Aptitude testing over the years

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In the present paper I review the existing literature on aptitude testing with a view to highlighting the main emerging themes: which qualities indicate an aptitude in a prospective interpreter, how these qualities may be measured and which types of test should be administered, the issue of valid and reliable testing, proposals for test designs, and, finally, description of aptitude tests which have identified statistically significant predictors. The focus is on spoken language, but signed-language aptitude testing is also partially covered. Available results so far appear to show that interpreting-related cognitive skills and verbal fluency may be measured and may be predictive both for spoken-language and for signed-language interpreting candidates. In particular, the production of synonyms appears to be a strong aptitude predictor from several independent research projects.

Keywords: predictors, soft skills, hard skills, verbal fluency, interpreting-related skills

> Any aspect of the individual, including some matters untouched by conventional ability and personality measures, can predict response to instruction and hence can be a source of "aptitude". (Cronbach & Snow 1977: 6)

1. Introduction

Before any interpreter training institution was ever set up in the early 1940s and 1950s, it was talented and well educated bilingual or multilingual speakers who played the role of interpreters and became highly reputed professionals (see Delisle & Woodsworth 1995; Roland 1999; Baigorri Jalón 2000). The exceptional interpreting skills these individuals displayed led to the assumption that interpreters possess inborn qualities, an assumption that interpreting professionals, schools and researchers have been challenging over the years.

In order to determine whether successful interpreting performance is more a matter of nature or nurture, researchers focused on the issue of aptitude[1] and ways

Interpreting 13:1 (2011), 5–30. DOI 10.1075/intp.13.1.02rus
ISSN 1384–6647 / E-ISSN 1569–982X

of testing it, an issue that had already been thoroughly investigated in educational and vocational fields (Carroll 1962; Cronbach & Snow 1977). Aptitude, according to Cronbach and Snow (1977), is "any characteristic of a person that forecasts his/her probability of success under a given treatment." For them, "psychologically, aptitude is whatever makes a person ready to learn in a particular situation" (1977: 6) and is therefore a predictor or forecaster. For this very reason, selecting interpreting candidates wisely has become not only a practical necessity for training institutions confronting human and financial restrictions, but also an ethical one, as discussed as early as 1965 at the AIIC Paris Colloque reported by Keiser (1965a). At a pedagogical level, he said, everybody could be trained, but he added:

> Mais il serait anormal de permettre à des candidats dépourvus de dons de se lancer dans des études d'interprétation alors qu'il serait patent qu'ils ne deviendront jamais interprètes, ou qu'ils ne le deviendront qu'après quinze ans d'études, ce qui entraînerait une disproportion des efforts injustifiable. (Keiser 1965a: 3)

Keiser's remarks touched upon two key, but highly elusive concepts relevant to aspiring interpreters, namely the assumption that there are ungifted candidates (candidats dépourvus de dons) and the assumption that it would be evident (qu'il serait patent) that they will never become interpreters unless they are prepared to work hard for many years.

Ever since, the debate about interpreting aptitude and aptitude testing has revolved around these two assumptions and many efforts have been made to address them from a scientific perspective, that is, adopting methodologies that can be checked and replicated and breaking down "interpreting aptitude" and performance into components that can be defined and measured. Against this backdrop, Mackintosh's title "Interpreters are made not born" (1999) has become a manifesto of a brand new approach to interpreting students' selection and training.[2]

The creation of academic institutions to train interpreters helped develop teaching methodologies and scientific research. Indeed, as we will see in the course of this paper, trainers and researchers (themselves often individuals who combined both roles) fruitfully joined efforts to devise tests aimed at "Screening potential interpreters" (to quote a seminal paper by Moser-Mercer 1985). However, given the many cognitive, linguistic, pragmatic and motivational implications of becoming an interpreter, what kind of aptitude is expected from a would-be interpreter?

As we will see (§ 2.1), interpreter trainers (most of whom are also professional interpreters) relied on their intuition and personal experience to determine the features and abilities that define "aptitude" for interpreting (the interpreter ideal profile). The first important distinction emerging from the debate on interpreting aptitude (and consequently on selection procedures) is whether greater emphasis

should be placed on already acquired skills or on the ability to learn interpreting-related skills (Lederer 1975; Sofr 1976; Pearl 1995 and more recently Tryuk 2002 and Angelelli 2007, who talks about "interpreter readiness"). On the other hand, Seleskovitch and Lederer focus on the concept of "teachability" (Keiser 1965a, 1965b), regarding most training goals as achieveable through exercise, others as unteachable, notwithstanding their vital importance for interpreting practice. Therefore, they maintain, aptitude testing should screen "teachable" candidates because it would be futile to try to teach interpreting to candidates who are not able to think logically.

The issue of defining aptitude and ways of reliably testing it, however, is not confined to academic institutions, but is also a matter of concern for professional interpreter associations. These are concerned with preserving high quality professional standards among its members, and take a particular interest in veryfing the teaching practices implemented by academic centers worldwide. In this field, the International Association of Conference Interpreters (AIIC), set up in 1953, has always played an extremely active role. In particular, AIIC links up training with the profession, and makes a point of according recognition only to those schools that comply with specific requirements, one of them being the use of an entrance examination (AIIC Training Committee 2010). AIIC's first major contribution to the debate on aptitude testing was the organizing of two conferences on the topic, both of them held in Paris (see Bowen & Bowen 1989): the "Colloque sur l'enseignment de l'interprétation" (18–19 December 1965) and the AIIC School Seminar (19–20 October 1974).[3] Subsequent conferences continued the debate: the NATO Symposium on "Language Interpretation and Communication", held in Venice in 1977 (Gerver & Sinaiko 1978), the European Parliament's Colloquium on Interpretation in a Multilingual Institution, organised in May 1979 (Bowen & Bowen 1989) and the conference organised by the SSLMIT of the University of Trieste in 1986 under the heading of "The Theoretical and Practical Aspects of Teaching Conference Interpretation" (Gran & Dodds 1989). While aptitude testing was on the agenda at all of these events and was clearly seen as relevant to training, it was not until the 2009 Antwerp conference on "Aptitude for Interpreting: Towards Reliable Admission Testing" that an entire event was devoted to it. This conference helped revive interest in aptitude for interpreting, and in the high cost — both for the institutions and for the prospective candidates (whether accepted or rejected) — of ineffective assessment of aptitude.

In the present paper I review the existing literature with a view to highlighting the main emerging themes: which qualities a prospective interpreter should possess that indicate an aptitude (§ 2), how these qualities may be measured (§ 3), the issue of valid and reliable testing (§ 4) and, finally, proposals for test designs (§ 4.1) and aptitude tests which have identified statistically significant predictors (§ 4.2).

Although I will concentrate on spoken language aptitude testing, some contributions on sign language aptitude testing will also be mentioned.

2. *What* to look for in an interpreting candidate

The interest in defining aptitude and developing ways to test it has grown over the years as can be seen from Figure 1.

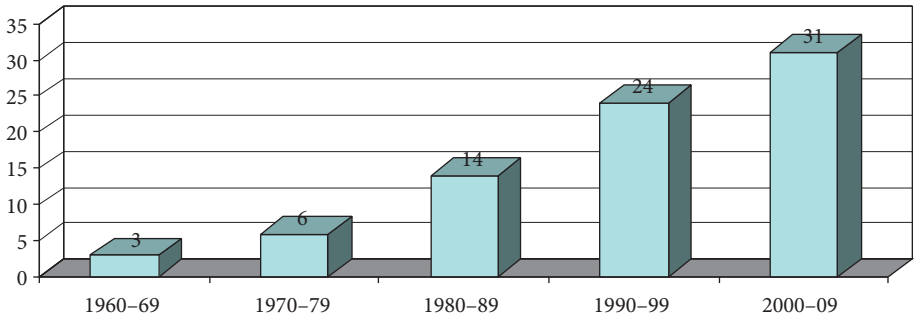

Figure 1. Distribution of publications on aptitude over the years

The efforts devoted to aptitude testing have been impressive, as has the range of publications offering different insights into aptitude and aptitude testing. Notwithstanding their diversity, some general trends can be detected and will be tackled in greater detail in the relevant sections of the present paper. Some authors with an interpreting background collaborated with scholars from other disciplines, such as psychology, to develop multi-component testing batteries which they described in detail (Gerver et al. 1984). Others drew inspiration from different disciplines to suggest tests based on those findings: the test based on research into foreign language acquisition suggested by Carroll (1978), the shadowing[4] test described by Lambert (1992a) and the test on personality traits described by Schweda Nicholson (2005). Still others have approached aptitude from a more theoretical perspective and produced stimulating reflections: Lederer (1975) and Sofr (1976) drew attention to the concept of interpreting-related aptitude, and Alexieva (1993) focused on the role of short-term memory. Other publications provide descriptions of admission procedures with final-mark correlations (Arjona-Tseng 1994; Donovan 2003; Timarová & Ungoed-Thomas 2009) or of tests on abilities which proved predictive: lexical knowledge (Skaaden 1999), memory capacity[5] and verbal fluency, with particular reference to the production of synonyms (Gerver et al. 1989), cloze tests (Gerver et al. 1984; Moser-Mercer 1985; Lambert 1992b) and text processing strategies (Russo 1993; Russo & Pippa 2004). As to reports on tests, Shaw and Hughes (2006) provide the most recent extensive overview of the

characteristics of second-language learners and sign language interpreters based on empirical studies with a view to suggesting evidence-based admission criteria to interpreter schools.

2.1 Ideal interpreter profiles: A consistent view over a 40-year span

As we have seen, the need for some admission criteria to training was stressed as far back as the very first conference on interpreting, the 1965 Paris Colloque. Indeed, the vast majority of participants were in favour of an aptitude test to regulate access to interpreter training institutions.[6] But aptitude at that time was still a very holistic concept, lacking evidence-based indicators or predictors. The first general framework of candidates' prerequisites was inspired by professional and training experience (Keiser 1965b). A review of almost forty years of publications referring to an ideal interpreter's profile as seen by trainers, scholars and professionals[7] (Herbert 1952; Keiser 1965a, 1965b, 1978; Longley 1989; Gerver et al. 1984; Lambert 1992b) shows that the basic assumptions about the characteristics of a suitable candidate have remained substantially the same (see Table 1).

The synopsis in Table 1 includes many abilities and personal qualities that are self-explanatory. Yet, some do require clarification. The item "Ability to comprehend", listed in the 1965 AIIC Colloque, was further specified as follows (Keiser 1965a: 6):

> Pour comprendre il faut être intelligent et connaître le monde. Cette faculté de compréhension est constituée de deux éléments: de dispositions innées (la vivacité intellectuelle, l'esprit de finesse, une bonne mémoire, qui peut se cultiver d'ailleurs, le goût des équivalences sémantiques, l'aptitude à la transposition rapide d'une langue dans une autre) et de capacités acquises.

As to the acquired skills mentioned by Keiser (1965a), these include a broad knowledge of general culture and keeping abreast of current affairs. In particular, candidates must know how to think logically, and this is provided by a university background. The concept of "ability to comprehend" also covers the otherwise elusive concept of "interpreting attitude". To sum up, an aptitude test should reveal whether a candidate

> – a la faculté de compréhension nécessaire, notamment celle d'analyser une information rapidement, d'eviter les contresens et les incohérences; dispose d'un esprit rapide lui permettant le passage d'une langue à l'autre et d'un sujet à l'autre, lui permettant de ne pas perdre ses moyens s'il est tout à coup confronté avec un domaine qui lui est étranger; a, en outre, la discipline linguistique nécessaire pour assurer sans faille la dissociation linguistique (éviter les "faux amis", le mélange de plusieurs langues). (Keiser 1965b: 35)

Table 1. Ideal interpreter profiles across a 40-year span

Herbert (1952)	**1965 AIIC Colloque**	**1974 Paris Symposium (Keiser 1978: 17, 20)**	**Gerver et al. (1984: 19); Lambert (1992b: 25)**	**Longley (1989: 106)**
Professional experience perspective	Professional and training experience perspective	Professional and training experience perspective	Professional experience perspective (reported)	Training experience and scholarly perspective
Command of two foreign languages Lexical fluency Good memory Broad general culture Interpreting attitude	Foreign language command (B+C) Strong mother tongue (A) Love for languages Ability to comprehend Language transfer skills	Ability to comprehend and mental rapidity Expressive ability General culture Personal qualities (capacity to adapt to subject, speakers etc.; public speaking, tact and diplomacy) Physical and psychological stamina	Profound knowledge of active and passive languages and cultures; Ability to grasp rapidly and to convey the essential meaning of what is being said; Ability to project information with confidence, coupled with good voice; Wide general knowledge and interests, and a willingness to acquire new information; Ability to work as a team member.	Excellent knowledge of A, B, C languages and cultures; Ability to grasp rapidly and to convey the essential meaning of discourse, irrespective of the language spoken; A memory which recalls the links between logical sequences of discourse; Ability to convey information with confidence, coupled with a pleasant delivery; Broad general knowledge and interests, a curiosity and willingness to acquire new information; Ability to work as a team member; Ability to work under stress for long periods.

Interestingly, Keiser cites the candidate's ability to avoid countersense and incoherence as an important component of the ability to comprehend (la faculté de compréhension nécessaire). This ability is hardly mentioned in the literature on aptitude (with the exception of Gerver et al. 1984). And yet, Russo and Pippa (2004) have found that the loss of coherence in producing speech during an on-line paraphrasing test is a strong predictor of failure in interpreter training (see § 4.2).

Even though "assertiveness" is not included in the list of prerequisites of a suitable candidate in Table 1, it is a quality which professionals consider extremely important (Lambert 1992b). By the same token, although the synoptic table does include physical and psychological stamina among the prerequisites (reported by Keiser 1978), this factor is still generally neglected in aptitude testing, as the literature on the topic shows. This is not the case for another aptitude component included in Table 1, namely memory (Herbert 1952; Longley 1989), which is included in several test batteries, either directly (Wechsler memory scale, Gerver et al. 1984) or indirectly (production of summaries, Timarová & Ungoed-Thomas 2008). In particular, strong short-term memory capacity should be tested because it highlights the candidate's ability to capitalise on intertextuality (Alexieva 1993).

2.2 Other contributions to the debate

The above-mentioned general framework of abilities and personal qualities based on the intuition of interpreting trainers, scholars and professionals (Table 1) was further enriched by different approaches to aptitude and aptitude testing, particularly the contribution of an educational psychologist, Carroll (1978), who laid the foundations for much of the research. Coming from the field of foreign language acquisition and testing, Carroll studied admission testing procedures at Georgetown University: on the one hand, he was appalled by interpreting candidates' poor knowledge of their foreign languages and, on the other, he became more aware of the main features required of an interpreting performance. Based on findings in psychometrics and in foreign language acquisition, particularly Thurstone's analysis of cognitive abilities into a series of primary factors (Thurstone 1938, quoted in Carroll 1978), he recommended testing the following cognitive abilities:

- verbal intelligence (the V factor)[8]
- general culture
- word fluency factor (ideational fluency, i.e. a rapid and coherent flow of ideas on a topic; expressive fluency, i.e. rephrasing a sentence in as many ways as possible; associative fluency, i.e. production of synonyms and antonyms).
- naming facility factor
- shadowing.

In psychology, verbal intelligence and word fluency factors were measured by means of written tests, but Carroll (1978) suggested that oral tests be introduced instead. Gerver et al. (1984) proposed the use of associational fluency tests while Lambert (1992b) opted for shadowing, extensively used in psychology for its ability to assess memory structure, notwithstanding the controversy surrounding its suitability for interpreting (see note 4). Some items related to verbal fluency were subsequently tested by several authors: completion/detection tests (Gerver et al. 1984), lexical knowledge (Skaaden 1999) and production of synonyms (Russo & Pippa 2004).

A more recent overall description of the qualities and abilities expected of a prospective conference interpreter ("What kind of personal traits do I need to be a conference interpreter?") is provided by AIIC. The recommendations include:

- a polished command of their own native language over a range of registers and domains
- a complete mastery of their non-native languages
- a familiarity with the cultures in the countries where their working languages are spoken
- *a commitment to helping others communicate*
- an interest in and understanding of current affairs, plus an insatiable curiosity
- world experience away from home and school and a broad general education
- good training (and usually at least an undergraduate university degree)
- the ability to concentrate and focus as a discussion unfolds
- a pleasant speaking voice
- *a friendly, collegial attitude*
- *calm nerves, tact, judgment and a sense of humor*
- *a willingness to adhere to rules of conduct* (e.g. confidentiality).

(AIIC Training Committee 2010; emphasis added)

Among other things, the focus is placed on the social dimension of interpreting (helping to communicate, friendliness, sense of humor, professional ethics etc.) which is virtually neglected in the earlier contributions.

Finally, a comparative view of expected knowledge and aptitudes for spoken-language and signed-language interpreters is offered by López Gómez et al. (2007), reproduced here as Table 2.

While many of the reported items are shared by both kinds of would-be interpreters, others appear to be more relevant for spoken-language interpreters.

Another interesting aptitude highlighted by Shaw and Hughs (2006) was "learning ability" — namely the mental and behavioural ability to adjust in the face of criticism and advice. Recently, attention is being paid — or at least this is what the interpreting schools claim — to other "soft features" (Timarová &

Table 2. Knowledge and aptitudes mentioned in the literature (López Gómez et al. 2007: 77)

Knowledge		Aptitudes	
LINGUISTIC	High command of A & B languages ↔♥ Specific vocabulary ↔	Efficient input segmentation ↔ Attentional division ↔ Use of language-pair specific strategies ↔ Predictable properties of language ↔ Change translation strategies ↔ Verbal fluency ↔♥ Processing speed ↔♥ Good long and short-term working memory ↔♥ Powers of concentration ↔♥ Capacity to sign and talk simultaneously ♥	COGNITIVE
CULTURAL	Knowledge of A & B cultures ↔♥ Cultural background ↔♥		
ACADEMIC	University degree or equivalent ↔	Adapt without delay to different speakers/ signers, situations and subjects ↔♥ Pleasant voice and public-speaking skills ↔♥ Stress resistance & self-control ↔♥ Team work ↔ Professional distance ↔♥ Likes to be well-informed ↔ Diplomacy ↔ Good self-concept ↔	PERSONALITY

↔ Aptitude mentioned for spoken-language interpreters
♥ Aptitude mentioned for signed-language interpreters

Ungoed-Thomas 2009) of the interpreter profile, but hardly any test is currently being administered to this effect (Timarová & Ungoed-Thomas 2008), even though qualities such as motivation were assessed in the past (using the interview method, in addition to sight translation; Arjona-Tseng 1994).

The general overview of the literature on interpreters' aptitude provided in this section highlights some basic distinctions among expected skills: (a) language knowledge and mental skills (Keiser 1978); (b) acquired skills and interpreting-related trainable skills (Lederer 1978); (c) hard skills and soft skills (Timarová & Ungoed-Thomas 2008). Are all these skills equally predictive?

3. *How* to measure interpreter candidates' skills?

Over the years, ways to test interpreting candidates' abilities have changed only slightly. All tests have always been targeted either to individual skills (for instance, memory capacity) or multiple skills (for instance, interlinguistic recall which implies both foreign language control and memory). The first tests were inspired by intuition and common sense and presented what Clifford (2005) called "face validity", that is, they resembled tasks that interpreters would perform (for instance, listening and speaking at the same time or sight translation) or skills they displayed (general culture tests). Gradually, trainers and scholars in the field recognized the need to administer validated and reliable testing procedures. Some authors suggested the application of paradigms used in other fields such as the expert-novice paradigm (Moser-Mercer 1997, 2000), which may be valid for several aptitude traits, but not for all of them. A case in point is working memory performance, where the validity of this paradigm was recently disproved (Köpke & Nespoulous 2006).

The first author to voice the necessity for validated and reliable testing procedures was the former Director of the Interpreting Program of the Polytechnic of Central London (PCL), Patricia Longley, who set up a multidisciplinary team including psychologists (Gerver et al. 1984; Longley 1989). Ever since, all papers on aptitude testing are concerned with scientifically sound screening procedures and look for correlations with external measures such as final exam pass rates, interpreting exam average scores or the number of sessions needed to complete the training successfully. The most recent examples are Pippa and Russo (2002), Russo and Pippa (2004) and Timarová and Ungoed-Thomas (2009).

3.1 Types of tests

3.1.1 *Early aptitude test batteries*

The very first publication on the subject, the already mentioned 1965 AIIC Colloque sur l'enseignment de l'interprétation, contained a report by Walter Keiser, "Admission dans les Ecoles d'interprétation", which not only summarised the debate on skill testing, but also gave a detailed account of the selection procedures implemented by the various interpreting schools, among them ETI (Geneva), Übersetzer- und Dolmetscher-Institut (Heidelberg), ESIT (Paris), ISIT (Paris), Ecole d'Interpretation (Antwerp) and the Business School HEC (Paris). The types of tests reported at that conference varied, depending on the respective schools' curricula and the candidate's level of training prior to admission. The common features were an interview and a written or oral translation. Some schools included a written essay in the mother tongue on a topic of general culture. This was the

eliminatory stage. The recommendations that emerged from the 1965 Colloque were the following: all examiners should be conference interpreters and, in the oral part of the exam, all tests should be truly oral (with the exception of sight translation from a written text). The test should measure

– les connaissances linguistiques
– la culture générale
– le niveau intellectuel, la faculté de compréhension et la rapidité d'esprit
– la facilité d'expression et la diction
– l'aptitude physique et psychique (Keiser 1965b: 31).

A comparative view of the tests implemented by the different schools is shown in Table 3. Information on the number of students is not available.

Table 3. Tests administered by the schools participating in the 1965 Paris Colloque

School	Test type	Duration	Nature	Correlation with final exam
ETI, Geneva	1. Interview 2. Recall from A into A 3. Interpretation from B into A	20–30 minutes	Voluntary and not binding	No
Heidelberg	1. Consecutive from A into A 2. Sight translation from B into A 3. Interview in language A	20–30 minutes	Compulsory	No
H.E.C., Paris (a business school)	1. Translation B/C >A; A>B 2. Essay in language A 3. Interview A/B/C 4. Sight translation B/C>A 5. Aloud reading 6. Question on the news of the day	20–30 minutes	Compulsory	Yes
ESIT, Paris	1. Interview in A/B/C 2. Explanation in A of a passage in B/C 3. Recall in A from B/C 4. Sight translation from B/C>A	Not indicated	Not indicated	Not indicated
ISIT, Paris	1. Sight translation or elementary interpretation B>A 2. Sight translation or elementary interpretation A>B 3. Sight translation C>A 4. Interview in A/B/C	Not indicated	Not indicated	Not indicated
Ecole d'interprétation, Antwerp	1. Consecutive from B/C into A 2. Interview in A/B	Not indicated	Binding (with possible *repéchage*)	Not indicated

3.1.2 *More recent test battery descriptions*

Other detailed examples of admission tests used by different schools are provided by Lambert (1992b), along with the methods used by the University of Ottawa since 1984 to select candidates for the graduate diploma programme. The selection exams included tests for shadowing (phonemic and phrase shadowing), cloze, sight translation/sight interpretation, memory test, and an interview. These tests are based on cognitive theories. The methods seem to have enabled examiners to identify the characteristics considered most important (general knowledge, command of A and B languages, ability to transfer meaning, specific interpreting-related skills, personality traits). The author stated that the array of methods used by the University of Ottawa[9] can identify those candidates with little chance of success in the field of interpreting. Lambert hoped to be able to determine whether a further significant correlation exists between the test results and those scored later during the diploma programme. Regrettably, the author specified neither the administration procedures nor the assessment criteria, so that no replication is possible. Furthermore, given the modification of the tests over time, since 1984, candidates were given different tests, and therefore correlation with the final exam results could not be checked.

Later on, Moser-Mercer (1994) reported both on the types of tests and when they are administered. Schools differed considerably in this regard, depending on the course design and content. For instance, abilities that are known to improve through practice are often not tested as strictly as others. Furthermore, duration of training affects testing: for example, a 4-year degree has different testing priorities than a 6-month postgraduate programme. Several other authors describe aptitude testing criteria in relation to course duration (among them, Lambert & Meyer 1988; Bowen & Bowen 1989).

A more recent overview of selection practices is provided by Tryuk (2002) with special reference to interpreting schools in Eastern Europe. In general, all contain items belonging to the concept of "aptitude to perform an acquired skill" (e.g. the consecutive test) together with those belonging to the concept of "aptitude to perform interpreter-related skills" (e.g. recall).

Another test battery was developed by the European Master in Conference Interpreting (EMCI), which was set up in 2001. This includes traditional tests, namely, recall, interview and sight translation. The test starts from the following premise:

> Our aptitude test is typically a proficiency test looking to a future situation of language use, i.e. the test performances are regarded as indicators of how the candidate would perform on related tasks during training and, ultimately, in the interpreting booth. (Sunnari 2002: 25)

Those who assess candidates and those who will train them need to answer the following questions: "Does the applicant meet our criteria? Is the applicant trainable? Will we be able to work together?" As Sunnari (2002) states, the evaluation criteria are necessarily subjective and heavily rater-dependent. The paper also offers the rationale and the description of the tests, but no indication of test efficiency (correlation with final exam pass rate) or the number of candidates tested is provided. To select students expected to work into their B language in the simultaneous mode, jurors assess candidates' recall tests on the basis of the following criteria: resourcefulness, robustness of B language, motivation, quality of A language and teachability (i.e. ability to react to advice and criticism) (EMCI 2002: 61).

The most recent test overview was published by Timarová and Ungoed-Thomas (2008), who surveyed 18 schools. The authors grouped the components of the various tests and skills into several major categories which still reflect the 1965 AIIC recommendations, except for the physical-psychological aptitudes which are hardly ever tested. According to their survey, schools test the five abilities shown in Table 4.

Table 4. Abilities tested in a sample of 18 schools (Timarová & Ungoed-Thomas 2008: 39)

Category	Type of test	No. of schools
Language	short consecutive	14
	short speech by candidate	9
	interview	7
	summary	7
	translation	7
Communication	short speech by candidate	11
	short consecutive	10
	summary	6
	interview	5
Comprehension	summary	8
	translation	8
	short consecutive	5
Analysis	summary	11
	short consecutive	6
	translation	5
General Knowledge	interview	8
	written test	4
	short speech by candidate	3

A further interesting insight into aptitude testing provided by the authors' survey concerns the number of tests best suited to assess the candidate's skills and subskills: the more tests, the better? The authors did not find any significant correlation between the number of tests in a battery and the final exam pass rate. This result is a further encouragement to intensify research into devising or selecting the most appropriate tests.

As to the testing methodology, Angelelli (2007), writing on the medical interpreting profession (dialogue interpreting), states that language and interpreting skills should be tested separately. Furthermore, as to the testing material, she writes: "Undoubtedly, the use of real discourse interpreted by real interpreters on the job […] is a stronger indicator of content and construct validity than the assessment of isolated skills and traits." (2007: 68). Finally, with respect to the type of tests, she criticises the use of sight translation, a widely used test: "Sight translation is not part of IR (Interpreter Readiness) since, as evident in the literature, it is an acquired skill and therefore needs to be taught" (Angelelli 2007: 74).

4. Test validity and reliability

"The almost total lack of data relating pass/fail results in final exams, leaves the evaluation of aptitude for interpreting wide open to criticism" wrote Barbara Moser-Mercer in 1994 (p. 65). Today data on correlations are available, but more specific studies making use of statistical models to prove their predictive significance are still scant (Angelelli & Jacobson 2009). The issue of unreliability and excessive subjectivity in jurors' assessments has been voiced repeatedly (Gerver et al. 1984; Gringiani 1990; Dodds 1990; Pearl 1995; Kalina 2000; Sunnari 2002; Pippa & Russo 2002; AIIC 2006, Timarová & Ungoed-Thomas 2008), and has impelled some schools to adopt a different approach. This is the case of the PCL under Patricia Longley (1984, 1989) which introduced an aptitude testing battery claimed to be objective (§ 4.2) and of the SSLMIT at the University of Trieste, which revised its non-binding admission procedure[10] as reported in a study by Gringiani (1990), who found that the test's power of prediction was very poor: the error percentage for the group that passed and eventually withdrew was usually higher than for the group that failed but eventually completed the course: 45% vs. 36% and 37% vs. 18%, respectively. These results spurred fruitful reflections within the school and a debate over the kind of general knowledge it is realistic to include in aptitude tests, considering the fact that candidates are 20-year-old students (in particular, Gran and Taylor considered the distinction between variable and non-variable information useless) and the fact that tests failed to consider extremely important factors such as motivation and the candidates' attitude towards the test (Dodds

1990). Gringiani's results also opened up other research lines into aptitude testing at the SSLMIT of Trieste, namely, the study of text processing strategies analysed by means of on-line paraphrasing (Russo 1989, 1991, 1993, 1995; Pippa & Russo 2002; Russo & Pippa 2004).

4.1 Proposals for aptitude test designs

Several authors have suggested aptitude testing designs based on tests with some empirical support, but no observational studies have been carried out to verify their predictive power. We refer to contributions by Moser-Mercer (2000), Bernstein and Barbier (2000), Clifford (2005) and Schweda Nicholson (2005).

Moser-Mercer (2000) presented the Geneva Aptitude Project which draws upon the expert-novice paradigm (see § 3) and includes shadowing, delayed auditory feedback and verbal fluency. Results on correlations with interpreting exams, however, do not seem to have been published yet.

Bernstein and Barbier (2000) suggested the development of a rapid automatic screening test for prospective simultaneous interpreters based on the PhonePass-SET-10 test methodology, a fully automatic system for testing spoken language performance, designed by Bernstein. To develop this complex but promising project, however, a large interpreting population (between professionals and trainees) and considerable funding are required, which renders it impracticable for individual training institutions.

Clifford (2005) has suggested a psychometric aptitude test, which measures mental operations on the basis of exercises and questionnaires targeted at single operations (e.g. comprehension).

Schweda Nicholson (2005) interestingly suggested an exploration of the relation between personality traits and aptitude by means of a widely used standardized test, the Myers-Briggs Type Indicator (MBTI). A proposal to study personality traits, in addition to motivation and interest in becoming an interpreter or translator, had already been put forward by Szuki (1988), who suggested the development of an ad hoc test. Schweda Nicholson studied 68 interpreting trainees and found that her student population was equally distributed between Extroverts/Introverts, Sensing/Intuitives, Judging/Perceiving with a prevalence of Thinking over Feeling types. It would be interesting to replicate the study on a much larger population and correlate the results with school or professional performance.

4.2 Predictive aptitude tests

Over the years, efforts have been made to single out individual skills relevant to interpreting by means of validated and reliable aptitude tests. In order to verify the

test validity, aptitude test scores were correlated with proficiency at interpreting exams and at final exams; to verify the test reliability, aptitude test results were scored by means of criteria that were claimed to be objective and therefore replicable. A preliminary consideration is that all these studies[11] do not generally have large sample sizes by commonly accepted scientific standards: 19–29 subjects (Gerver et al. 1984), 28 subjects (López Gómez et al. 2007), 83 subjects, reduced to 57 (Moser-Mercer 1985), 46 subjects (Russo & Pippa 2004). However, they have been able to detect some statistically significant predictors. Let us now consider the main features of these studies and their main results, starting from the contribution on aptitude for sign language interpreting (López Gómez et al. 2007).

The authors' hypothesis was that perceptual-motor and cognitive skills, personality factors and academic background were possible predictors of success. They correlated candidates' aptitude testing scores with their final examinations, and found perceptual-motor and cognitive abilities to play a more significant role than personality traits in predicting proficiency in learning a signed language and developing signed-language interpreting abilities. On the other hand, academic background does not appear to be predictive. The best predictive test was the one based on the use of pseudosigns.

As far as aptitude for spoken-language interpreting is concerned, the first most comprehensive and methodologically sound aptitude test was developed by Gerver et al. (1984, 1989) and was implemented at the Polytechnic of Central London. The authors concentrated on the second of the several qualities expected in a candidate (see Table 1, column 4: "Ability to grasp rapidly and to convey the essential meaning of what is being said") and suggested twelve tests of three different types: 1) text-based tests, which assume the processing of connected discourse to be a crucial feature of the interpreter's task; 2) subskill-based tests aimed at assessing verbal ability; 3) stress-based tests aimed at assessing performance under time pressure. The authors obtained the following main results:

i. Differences between students who passed/failed exams were significant for memory for text, logical memory (1 and 2), error detection, cloze (1 and 2) and synonyms.
ii. Simultaneous/Consecutive differentiation: completion/detection tests correlated more with ratings of the simultaneous examination, while recall tests correlated more with ratings of the consecutive examination.
iii. Of the subskills and speed stress tests, only the synonyms test reflected significant differences between candidates who passed and those who failed.
iv. Given the different nature of the tests, the results suggest that the processing of connected discourse constitutes a crucial feature of the interpreter's task and should be included in selection tests.

From their study, synonym production seemed a particularly reliable predictor. The ability to produce words semantically related appears to be especially relevant in aptitude tests for interpreting (see also Russo & Pippa 2004). Gerver et al. (1984) concluded:

> In a general way, therefore, good performance on the tests was associated with a good showing in the interpreting examinations. This suggests that the abilities required by interpreters — to the extent that they are reflected in the examination ratings — are also reflected by the tests. (Gerver et al. 1984: 27)

The success prediction rate for those students taking the test battery was 39% (17 out of 29 students passed their final examinations), which is better than that of Trieste (36%) as reported by Gringiani (1990). By admission of the authors (Gerver et al. 1984: 20), however, it was not possible to fully assess the validity and reliability of the suggested test because this would have required the independent assessment of at least two raters for a large enough number of candidates. The sample comprised 29 students, but there were not more than 19 across the 12 different tests administered. Unfortunately David Gerver's untimely death prevented the follow-up of the test efficacy in a consistent way, though an indication of the predictive efficacy of the procedure was indirectly provided by Longley (1989). A recent noteworthy effort has been made by colleagues at Lessius University College to replicate this aptitude test battery, but conclusive results have yet to be published.

At present, the then PCL and now University of Westminster implements the following simplified admission procedure described in the FAQs of the MA course "Conference Interpreting Techniques":

> **Do I have to take an entrance test?**
> If your application is accepted, you will be invited to an entrance test. The test is as follows:
> A/CC(C) combination: Written translation from each passive language into mother tongue. You spend an hour on each language and do **two** translations per language. This takes a total of 2 hours, 3 if you offer 3 C languages.
> A/A combination: Written translation from A_1 into A_2 and A_2 into A_1
> A/B combination: Written translation from into A or B and B into A. Again, one hour per language and **two** test pieces per language.
> If you offer an A/B/C combination, you will translate A-B, B-A and C-A.
> Translation tests will be comparable to quality Broadsheet articles
>
> You will then take a one hour **General Knowledge test**.
>
> (University of Westminster 2010; emphasis in original)

Another aptitude test associated with an observational study was carried out by Moser-Mercer (1985). The author sampled 83 students (reduced to 57) on

shadowing, dual-task training, memory exercises, paraphrasing and number processing after a 10-week course and correlated their scores (recommendation, qualified recommendation, no recommendation) with exam results. Her hypothesis was that the students who received a recommendation were more likely to pass the qualifying examination at the end of their first year of study and the final professional examination at the end of their second year than students who received only a qualified recommendation or none at all. A significant relationship was found to exist between the type of recommendation issued and examination results. Indeed, 80% of those receiving a recommendation (32 out of 40), 33.3% of those receiving a qualified recommendation (3 out of 9) and only 12.5% of those receiving no recommendation (1 out of 8) passed the exam.

The most recent attempt at developing an aptitude test associated with an observational study was carried out by Russo (1989, 1991, 1993, 1995), Pippa and Russo (2002) and Russo and Pippa (2004). The test entails an on-line oral paraphrasing exercise of about 4 minutes in Italian administered to Italian mother tongue interpreting candidates after a short training session (10–15 minutes) designed to familiarise them with the task of listening and speaking at the same time. The goal of the test, which hinges on linguistic and cognitive strategies, was to predict successful program completion by students wishing to attend a conference interpreting course. The test design was inspired by the following methodological prerequisites. A test is reliable if a subject repeating the same or equivalent test achieves the same results, and it is valid only if it actually measures what it sets out to measure. Furthermore, determination of its validity requires independent criteria. In our case, test scores were correlated with the average mark on interpreting exams (*proficiency*) and with the number of sessions needed to pass the interpreting exams (*time*). The candidates' reformulations were evaluated at each unit level, starting from syntax, followed by semantics and finally pragmatics. For each level of analysis, relevant categories were developed and applied. They were specifically and univocally defined. The evaluation criteria of the candidates' performance evolved from Russo's early work, in an effort to devise a valid and reliable test to reduce the bias of an overly subjective assessment (for the rationale of the paraphrasing test and evaluation criteria see Pippa & Russo 2002). The test was administered experimentally, that is, not as an eliminatory entrance test, to 46 students about to begin their interpreter training course at the SSLMIT of the University of Trieste in the academic years 1988–89, 1990–91 and 1991–92.

The preliminary results (Russo & Pippa 2004) showed that of all the possible textual operations, the most powerful predictors, which significantly correlated both with the average mark and the number of sessions, were only two: loss of coherence (especially at sentence level), and synonym substitution (with or without pragmatic loss), as can be seen in Table 5.

Table 5. Correlations between single operations, number of sessions and average mark at interpreting exams (* = $p < .05$)

Operation	Correlation with sessions	Correlation with average mark
Loss of coherence	.33*	–.30*
A. Synonymic substitution with pragmatic loss (4 items)	–.30*	.32*
B. Synonymic substitution without pragmatic loss (3 items)	–.31*	.34*

Both of these operations involve deep semantic processing and memory capacity, required to perceive a speech while simultaneously paraphrasing it, as a single conceptual framework, either at sentence level or at inter-sentence level, and to retrieve related lexical items (associational fluency; Carroll 1978). These interpreting-related cognitive abilities are consistent with results obtained by Gerver et al. (1984) on synonym production and the processing of connected discourse as being highly relevant for an interpreter's performance (see above). It would seem that these abilities support the notion that the best performers at paraphrasing complete the course at a faster pace and receive better evaluations by their interpreting teachers in both their language combinations and throughout their school careers.

The other three operations which involve morpho-syntactic reformulations without any impact on semantics, namely, expansion (addition of verbal material without added information), permutation (mere shifting linguistic segments) and syntatic transformation are indicative of expressional fluency. This is certainly relevant to an interpreting task (Carroll 1978) and seems to have an impact on performance evaluation as well, since the average mark on interpreting exams correlates most significantly with the test scores. However, there is no statistically significant correlation between the time needed to complete the course (number of sessions) and the individual above-mentioned operations, indicating that these do not seem to play a meaningful role (Table 6).

This analytical study (Russo & Pippa 2004) has enabled the authors to single out the two strongest predictive operations during paraphrasing, on the basis of which to evaluate a future candidate's performance: loss of coherence and use of synonyms.

Based on these results, paraphrasing has been included in the admission testing procedure together with an oral cloze and a recall for each B language of a candidate at the SSLMIT of the University of Bologna at Forlì when the Conference Interpreting MA Program started in October 2004. At present we are assessing the most effective and least time-consuming admission testing procedure in the first three cohorts of students (academic years 2004–05, 2005–06 and 2006–07). Over these years we have been collecting data on students' achievements (average mark

Table 6. Correlations between single operations, number of sessions and average mark at interpreting exams (** = $p < .01$; *** = $p < .001$)

Operations	Correlation with sessions	Correlation with average mark
C. a. Operation with Ø semantic value without pragmatic gain- Expansions# (7 items)	(–.28)	.45**
b. Operation with Ø semantic value with/without pragmatic gain- Permutations# (3 items)	(–.18)	.42**
c. Operation Ø semantic value with pragmatic gain- Syntactic Transformation# (3 items)	(–.23)	.49***

in first and second years and final interpreting exams and the number of sessions needed to pass them) with a view to comparing them with admission scores. The results from admission to final exams of these three cohorts are being analysed, with the aim of confirming or disconfirming the predictive value of paraphrasing and comparing it with cloze and recall scores.

5. Conclusions

The assumption that only gifted individuals may become conference interpreters has gradually given way to a more articulated concept of interpreting aptitude which ranges from holistic assumptions (e.g. interpreting attitude) to scientifically sound measurements (e.g. aptitude predictors such as synonym production).

The overview of the literature on aptitude testing provided in this paper has shown that the ideal interpreter profile has not changed dramatically over time: this broad consistency in professionals', trainers' and researchers' views of what *makes* a good interpreter is encouraging in that it provides a fairly homogeneous framework of reference for *what* to look for in an interpreting candidate. Similarly, the prevailing types of tests have changed very little over these last forty years, but unfortunately very few tests have been "put to the test" for scientific soundness. In the meantime, some interesting new aptitude testing projects such as the automatic screening of potential candidates (Bernstein & Barbier 2000) have been put forward, but unfortunately they are not always practicable.

Yet, over the last twenty-five years research efforts have been made to provide evidence of aptitude testing reliability and validity. This research has produced

several statistically significant predictors of interpreting aptitude, which appear to show that interpreting-related cognitive skills and verbal fluency may be measured and may be predictive both for spoken-language and for signed-language interpreting (Gerver et al. 1984; Moser-Mercer 1985; Russo & Pippa 2004; López Gómez et al. 2007). Furthermore, available results indicate that some tests are more predictive for simultaneous than for consecutive interpretation (Gerver et al. 1984; Rejsková 1999) and that administering more tests at once may be redundant and counter-productive (Gerver el al. 1984; Timarová & Ungoed-Thomas 2008).

Test validity is determined by external measures. In interpreting studies these are usually interpreting exam marks and final exam pass-fail rate. Yet time (i.e. time needed to successfully complete the training course) is crucial in interpreting students' careers but, unfortunately, it is hardly ever taken into consideration in the correlations with aptitude testing scores. Equally neglected in the entrance examinations of most schools are those "soft skills" like motivation or personality traits (Timarová & Ungoed-Thomas 2008) whose role in determining or jeopardising a student's academic career seems to be of paramount importance, as has recently been reported by Bontempo and Napier (2009). Thus, in predicting the profile of the ideal candidate there is still ample room for improvement.

To conclude, the relation between instructional outcome and aptitude score is linked to the training specificities of each interpreting institution, hence the need for exchanging experiences in aptitude testing. In so doing, we will foster a mutually enriching learning process to better select present and future interpreting students.

Acknowledgment

The author is very grateful to Prof. Craig Clifford for his suggestions and corrections.

Notes

1. In the present paper the word "aptitude" is used as an overall term encompassing abilities, skills and personal traits deemed necessary (according to common sense) or reliable predictors (according to scientific research) of successful interpreter training. See Bontempo and Napier (2009) for the debate on the concept of "aptitude" vs. "ability".

2. The same stance against the idea of the "born interpreter" had been voiced earlier by Lambert (1992a) who defined interpreting as a skill to be learnt through a step-wise training.

3. The seminar was held under the auspices of ESIT and is reported by Lederer (1975). Among other things, the suggestion was made that an "entrance examination" would be preferable to

aptitude testing because the candidate was not being asked to prove his/her ability to interpret (Keiser 1978: 18).

4. Alexieva (1993: 8) reports on criticism of shadowing, not only as a reliable exercise for aptitude testing, but also as a training exercise (Dodds 1990), considered even harmful (Thiery 1990: 4) or undesirable (Déjean Le Féal 1998).

5. The vital role of memory as a prerequisite for simultaneous interpreting was also investigated by Darò (1995).

6. According to Keiser (1965a), only a handful supported the darwinistic "natural selection" view.

7. In the early 1990s, Lambert (1992b) analysed articles written by professionals and transcripts of interviews with interpreters, and noted that although empirical research on the skills and abilities required for interpreters was underdeveloped, the professional field was in agreement on the need for these.

8. "(…) the factor usually identified with 'V', or 'verbal intelligence', is probably the most relevant to perform as an interpreter or translator. (…) (For foreign or native language), V factor involves not only the individual's knowledge of advanced vocabulary, but also his sensibility to established word usages, to nuances of idiomatic phrases, and even his ability to predict the transitional probabilities of words in phrases, as in test called Phrase Completion. (…) The verbal factor is one of the best and most easily established factors of intelligence. It is involved not only in tests of vocabulary knowledge, but also in tests for reading comprehension, ability and facility (speed) in detecting semantic and syntactic ambiguities, and ability in writing effective, highly rated themes (…). For practical testing purposes, the V factor is best measured by many vocabulary tests, with emphasis on the exact meanings of more difficult and rarer words of a language." (Carroll 1978: 123–124)

9. Harris (1992) also describes the admission procedure as follows: written translation (filter test), sight translation, shadowing and short-term memory test.

10. The test battery included: written summary B>A language, sight translation A>B, improvised speech in A and/or B, interview in A and B on current affairs and general knowledge, questions on grammatical aspects of the B language.

11. For the sake of completion, Skaaden's study (1999) on the impact of written lexical knowledge on interpreting aptitude involving only 6 subjects should also be mentioned in this section because she carried out correlations with final exams, but no statistical significance is provided.

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