis project. Similarly, we considered it useful to compare the ATA project, which used professional translators as its experts, with the European Master's in Translation (EMT) project, which focuses on their preparation and was developed by a panel of academic experts.

Our extensive survey of the literature on translation competence revealed reports of surveys of professional translators that were conducted in six cases

1. Schmitt (1990),
2. Fraser (2000),
3. Kaur & Singh (2005),
4. the Commissie Kwaliteitseisen Tolken en Vertalers (the Dutch Commission on Quality Standards for Interpreters and Translators) (2005),
5. Katan (2009), and
6. Chodkiewicz (2012).

Of these six, only Kaur & Singh's (2005) study asked respondents to name translation competencies, and it will be discussed last. Chodkiewicz's study surveyed recent graduates of a European Masters in Translation program, and will be discussed in that context.

Schmitt reports that

> …im Zeitraum 1988-1989 mit Unterstützung des BDÜ und des Fachbereichs Angewandte Sprachwissenschaft der Johannes Gutenberg Universität Mainz in Germersheim (F.A.S.) eine bundesweite Umfrage zur Berufspraxis der Übersetzer und Dolmetscher durchgeführt. Hierzu wurden […] 622 retournierte Fragebögen ausgewertet" (1990, p. 97)[5].

[5] "…in the period 1988-1989, a Germany-wide survey was carried out on the professional practice of translators and interpreters with the support of the German Federal Association of Interpreters and Translators (BDÜ) and the Faculty of

This survey focused on subject-matter study as part of university studies compared to text-types occurring in professional practice, translation speed, and salaries. Figure 1 translates Schmitt's Figure 3 (p. 99), which shows that average translation production speed in German professional practice was 301 words per hour in 1990. It is interesting to note that translation speed is not discussed in the other literature on translation competence. In most cases, a "professional translator" who could not produce the required amount of text within the timeframe required by the industry would hardly be worthy of the name. The question of speed deserves further study.

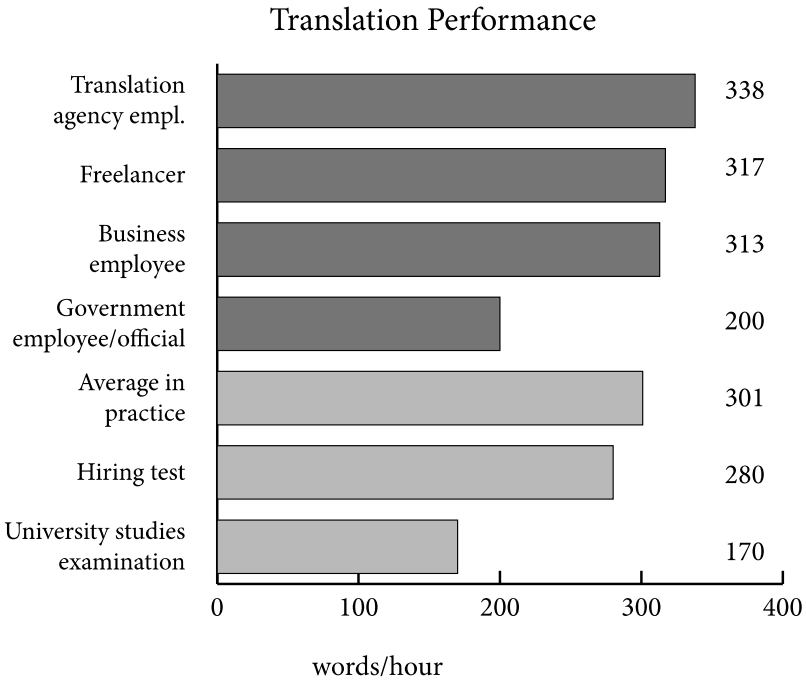

Figure 1. Translation speed in practice (dark gray) compared to teaching (light gray) (adapted from Schmitt 1999, p. 99)

Fraser's survey focused on the need for a translation brief, translation resources (held by clients or agencies), and feedback and evaluation (from agencies), with an eye to including these aspects into translation pedagogy. Fraser received responses from "296 professional translators belonging to the UK-based Institute of Translation and Interpreting (ITI) (a 46% response rate out of 650 contacted), representing just over 20% of ITI's total membership" (2000, p. 53).

The Commissie Kwaliteitseisen Tolken en Vertalers stated that they conducted a large-scale survey of members of the legal profession as to their expectations for interpreters and translators (2005, p. 3), but they do not provide any details as to the numbers. However, they do provide a chart of competencies, which we reproduce here as Figure 2.

Applied Linguistics (F.A.S.) of Johannes Gutenberg University of Mainz in Germersheim. For this purpose … 622 returned questionnaires were evaluated."

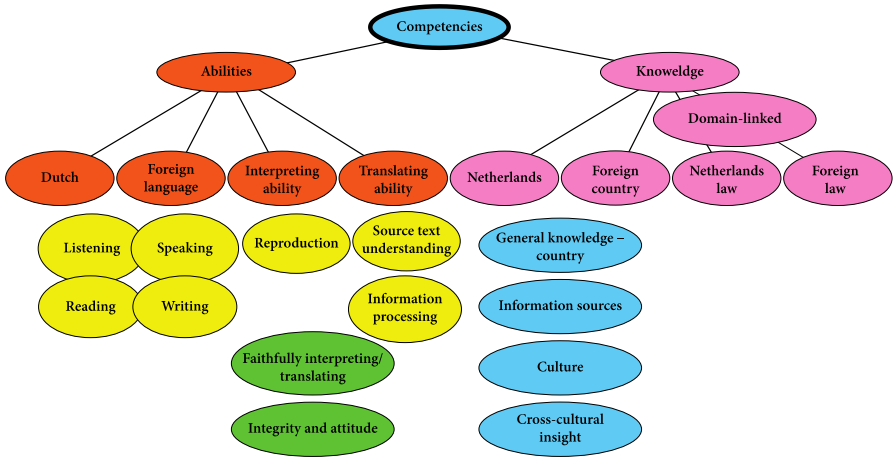

Figure 2. Competencies translated from Commissie Kwaliteitseisen Tolken en Vertalers (2005, p. 119)

Katan's (2009) survey used an online questionnaire focusing on translators' and interpreters' perceptions of their working environment and did not elicit responses about translation proficiency directly. Instead, some questions focused on how translation should be taught. Survey question 9 provided a list of areas of study and asked the respondents to rate them. This ranking is shown in Figure 3. One noteworthy result is that "'T/I [Translation and Interpretation] Theory' is seen as essential by a mere 74 out of the 459 [Translators/Interpreters] who replied" (p. 202).

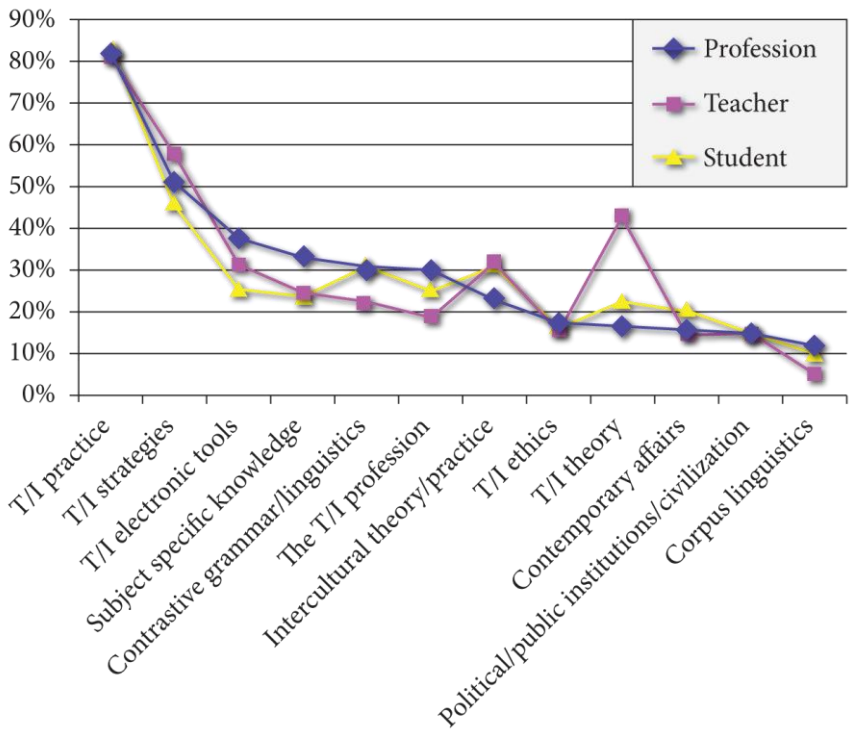

Figure 3. Essential university modules according to translators and interpreters, teachers and students (Katan, 2009, p. 203)

Finally, Kaur & Singh's (2005) survey covered "fifty-five experienced Malaysian part-time translators of scientific texts from English to Malay" who completed a questionnaire on the characteristics of an effective

translator. This resulted in a listing of individual translation characteristics, which were not further categorized. In summary, they are:

- Translators should be proficient in source and target, but translate into their mother tongue
- Translators should know both cultures well and have empathy for their target readers, making the product appropriate, i.e., knowing the skopos or purpose of the task
- Translators must have tools, i.e., dictionaries, thesauri, terminology, computer, printer, etc.
- Translators should be subject specialists to communicate subject-matter content
- Translators should know translation is a learning activity that uses direct and indirect language-learning activities
- Translators should be committed and disciplined, team workers
- Translators must be familiar with basic translation theory and practice

Kaur & Singh's survey can be characterized as a pilot study due to its small size (55 participants), all of whom work in one language direction. There is fundamental agreement between that study, however, and the much larger survey reported on here, which was developed according to scientific testing principles.

Based on our survey of the literature, it seems safe to say that, prior to the ATA JTA project, no analysis had been performed based on focus groups and a survey of a large number of translation professionals that resulted in the development of professional KSAs.

4.1. Evolution of translation competence in the literature

Seen chronologically, the concept of "translation competence" or "translation proficiency" has developed and expanded in complexity and number of categories over time. Thus a general chronological overview of roughly the past thirty years can be useful. Almost every writer on translation competence makes some kind of statement as to the general nature of translation competence, even if they do not formalize it into a model.

From a chronological point of view, Snell-Hornby stakes out the earliest position in the literature by quoting Dolet (1540), Dryden (1680), and Tytler (1791), stating

> All three theorists arrived at virtually the same conclusions, according to which the basic prerequisites of a good translation might be identified as follows: mastery of both source and target language, knowledge of the material concerned, ease of style and an understanding of the author's message. (Snell-Hornby, 1992, p. 9)

This fundamental approach can be seen in practically every statement on translation competence, although additional factors are brought in by others. Holz-Mänttäri (1984) argues that only expert translators should be used for professional translation: "Die Gemeinschaft hat dafür zu sorgen, dass derartige Positionen im Gefüge, die als Gesamt ja eine Institution bilden, nur von dafür ausgebildeten Experten eingenommen werden können" (p. 164)[6],

[6] "Society must ensure that such positions in the structure, which as a whole comprise an institution, after all, can only be taken by experts trained for this purpose."

while Bell (1991) states, "The translator must, as a communicator, possess the knowledge and skills that are common to all communicators (this much by definition) but ... in two languages (at least)" (p. 36). Wilss (1992) lists a number of different problem-solving activities that interact to produce a translation:

> "Reproduzieren" ist lediglich die Endphase einer mentalen Operationskette, in welcher Prozesse wie Problemlösen, d.h. Analysieren, Vergleichen, Analogisieren, Inferenzieren, Abwägen, Auswählen, Planen, Diagnostizieren, Evaluieren, Kombinieren etc. interaktiv in Verbindung treten" (p. ix).[7]

Neubert describes "translational competence" as having a tripartite structure that is more than transfer competence, stating "…at the same time language and subject competence amounts to less than transfer competence. Evidently, it is the way these competencies supplement or enrich each other that 'does the trick'" (1994, pp. 412–13). At the same time, Stolze adds that translation competence also includes a sense for what is important in the message and an intuitive linguistic feeling for correct expression, but adds that it is an ability to deal consciously with texts (1994, p. 387). Samuelsson-Brown takes competence a bit further when he says, "Translators do perform a number of miracles on a daily basis but trying to make a silk purse from a sow's ear is always a difficult challenge" (1996, p. 105). He also provides a "matrix of fundamental skills used in translation," shown here as Figure 4.

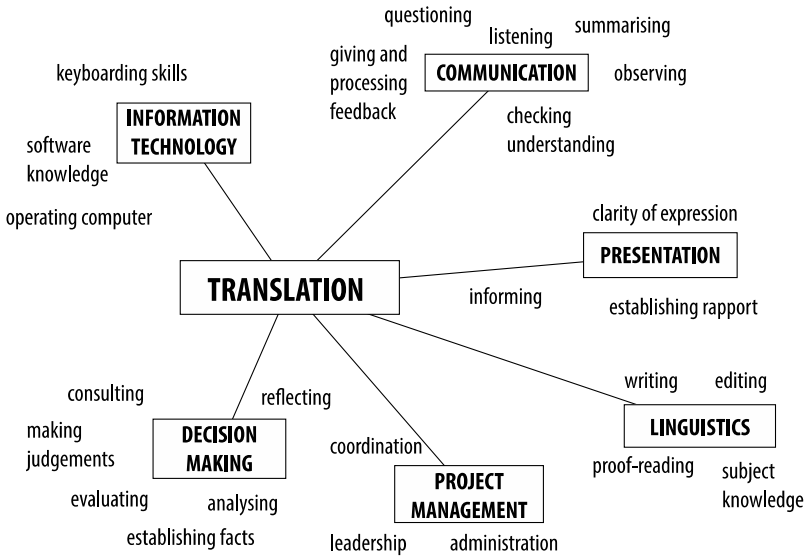

Figure 4. Matrix of fundamental skills used in translation (adapted from Samuelsson-Brown, 1996, p. 112)

Meanwhile, Cao, following Bachman's 1991 framework, describes translation proficiency as "consisting of three sets of variables[…]: (1) Translational Language Competence, (2) Translational Knowledge Structures, and (3) Translational Strategic Competence" (Cao, 1996, p. 328, see also Figure 5). Translational Language Competence is further broken

[7] "'Reproduction' is merely the final phase of a chain of mental operations in which processes such as problem solving, i.e., analyzing, comparing, finding analogies, inferring, weighing, selecting, planning, diagnosing, evaluating, combining, etc. come together interactively."

down into a number of sub-competencies (see Figure 6). Cao also considers it necessary to take the external variables that affect translation into account in a translation proficiency framework, stating, "Translation proficiency is manifested only when a translation task is carried out in a real-life situation rather than as artificial clinical performance under idealised conditions" (p. 335). Interestingly, Cao also brings in the idea of various levels of translation and translator proficiency both in terms of global as well as specialized proficiency, thus departing from an idealized notion of a 'perfect' set of competencies (p. 338).

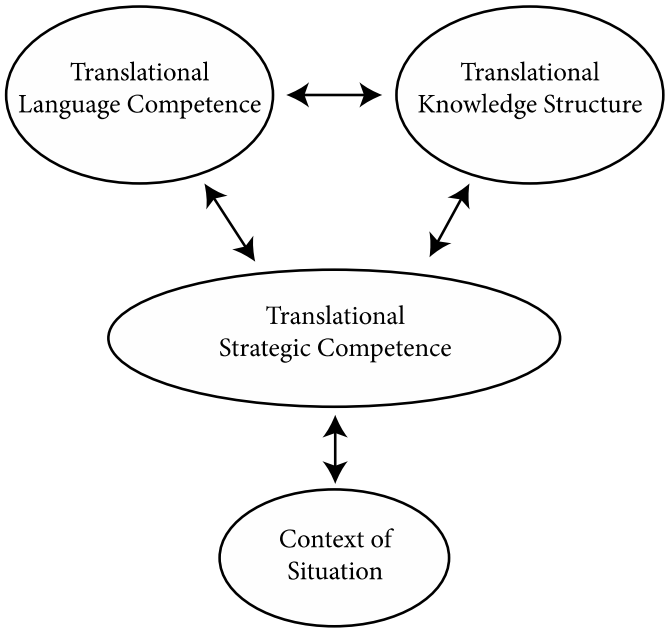

Figure 5. Components of Translation Proficiency (Cao, 1996, p. 328, adapted from Bachman, 1991)

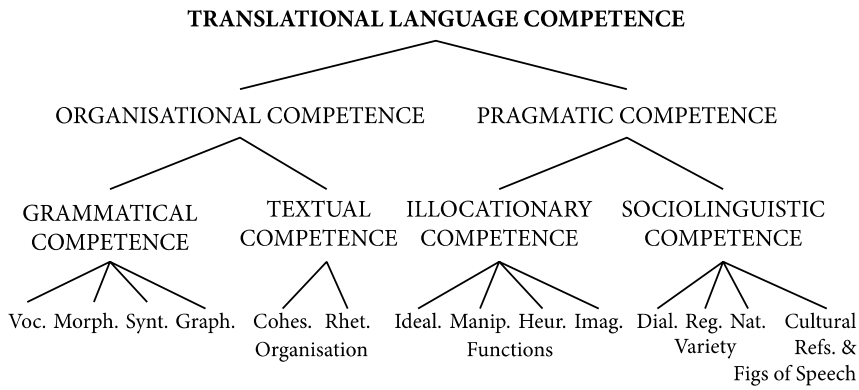

Figure 6. Components of Translational Language Competence (Cao, 1996, p. 330, based on Bachman, 1991)

Shreve (1997) shares Cao's view that "Translation competence is a specialized form of communicative competence. It is both knowing about translation and about knowing how to do translation" (p. 120). On the other hand, Chesterman (1997) argues that the expert translator works mostly by intuition and automation of basic routines (p. 151).

As the complexity of competence models has increased, authors have increasingly turned to charts to represent the many knowledges, skills, and abilities required. Hatim & Mason (1997) set up the categories of source-text

processing skills, transfer skills, and target-text processing skills, as shown in Table 1.

Malmkjær sets up a different set of categories: "…the translator engages in at least five activities which all subsume other activities. The five activities are (i) Anticipation; (ii) Resource Exploitation; (iii) Co-operation; (iv) Revision; and (v) Translating" (1998, p. 7). Malmkjær does not, however, list what skills are necessary to perform these activities. On the other hand, Neubert also lists five categories, which he calls "five parameters of translational competence, viz. (1) language competence, (2) textual competence, (3) subject competence, (4) cultural competence, and, last but not least, (5) transfer competence" (2000, p. 5). He then specifies the necessary level of language competence at least in general terms: "…literary, technical, or legal translators have to combine a level of knowledge, at least of the language expert, i.e. of the mother tongue as well as of the language pair with the specific artistry or expertise of the writer or expert" (2000, p. 4). Neubert also points out that translation competence makes the translator able to "approximate the subject area to such an extent that they can enable and facilitate easy and flawless understanding among the average reader as well as among the experts" (2000, p. 4), while at the same time being creative and remaining flexible to adjust to constant situational challenges. In addition to the five parameters, Neubert also sets up "seven features of translation competence, i.e., complexity, heterogeneity, approximation, open-endedness, creativity, situationality and historicity..." (2000, p. 5).

<table>
<tr><th>source text</th><th></th><th>target text</th></tr>
<tr><td>PROCESSING SKILLS</td><td>TRANSFER SKILLS</td><td>PROCESSING SKILLS</td></tr>
<tr><td>Recognizing intertextuality (genre/discourse/text)</td><td>Strategic re- negotiation by adjusting:</td><td>Establishing intertextuality (genre/discourse/text)</td></tr>
<tr><td>Locating situationality (register, etc.)</td><td>effectiveness
efficiency
relevance</td><td>Establishing situationality (register, etc.)</td></tr>
<tr><td>Inferring intentionality</td><td rowspan="2">to:
audience design task (brief, initiator, etc.)</td><td>Creating intentionality</td></tr>
<tr><td>Organizing texture (lex. choice, synt. arrangement, cohesion) and structure</td><td>Organizing texture (lex. choice, synt. arrangement, cohesion) and structure</td></tr>
<tr><td>Judging informativity (static/dynamic) in terms of estimated impact on: source text readership</td><td>in fulfillment of a: rhetorical purpose (plan, goal)</td><td>Balancing informativity (static/dynamic) in terms of estimated impact on: target text readership</td></tr>
</table>

Table 1. Translation skills from Hatim & Mason (1997, p. 205)

One of the most significant projects to be launched in recent years is that of the Spanish PACTE group, which has been studying various aspects of translation competence. In 2000, PACTE stated that they believe translation competence is essentially procedural knowledge, with the main focus on the strategic component (2000, p. 103). Their model at that time showed six different sub-components of translation competence, which are shown in diagram form as Figure 7.

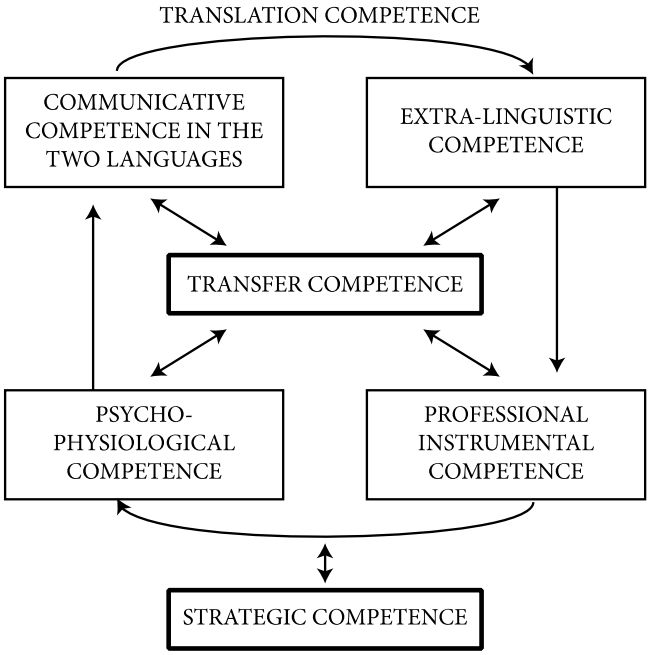

Figure 7. The sub-components of Translation Competence (PACTE, 2000, p. 101)

Two years later, Orozco and Hurtado Albir (the principal investigator of the PACTE group) indicated that they had found "only four explicit definitions of translation competence" (2002, p. 376), namely Bell (1991), Hurtado Albir (1996), Wilss (1982), and their own PACTE (2000) definition, "the underlying system of knowledge and skills needed to be able to translate" (they seem not to be aware of Neubert, 2000). They further discuss this definition of translation competence as follows:

This definition is completed with four affirmations, namely that (i) translation competence is actualized in different ways in different situations, (ii) it consists basically of operative knowledge, (iii) strategies play a basic role in translation competence and (iv) as in any kind of expert knowledge, most translation competence processes are automatic. (2002, p. 376)

Orozco & Hurtado Albir also point out a weakness in prior studies of translation competence, one with which we can only agree:

> As far as the samples are concerned, there have been mainly two problems. First of all, the sizes of the samples are often too small and do not allow relevant conclusions to be drawn or the results of any given study to be generalized. Secondly, the samples are often not representative of the target population the researchers want to study (because they are too heterogeneous or because they do not fulfill the requirement of the target population) and this causes the same effect: the results cannot be generalized, since a change in the characteristics of the subjects could easily modify the results and thus the conclusions of the study are weak. (2002, p. 378)

Based on continued research, the PACTE group revised its model of translation competence in 2003. The new categories are shown as Figure 8, and the new definition reads:

> Translation competence is the underlying system of knowledge needed to translate. It includes declarative and procedural

knowledge, but the procedural knowledge is predominant. It consists of the ability to carry out the transfer process from the comprehension of the source text to the re-expression of the target text, taking into account the purpose of the translation and the characteristics of the target text readers. It is made up of five sub-competencies (bilingual, extra-linguistic, knowledge about translation, instrumental and strategic) and it activates a series of psycho-physiological mechanisms. (2003, p. 58)

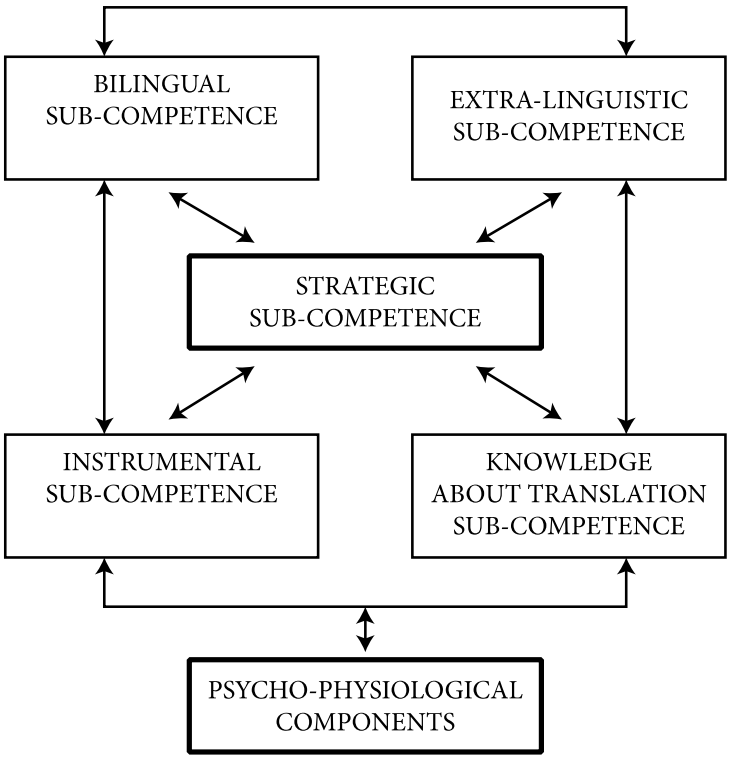

Figure 8. Sub-components of translation competence (PACTE 2003, p. 60, identically in Hurtado-Albir 2007, p. 170)

Kiraly adds yet another factor to the list, that of "autonomy." He breaks down learners' needs into three categories, expertise, professionalism, and autonomy. His breakdown of the factors is as follows:

Expertise includes linguistic, textual, translatory, subject-matter, cultural and technical skills and knowledge. Professionalism includes things like: ethics, etiquette and comportment, and autonomy refers to being able to work as language mediation professionals without supervision (2004, p. 105).

In the same year, Stumm-Schwager adds a few personal characteristics that newly minted translators in Germany supposedly lacked: "Intellektuelle Neugier etwa, Teamfähigkeit, Flexibilität, Polyvalenz, aber auch gesunder Menschenverstand, geistige und physische Einsatzbereitschaft, Kommunikationsvermögen, Kundenorientiertheit, Anpassungsfähigkeit" (2004, p. 310).[8] An additional skill is the ability to maintain professional confidentiality (p. 313).

In addition to the survey by Kaur & Singh (2005) discussed above, Kelly's (2005) volume for translator trainers contains another catalogue of

[8] Intellectual curiosity, for instance, capacity for teamwork, flexibility, versatility, but also common sense, intellectual and physical readiness to work, ability to communicate, a customer focus, adaptability.

translation competencies that are stated to be "desirable in graduates from translation courses" for purposes of curricular design. Not surprisingly, familiar competencies are listed here:

- *Communicative and textual competence in at least two languages and cultures*. This area covers both active and passive skills in the two languages involved, together with awareness of textuality and discourse, and textual and discourse conventions in the cultures involved.
- *Cultural and intercultural competence*. *Culture* here refers not only to encyclopædic knowledge of history, geography, institutions and so on of the cultures involved (including the translator's or student's own), but also and more particularly, values, myths, perceptions, beliefs, behaviors and textual representations of these. Awareness of issues of intercultural communication and translation as a special form thereof is also included here.
- *Subject area competence*. Basic knowledge of subject areas the future translator will/may work in, to a degree sufficient to allow comprehension of source texts and access to specialized documentation to solve translation problems.
- *Professional and instrumental competence*. Use of documentary resources of all kinds, terminological research, information management for these purposes: use of IT tools for professional practice (word-processing, desktop publishing, data bases, Internet, email...) together with more traditional tools such as fax, dictaphone.[9] Basic notions for managing professional activity: contracts, tenders, billing, tax; ethics; professional associations.
- *Attitudinal or psycho-physiological competence*. Self-concept, self-confidence, attention/concentration, memory. Initiative.
- *Interpersonal competence*. Ability to work with other professionals involved in the translation process (translators, revisers, documentary researchers, terminologists, project managers, layout specialists), and other actors (clients, initiators, authors, users, subject area experts). Team work. Negotiation skills. Leadership skills.
- *Strategic competence*. Organizational and planning skills. Problem identification and problem-solving. Monitoring, self-assessment and revision. (pp. 32–33)

[9] While Dictaphone use has essentially vanished from the arsenal of translator skills in recent years, it could very well be that dictation skills will return as a desirable competence with the increasing availability of voice recognition software, which, depending on the individual translator's ability to verbalize in coherent sentences or chunks thereof, could increase productivity. Wright et al. report differences in mindset between those using dictation and those using early computers, writing "Dictation requires a smooth working relationship between the translator and the typist, and doing one's own word processing demands an openness to accepting new technology, coupled with keyboard facility. Both dictating and keyboarding require the development of the proper mind-set for text production in this fashion. Friedrich Krollmann of the West German Bundessprachenamt noted a few years ago that his people use several different methods of text generation, depending upon personal predilection. 'Contrary to popular opinion, not all Germans make good dictators'" (1987, p. 120).

As we move through the years, additional components and sub-components continue to be added, as in Hansen (2007), where, in addition to the competencies already discussed, we see

> [A]n array of general abilities and special skills in the mother tongue and the foreign language: Namely talent, courage, self-awareness and independence, alertness, empathy, tolerance, open-mindedness, precision, creativity, the ability to select, judgment, responsibility and a critical attitude. Together with the general and professional background knowledge, these abilities constitute translational competence. (p. 205)

Hansen also points out that the relationship between the various types of competence is not simple, meaning that although one would assume that a translator who is socially, culturally and linguistically competent in both languages should also exhibit good translational competence, such is not the case. Hansen argues that the whole is greater than the sum of parts, requiring additionally explicit acquisition of translation methods and strategies (pp. 207–8). In addition, Hansen's research indicates another aspect:

> [W]hen, in the translation process, [informants] have to deal with two languages at the same time, their ability to distinguish between them and to distance themselves from the source text is poor. Additionally it seems that they find it difficult to imagine the presuppositions and expectations of the target text receiver who is not likely to know the source language. […] Their essays in either language bear no or just a little evidence of this insecurity. Thus it cannot be assumed that a translator possessing competencies in the languages individually will automatically be able to use these competencies when she is dealing with both languages at the same time. In other words, translational competence is not necessarily available to persons fully conversant with both source and target languages and cultures. (p. 208)

In a 2007 article that reiterates the five competencies discussed above, Hurtado Albir pointed out that "Proposed TC [Translation Competence] models, although based on observations of how translators work, are not based on empirical studies which collect and analyze data to describe TC components and how they relate to each other. Furthermore, there is no study on TC taken as a whole" (p. 169). The present report partially fills this gap.

Major approaches to categorizing translation competence are summarized in Hague, Melby, and Zheng (2011), as shown in their table reproduced below as Table 2. As can be seen from the table, the models that have been developed are characterized by increasing complexity and addition of categories of competence. This shows that, while the five areas from Neubert (2000)—language, textual, subject area, cultural, and transfer competence—are central to the activity known as "translation" (i.e., the comprehension of a written message in one language and its interpretation and re-expression in another language), additional competencies are necessary in order to perform the complex cultural task known as "professional translation."

Neubert (2000)	PACTE (2000–2008)	Kelly (2005)
• language competence • textual competence	• bilingual subcompetence	• communicative and textual competence
• subject [area] competence	• extra-linguistic subcompetence	• subject area competence
• cultural competence	• extra-linguistic subcompetence	• cultural and intercultural competence
• transfer competence	• knowledge-about-translation subcompetence • instrumental subcompetence	• professional and instrumental competence
• transfer competence	• strategic sub[super]competence	• strategic competence
N/A	• psycho-physiological components	• psycho-physiological or attitudinal competence
N/A	N/A	• interpersonal competence

Table 2. A comparison of three translation subcompetence approaches

"Professional translation" is also the goal of one of the most recent and certainly the most detailed catalogue of translator competencies recently produced, which was created by the EMT Expert Group (2009) as a framework for the recently developed European Masters in Translation program, whose stated goal is to provide "a European reference framework for training programmes in translation which are coherent and of a high standard, comparable between seats of learning and compatible with the demands of the international environment…" (2009, p. 3). This catalogue breaks the knowledge, skills and abilities needed to produce a translation into 49 separate competencies collected under the following six headings, which are discussed in the next section:

- Language Competence
- Intercultural Competence (with subheadings of Sociolinguistic Competence and Textual Competence)
- Information Mining Competence
- Technological Competence
- Thematic Competence
- Translation Service Provision Competence (with subheadings of the Interpersonal Dimension and Production Competence).

In this context, it is useful to discuss the survey conducted by Chodkiewicz, which received responses from 55 respondents with relatively little experience in translation[10] (22 with 0–1 years, 19 with 2–4 years, 10 with 5–9

[10] The survey addressed "recent graduates of translation programmes run by the university, as well as to a few translation tutors, who work as professional translators, and to current postgraduate students enrolled in MA programmes in Translation, Business Translation with Interpreting, Translation Studies, Translation Studies with

years, and 4 with 10 years or more) (2012, pp. 43–44), meaning that almost 93% of the respondents had less than 10 years of experience, and almost 75% had four or fewer years of experience. Given the young age of the EMT program, however, this lack of experience is not surprising. Chodkiewicz classifies the group with the least experience (n=22) as "students", with the remainder (n=33) considered "professionals" (p. 44). One positive feature of this survey is that the respondents worked with a total of 14 different language pairs, so there is presumably no bias towards any particular one.

These respondents were asked to rank the skills listed in the EMT program by their relative importance, so, while the survey is not directly a measurement of what translators believe to be the necessary knowledge, skills, and abilities, it is still an indirect measurement that ranks the relative importance of categories that were already prescribed by the EMT system, as well as some others. Chodkiewicz states that "the competences were found highly relevant by both groups, which suggests that the framework is indeed valid for the two groups of respondents whose views the survey sought to investigate" (2012, p. 51). The results of the survey are summarized in Table 3, which shows means for the whole group, and for the students vs. the professionals. Larger standard deviations in the Overall Mean column indicate greater disagreement between the two groups. It would have been useful had Chodkiewicz provided the data in table form and included all of the surveyed competencies, not just the highest and lowest rankings.

Competence	Overall Mean	Professional Mean	Student Mean
All	3.39 ± SD 0.81		
Intercultural	3.58 ± SD	3.50	3.69
Sociolinguistic dimension	0.71	3.56 ± SD 0.81	3.75 ± SD 0.50
Language	3.58 ± SD 0.76	3.55 ± SD 0.85	3.64 ± SD 0.61
Grammar/lexis/ graphical		3.7	3.73
Information mining	3.53 ± SD 0.78	3.46 ± SD 0.90	3.64 ± SD 0.54
Translation service provision		3.22 ± SD 0.87	3.41 ± SD 0.72
Translation brief		3.73	3.86
Time management		3.61	3.73
Evaluating quality		3.64	3.50
(greatest differences)			
Specifying/calculating services		2.97	3.43
Aware of demand/advertising		3.06	3.50
(lowest rated)			
Justifying with metalanguage		2.79	3.05
Working in a team		2.12 ± SD 0.93	2.36 ± SD 1.09
Thematic		3.27 ± SD 0.94	3.46 ± SD 0.72
Technological (lowest rating)	3.10 ± SD 0.99	3.10 ± SD 0.99	3.09 ± SD 0l97

Table 3. Mean ratings ± standard deviations of EMT categories and subcategories, ranked by importance (derived from Chodkiewicz, 2012)

The comments from the respondents also described skills not listed in the EMT framework:

Intercultural Communication, Audiovisual Translation, as well as Monolingual Subtitling and Audio Description" (p. 43).

> Most of the comments were related to what the EMT model labels translation service provision competence. The comments reflected and broadened some of the components already touched upon in the EMT model, such as setting realistic deadlines and respecting them, adapting to the demands of different clients and being professional in all situations. Other detailed and practical skills which were not included in the model, but could be subsumed under translation service provision competence, concerned judging one's ability to deliver a successful translation and refusing if one is incapable of providing such a translation, keeping a record of work for tax purposes, highlighting potential problems and ambiguities before or upon the delivery of a translation, and distinguishing between actual and preferential errors when proofreading other translators' work (p. 50).

4.2. Category analysis: ATA vs. EMT

In order to show a more detailed picture of how the competencies revealed by the ATA survey compare to the competencies developed by the EMT Expert Group, we will analyze the general categories in the literature against the EMT and then that result against the ATA. This overview necessarily obscures some detail, and does not address the particulars of each individual competence discussed in either the ATA survey or the EMT catalogue.

An initial step in this analysis is to compare the categories set up by Neubert, PACTE, Kelly, and EMT.

Table 4 shows the comparison, using EMT as a model and rearranging the others. This shows that there are additional categories in the EMT model that older models do not cover.

European Masters in Translation (2009)		**Neubert (2000)**	**PACTE (2000–2008)**	**Kelly (2005)**
Language Competence		language competence	bilingual subcompetence	communicative and textual competence
Intercultural Competence	Sociolinguistic Competence	cultural competence		cultural and intercultural competence
	Textual Competence	textual competence	extra-linguistic subcompetence	
Information Mining Competence				
Technological Competence			instrumental subcompetence	professional and instrumental competence
Thematic Competence			extra-linguistic subcompetence	subject area competence
Translation Service Provision Competence	Interpersonal Dimension		psycho-physiological components	psycho-physiological or attitudinal competence
				interpersonal competence
	Production Competence	transfer competence	knowledge-about-translation subcompetence	professional and instrumental competence
			instrumental subcompetence	strategic competence
			strategic sub[super]competence	

Table 4. Comparison of categories in the literature.

The next step is to compare the EMT model with the areas found in the ATA focus groups (Table 5). Here, we see that the knowledge, skills, and abilities from the ATA focus groups are similar to the competencies listed in the EMT model. However, the broadness of the various categories makes it necessary to examine these categories by the individual competencies described in the two models. A much more detailed comparison between EMT and ATA is available at http://www.ttt.org/trans-int/competence.htm

European Masters in Translation (2009)		**ATA Focus Groups**
Language Competence		Language Pair Knowledge Areas
Intercultural Competence	Sociolinguistic Competence	Translation Skills
	Textual Competence	Translation Skills
Information Mining Competence		Translation Skills Other Skills
Technological Competence		Other Skills
Thematic Competence		Other Knowledge Areas
Translation Service Provision Competence	Interpersonal Dimension	Other Knowledge Areas Other Skills
	Production Competence	Translation Skills Translation Abilities Other Abilities
(not part of model)		Education and Training Non-Degree Education and Training Professional Association

Table 5. Comparison of major EMT and ATA focus group categories

4.3. Summary of the comparisons

In summary, then, the review of the literature shows that, while individual authors often focus on a subset of the complete inventory of skills such as that developed by the EMT project, there is a remarkable congruity among the core competencies as described by individual authors, projects such as the PACTE group's work, the EMT project, and the ATA job task analysis project. As has been shown here, a variety of categorizations are also possible.

Based on our analysis of the literature, we believe that the EMT categories are so granular as to become unworkable in a professional translator certification system. They are designed to be used in the context of an academic accreditation review that ensures that each of its multifarious factors is covered in some way in one or more of its courses, and in that context, they may be appropriate, but even there, a less granular system may suffice. By comparison, the categories found in the ATA project are both consistent with the core categories across a wide range of literature and were derived from actual practice in the opinion of professionals in the translation industry. They are thus more specific, broader in scope, and inherently more actionable than either the narrower, older models, or some of the newer models that get lost in a wealth of detail.

3. Connecting the KSAs with the ATA certification program

Section 3 of this article described the results of the JTA survey conducted by ATA that ranked the 36 KSAs identified by the four focus groups. Section 4

surveyed the literature on translation competence and concludes that the KSAs identified in the ATA project are generally compatible with what translation studies, scholars and the EMT project have proposed. This section reports on the significance of the JTA project for ATA's certification program. The 36 KSAs from phase one were fed into phase two. The focus of this section is how the 36 KSAs relate to ATA's current certification program and possible future enhancements to it. The personal attributes (as opposed to KSAs) identified by the focus groups, such as being open-minded, reliable, and curious, are important to success in many professions but are not easily included in a certification examination.

ATA hired a consulting team that included experts in developing certification examinations. The team analyzed the results of the JTA survey and made recommendations to ATA regarding a comparison between the 36 KSAs and the current state of the ATA certification program. The ATA certification program is described in detail in another article in this special issue on certification. The recommendations to ATA point out that it is not feasible to test all 36 KSAs in a single certification examination. Through a process based on a mapping to categories in Bloom's taxonomy (Anderson & Krathwohl, 2001) and various statistical methods, each KSA was assigned to one of three broad categories:

1. Eligibility to take the ATA certification examination
2. The ATA credentialing process (possibly involving multiple levels of certification)
3. Professional Development (before and after certification)

The following is a brief discussion of the KSAs and their assignment to one or more of these three categories. It is possible that, as the recommendations are implemented, one or more KSAs will shift between being eligibility requirements and being part of the credentialing process. This in no way invalidates the certification program, since a certified translator has demonstrated the KSA in some manner by the conclusion of the certification examination process.

5.1. Knowledge

In Section 3, we saw that 13 areas of knowledge were identified by the focus groups and ranked in the survey. We will now examine these 13 areas in groups.

5.1.1. Grammar, Vocabulary, and Idiomatic usage

There is, of course, a fluid boundary between vocabulary and idiomatic usage. Single-word vocabulary items are clearly under "vocabulary", and traditional idioms, such as "kick the bucket" in the sense of "die", are under idiomatic usage. Some collocations can be viewed as either multi-word vocabulary items or idioms, but they are still seen as monolingual language knowledge. These three KSAs are assigned to the category "eligibility" with a recommendation that they be tested in a qualifying examination using off-the-shelf language proficiency tests. It can be argued that knowledge of the source and target languages is implicit in successful completion of a translation examination that involves producing a translation product. However, monolingual language tests can cover a wide range of grammar, vocabulary, and idiomatic usage knowledge and still be graded automatically. Automatic grading of monolingual tests allows the limited resource of human graders to focus on bilingual translation tests that cannot be graded automatically. It has been shown that for native speakers of the target language, failure to demonstrate a high level of source language proficiency

(ILR 2+) is a strong indicator of failure on a bilingual translation examination (see Table 6) (Brau & Brooks, 2009[11]). Success in demonstrating source language proficiency is necessary but not sufficient to predict translation competence.

	Total		L1: Arabic	L1: English
Total Applicants	**1438**		**1077**	**482**
Passed Listening (DLPT)	755	(52.5%)	514	229
Failed Listening (DLPT)	683	(47.5%)	563	253
Passed Reading	1067	(74.2%)	834	331
Failed Reading	371	(25.8%)	243	151
Passed Translation Test	289	(20.1%)	202	113
Failed Translation Test	1149	(79.9%)	875	369
Passed Reading/Failed Translation Test	781	(53.4%)	634	221
Failed Reading/Passed Translation Test	12	(0.8%)	10	1

Table 6. Success rates for Defense Language Proficiency Test and Translation Test for post-9/11 Arabic applicants (adapted from Brau & Brooks, 2009).

As of this writing, ATA is taking action on the question of adding monolingual language proficiency testing (reading in the source language and writing in the target language) to the eligibility process.[12]

5.1.2. General Knowledge

General knowledge, that is, knowledge of the world as it works on an everyday basis, was identified by the focus groups and ranked highly in the survey, but it would be highly impractical for ATA to get into the business of testing it. Knowledge can be acquired in many ways, so that it would be extremely difficult to specify a particular path to knowledge or level of education that would be a predictor. To some extent, however, monolingual source-language reading proficiency testing would be an indirect measure of general knowledge.

5.1.3. Ethical Obligations

The focus groups identified an understanding of ethical obligations associated with being a professional translator as important, and it ranked highly in the survey. ATA already has an online ethics course, and ATA could require completion of this course as a way to cover this requirement.

The areas of knowledge just discussed (grammar, vocabulary, idioms, general knowledge, and ethical obligations) were all ranked highly in the survey and could all be included in the category of eligibility. Two other areas of knowledge were ranked highly, domain-specific vocabulary and subject-matter expertise. Here *domain* refers to the content being translated, not the job of translating. We will group these under subject-matter

[11] "The study investigated the relationship between reading ability and translation ability. Examinees took the Defense Language Proficiency Test (DLPT) for both Reading and Listening in Arabic and the Arabic Translation Test. Passing rates for all tests were set at 2+. Although almost 75% of applicants passed the DLPT for Reading, only 20% of applicants passed the Translation Test, meaning that more than 50% of those who passed the Reading DLPT, failed the Translation Test." (Slide 30)

[12] An important step in this direction was taken by ATA at the October 2012 board of directors meeting when it approved the inclusion of ACTFL (www.actfl.org) language proficiency scores as an option for eligibility. See the board meeting summary (https://www.atanet.org/membership/bm_summary_october2012.php).

knowledge. Vocabulary appears twice, once under eligibility and again under credentialing. Subject-matter knowledge is the sixth area of knowledge.

5.1.4. Subject-matter Knowledge

It has frequently been acknowledged within ATA and in other organizations that subject-matter knowledge (i.e., knowledge of a particular domain that is the subject of a given source text) is very important to success as a professional translator. Granted, there are general-language translation projects where no particular subject-matter expertise is needed. However, they are in the minority. Also, those who employ the services of translators, either directly or indirectly through a translation company, often lament the fact that even a certified translator may not be able to produce acceptable translations unless the translator has relevant subject-matter expertise. The problem is how to incorporate subject-matter knowledge into a translator certification program.

The current ATA certification examination does not require a substantial degree of subject-matter knowledge. It is intentionally a general examination. As stated on the ATA website, the technical or legal passages "may be written by an expert, but not for other experts in that field. … Each type of examination passage is chosen in such a way as to avoid highly specialized terminology challenges requiring research." (http://atanet.org/certification/aboutexams_overview.php).

The recommendation is to have at least two levels of translator certification. The highest level would include a translation examination in which the source text is specific to a domain of knowledge and the human graders are expert in this domain. It is acknowledged that such a higher-level certification would be very difficult to manage and would require collaboration between ATA and other organizations, such as university departments or professional associations. For example, a high-level certification in physics translation could involve collaboration between ATA, a university physics department, and a national society of professional physicists. Together, these organizations would collaborate to decide whether the certification examination would include only a translation performance component or also a terminology and physics subject-matter expertise examination.

Discussion of the possibility of adding a higher level of certification that does involve a number of examinations, each specific to a domain of knowledge, is on-going. Significant additional resources and collaboration with other organizations may be required to implement domain-specific examinations.

5.1.5. Other Areas of Knowledge

The seven remaining areas of knowledge are categorized under professional development. The term "professional development" indicates an expectation that professional translators should seek to acquire and update their knowledge in these areas on an on-going basis. Demonstration of continued attention to professional development is required by ATA in order to maintain certification.

ATA has always been involved in providing professional development experiences for its members through such means as educational sessions at the annual conference and its publication, the *ATA Chronicle*. More recently, webinars have been added to the inventory of professional development experiences offered by ATA. The recommendation is that ATA continue to address the following five areas of knowledge in its professional development efforts:

- language usage trends (in various languages)
- translation standards (such as the recently published ISO/TS 11669)
- translation methods (general and language-specific)
- slang and colloquial, that is regional, usage (for those translators whose work requires this knowledge)
- translation theory (It should be noted that the low importance attributed to theory in the survey indicates that *applications* of translation theory are viewed as more important to professional translators than abstract theory in itself.)

The final two areas of knowledge (cultural, historical, political background knowledge, along with current events), while important to some translation projects, are clearly beyond the scope of the responsibility of ATA or any other professional translator association in its professional development efforts.

5.2. Skills

Just as 13 areas of knowledge were identified in the JTA project, 13 skill areas were identified.

5.2.1. Core Skills

The following six skills were all ranked highly in the survey:

- general writing (in the target language)
- editing and proofreading (in the target language)
- terminology research (monolingual and bilingual)
- Internet-based research and communication
- word processing
- text analysis

Although it can be argued that these skills do not need to be tested separately from a bilingual translation examination, it can also be argued that since the current ATA examination does not include terminology research or Internet-based research and communication, primarily for reasons of examination security, it would be appropriate to test at least some of these six skills before allowing a candidate to take the main bilingual certification examination. The recommendation is that these six skills be tested as a group and separately from the main bilingual certification examination.[13]

The current ATA bilingual translation performance examination is given under proctored conditions with no Internet access. However, some of the six skills in this group could be tested using traditional item-bank methods with full Internet access. Others could be graded on a monolingual target-language basis so that the burden of test development is shared across professions. General writing skills in the target language would be tested using the monolingual proficiency testing discussed above.

An unresolved question is whether demonstration of skills in these six areas should be part of the credentialing component or the eligibility component of a certification program. This question is a philosophical or

[13] Another reason for this approach is the general principle of assessment that dictates testing each KSA at the lowest feasible level of cognitive process so that there is sufficient testing time to assess skills that need to be assessed at higher cognition levels. A detailed discussion of this principle is beyond the scope of this article.

even an administrative one and does not bear on the importance of these skills to translation competence in today's world of pragmatic translation.

5.2.2. Time Management and Organizational Skills

Skill areas seven and eight (time management and organizational skills such as keeping track of documents and resources) are also highly ranked, but the recommendation is to categorize them under professional development rather than eligibility or credentialing, because they are not core translation skills in the sense of establishing actual content correspondence between source and target texts. Instead, they are general business skills.

5.2.3. Technical Writing

The ninth skill area, skill in technical writing in addition to general writing skills, is relevant to some translation projects and is often tied to the text types and other conventions of a subject field. Therefore, the recommendation is to include technical writing skills in the higher-level certification examination.

5.2.4. Additional Skills

The tenth skill area, running a translation business, is already part of the professional development offerings of ATA. In fact, ATA offers several types of help and business practice advice to translators who run a small business, which can be as small as a sole proprietorship, and ATA includes a Translation Company Division for small to medium-sized translation companies.

The eleventh and twelfth skills areas—interpersonal communication and oral communication—are of varying importance to a translator, depending on the work environment, and are not specific to translation. Therefore, it is recommended that these be included in professional development that translators seek outside of ATA, as needed.

The thirteenth and final skill area, use of translation technology, called CAT (Computer-Assisted Translation) by the focus groups is in rapid transition. It was ranked surprisingly low in the survey, but we anticipate that this ranking will change in the next JTA survey.[14] As evidence of the rapid evolution of the use of translation-specific technology, the 2012 ATA conference and the 2012 AMTA (machine translation) conference will again be co-located in the same city, in order to promote communication between human translators and machine translation researchers.

5.3. Abilities

Ten core abilities were identified by the focus groups. All but two were ranked highly in the survey. The two that were ranked low—ability to create and maintain a terminology database and ability to use a corpus of texts—are also in transition. We anticipate that terminology database management will become more automated and that the use of corpora will become more ubiquitous while translators will be perhaps less conscious of possessing these abilities, since termbases and corpora will become more integrated into the tools used by translators. The use of translation technology will become

[14] Use of CAT tools is expected to vary depending on the specialization of individual translators and their specific contexts. Some types of text are very repetitive and lend themselves to processing in CAT tools more easily than other text types such as unique legal texts. There may also be a demographic difference, with older translators being slower to adopt CAT tools, if at all.

more of a given and various aspects of translation-support technology will be less visible as individual components.

Of the remaining eight abilities, three are clearly prerequisites that are not the responsibility of ATA to test: common sense, analytical thinking, and intuitive thinking. Many professions require these basic abilities without explicitly testing them in the certification process.

Four of the final five abilities (being able to read the source language and write in the target language, being able to understand nuance and register, being able to perform language transfer and being able to recognize and verify correspondence), constitute aspects of the *core* ability to translate and are best tested by a performance examination during the credentialing process.

The last of the abilities identified by the focus groups is certainly not least: being able to follow specifications. This ability cannot be tested separately from the ability to translate; however, it may be possible to test an understanding of whether an existing translation (target text) matches a given set of specifications, separately from a performance examination.

Significantly, the current ATA examination is focused on the five core translation-related abilities. As identified by the focus groups and the survey, these five abilities are necessary but not sufficient for success as a professional translator. Some of the 31 other KSAs have already been integrated into the ATA certification program, while others will be the subject of careful deliberation concerning exactly where they fit in the program (eligibility, credentialing, or professional development) and if they are placed in eligibility or credentialing, exactly how they will be demonstrated or tested.

Once all 36 KSAs have been taken into account in the ATA certification program, it can be declared valid. At that point, reliability must be established. Doing so is a very substantial step that is beyond the scope of this article. Once reliability is established, an additional step that should be taken in order to confirm validity is to invite established high-level professional translators, whether certified or not, to take the examination and review the professional development component. Obviously, they should be able to pass the examination. Furthermore, their comments on the examination and the professional development activities permitted for maintaining certification should be taken seriously. In addition, translation companies should be approached to verify that certified translators are indeed able to perform effectively in a commercial environment. Any exceptions should be analyzed in terms of the KSAs to determine whether particular KSAs were not demonstrated by the professional translators, despite being certified according to them, or whether the performance exception is tied to a KSA that is either part of on-going professional development or entirely outside the 36 identified in the ATA study. As the translation profession evolves, the list of KSAs and the certification program will naturally evolve with it.

Revalidation of a translator certification system is necessary and must be an on-going process. The profession is dynamic and changing so the certification process must evolve with it.

6. Detailed Comparison of EMT and ATA KSAs

A detailed comparison of the KSAs in the EMT categories and the ATA categories has been conducted; it will be made available separately.

7. Conclusion

The methodology described in this article, namely, using a job task analysis to determine the KSAs relevant to translation competence and then examining a certification program to determine validity, based on whether the KSAs are taken into account, is not specific to ATA or to the United States. It is applicable to every translator certification program in the world. A given program can choose to develop its own set of KSAs, using focus groups and a survey, or to examine the KSAs established by the ATA job task analysis project or the EMT project. Either way, the validity of the certification program should be established through a comparison of the KSAs with what is measured by the program. Once validity is established, reliability needs to be measured. Then validity needs to be confirmed by involving various stakeholders, including high-level professional translators and companies that engage the services of translators. Other aspects of ISO 17024 will need to be followed in order to ensure that a translator certification program is sound and defensible.

When validity, reliability, and other aspects of ISO 17024 have been demonstrated in the ATA certification program, both certification applicants and those who employ certified translators would further benefit from the prestige and confidence in the quality and integrity of the certification program that is ensured by third-party accreditation by an IAF-recognized Accreditation Body. (IAF is world association of conformity assessment accreditation bodies mentioned in section 1.2.)

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