

# Expertise in Interpreting: Insights from Adopting an Expert-Performance Perspective

by

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I am proposing to think about expertise in interpreting from expert-performance perspective. My knowledge about the research on translation and interpreting is embarrassingly limited and probably rather superficial. Hence, my efforts have therefore been focussed on drawing potential connections between research on expertise, with which I am far more familiar, and expertise in interpreting. I have tried to describe patterns observed in other domains and then speculate on connections to interpreting—often in the form of questions and requests for information<sup>1</sup>.

I will first sketch the general findings from earlier studies of expertise and then describe some of the emerging issues and problems. Then I will try to show that the previous research on expertise in interpreting documents similar problems in that domain of expertise. In the second part I will propose how the expert-performance approach has tried to address some of the problems emerging from studies in the traditional expertise approach and sketch how they may be extended to studies of superior performance in interpreting under representative conditions.

## **Sketch of Factors Determining Expertise in Traditional Domains**

Until relatively recently professional skill and expertise was almost universally viewed as results of extended experience within limits set by basic abilities and associated capacities, which thus determine the ultimate level of attained performance. However, the evidence for this account is eroding with respect to both the relevance of basic innate abilities and the benefits of extended experience.

Recent reviews (Ericsson, 1998; Ericsson & Lehmann, 1996; Howe, Davidson & Sloboda, 1998) question the relation between professional achievement after long-term experience and measured basic abilities and capacities. The amount of experience in a domain is often a weak predictor of performance (Ericsson, 1996). For example, the outcome of therapeutic treatment of mental health patients has been found to be unrelated to the amount of experience and advanced training of the therapist (Dawes, 1994). Similarly, any beneficial effects on accuracy of medical diagnosis from continued medical experience and expertise beyond the first year of residency has been very difficult to demonstrate with representative patients. More generally, experts in auditing, financial investing and numerous other professional domains involving decisions and predictions (Ericsson & Lehmann, 1996) have not been found to perform at consistently higher level than non-experts or, in some cases even novices. Even more refined measures, such as the number of chess competitions attended (Charness, Krampe & Mayr, 1996) and the number of baseball games played in the major leagues (Schulz et al., 1994), do not accurately predict performance in samples of skilled performers.

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<sup>1</sup> Please do not hesitate to contact me ([ericsson@psy.fsu.edu](mailto:ericsson@psy.fsu.edu)) and provide me with information and suggestions before the conference so I would be able to digest the material prior to the actual conference!

The evidence that basic abilities constrain the level of achievement that individuals can attain is even weaker. In fact, it is even directly inconsistent with large practice gains with deliberate practice (as distinct from further experience) at virtually all skill levels when individuals are highly motivated to improve (Ericsson, Krampe & Tesch-Romer, 1993). Surprisingly the evidence for large influences of experience in the domain is also weak, especially when we focus on improvements after the initial period of a few months or even a year when individuals first experience representative activities.

The traditional view of skill acquisition (Anderson, 1982; Fitts & Posner, 1967) is based on the observation that once individuals understand the requirements of many everyday skills, such typing, driving, golf and tennis, their performance improved gradually to an adequate level, that they become over time able to execute almost automatically. Many people then maintain their initially attained level for the rest of their life as long as they remain active. The traditional account of expertise suggests that the development of expertise can be explained by gradual accumulation of knowledge and pattern-action elements with the same general theoretical framework (Richman, Gobet, Staszewski & Simon, 1996). However, this account cannot explain that detailed analyses of experts performance have revealed highly complex cognitive mediation of expert performance for representative tasks in many domains, such as chess and medicine (see Ericsson and Smith, 1991, for an early overview). Furthermore, experts have been shown to have better long-term memory of information relevant to the tasks than less skilled individuals do—in contrast to assumption that higher skill level was associated with higher degree of automaticity (Ericsson & Kintsch, 1995). Finally, analyses of the development of expert performance show that expert performers do not attain their superior performance as an incidental consequence of engaging in domain-related activity. The continued improvement of performance over a decade is shown to be related to engagement in highly structured activities designed to improve specific aspects of the experts’ performance and to facilitate the development of their mediating representations, namely deliberate practice (Ericsson, 1996, 1998, 2001; Ericsson, Krampe & Tesch-Romer, 1993).

### **Traditional Approaches to the Study of Skilled and Expert Interpreting**

The initial efforts to understand the mechanisms mediating skilled and expert interpreting emphasized the role of innate talent—akin to the early studies of expertise in other domains. Dillenger (1989, p. 17) even gave the following quote from Longley supporting an early view that experience in interpreting had minimal effect on performance: “no special training was required [for interpreting] and that it all depended on an innate special skill”. However, subsequent attempts to find and measure basic, and possibly innate, abilities that are linked to success in interpreting have not been successful (see Moser-Mercer, Frauenfelder, Casado & Kunzli, 2000).

Other studies have searched for qualitative, presumably innate, differences by comparing the performance of professional interpreters and of regular bilinguals. Dillenger (1989, 1994) completed one of the relatively few studies with large samples of professional interpreters (N=8) and of bilinguals without interpreting experience (N=16). He compared professional interpreters (with an average of 8.5 years of experience or 3830 hours of actual interpreting) with bilingual subjects without any professional experience. Dillenger (1989, 1994) found no evidence for qualitative differences between the two groups and both groups showed virtually the same pattern of the performance across conditions, although the expert interpreters translated more propositions, namely 70 %, which was around 16 % better than that of the novices. This and other findings led Dillenger to conclude that the key to successful interpreting performance is

better skills and abilities to process discourse in both languages. However, Dillenger’s (1989, 1994) cross-sectional design doesn’t allow assessment of causality. Did the professional interpreters become proficient because of these previously acquired skills or did they acquire these skills during their training and experience as an interpreter?

An early study by Gerver, Longley, Long and Lambert (1984) collected tests of several types of abilities to predict the attained performance (course grade) after an intensive training course for interpreters. They were reasonably successful and found that memory for text and logical memory were related to consecutive interpreting performance and that cloze tests and tests of error detection and synonyms predicted simultaneous interpreting performance. These findings are consistent with a larger body of literature on interpreting that suggests that interpreters develop new supplementary skills that build on their pre-existing mastery of the two languages. Hence, expert performance in interpreting is mediated not by fully automatic translation processes but by mental representations and mechanisms providing them with tools to gain more rather than less control over their performance (Kiraly, 1997; Seguinot, 1997; Shreve, 1997). The improved ease of performing the task—typically seen as evidence for automation—can be explained by acquired and refined representations. By refining the representations experts will be to attend and focus on only those aspects of presented message that are relevant to the translation and where increased control and storage in LTWM is beneficial—other irrelevant aspects will be disregarded. Unfortunately, much of the evidence on the mechanisms mediating expert interpreting is based on introspective analysis by the expert interpreters’ on their own cognitive processes. Much of the current evidence thus lacks independent verification and experimental validation and, thus, doesn’t meet the standards of laboratory research as argued by Massaro and Shlesinger (1997). Is it even possible to address the complexity and presumed large individual differences between different experts with the traditional laboratory paradigms? What can learn from comparing the average performance of groups of experts with novices?

The expert-performance approach took issue with the traditional view of expertise where the accumulation of chunks and pieces of knowledge was strictly incremental as function of experience. It recognized the fact that some experts are surprisingly unable to perform well on tasks outside their very narrow domain of expertise—some of them may not even be clearly superior on those narrowly constrained tasks, as I showed above. Hence, the focus of empirical research on expertise should be on identifying reproducibly superior performance and then capture that performance under standardized conditions in the laboratory.

### **An Expert-Performance Approach to Interpreting**

The expert-performance approach would ask how we can find representative tasks that capture the essence of interpreting where the performance of some expert interpreters is dramatically superior to bilinguals without interpreting experience.

#### Finding a Collection of Representative Tasks

One would expect that the closer that one would get to capturing the conditions that a professional interpreter experiences daily, the larger the differences in performance with inexperienced bilinguals. From my own reading of many studies, I wonder why the differences in performance are not larger in studies, such as Dillenger’s (1989, 1994) interpreting tasks designed to approach the representative conditions. Is it that only some expert interpreters will excel compared to the bilingual controls? Is it that Dillenger’s dependent measure of translated propositions is inappropriate and should be substituted with a more refined analysis of propositions relevant to the core message? Should one build in representative challenges, such sudden speed-up of the speaker that are likely to make the inexperienced interpreters fail?

One approach might focus on an individual expert interpreter and examine his/her naturally-occurring assignments in interpreting and then examine the constraints that are necessary to lead to a clearly superior performance to bilingual controls, such as domain knowledge. For example, an auditor’s ability to detect fraud depends on their knowledge of a particular industry and thus doesn’t generalize (See Ericsson & Lehmann, 1996, for the references to other instances of highly domain-specific superiority of experts’ superior performance).

Another approach is based on the realization that many experts do not show their superiority with typical and representative situations. Many pilots and surgeons in training may be quite able to master the normal when there is no unusual circumstance or problem. It is often thought that the experts in some domains of expertise primarily show their superiority when there is an unexpected problem. It is possible that the expert interpreters and the bilingual controls are not really challenged during most of a simultaneous interpreting session. Hence, another approach is to search for difficult, yet representative situations that are known to be challenging, especially for bilingual controls, and where the expert interpreter will show consistently superior performance to the bilingual controls. For example, the superiority of medical experts is seen most clearly with infrequent diseases that have not ever been personally experienced or with medical patients with multiple interactive diseases (see Ericsson and Lehmann, 1996, for this type of superiority only for challenging situations).

The key challenge for the study of expert performance is to identify the collection of tasks that capture the superior performance of some experts in a repeatable and reproducible fashion. In the ideal case, the superiority is so large that on virtually every trial the expert performers are able to show a qualitatively superior performance, such as selecting a better move for chess players, generating the correct diagnosis for medical experts, and recall vastly more information for the memory expert (Ericsson, Patel & Kintsch, 2000). Similarly one should look for situations where the expert interpreters clearly distinguish their performance from that of the bilingual controls. Unless the superiority in performance is large and there are qualitative differences between experts and bilingual controls then the project of identifying the mediating mechanisms becomes difficult.

#### Process-Tracing and Experimental Analysis of Reproducibly Superior Performance

Once it has been possible to repeatedly reproduce the expert’s superior performance, then it is also possible to apply process-tracing and experimental methods to identify the mediating mechanisms that are responsible for the performance advantage (Ericsson & Simon, 1993; Ericsson & Smith, 1991). If there are stable differences between different experts, it is important to be able to study the mechanisms of each expert and design tailor-made experiments to validate specific characteristics of the proposed mechanisms. To facilitate this time-consuming process it is very helpful when the expert’s performance is several standard deviations better than that of the control subjects. For example, in some of our studies of memory experts the superiority of each expert exceeded ten, sometimes fifty, standard deviations (Ericsson, 1988; Ericsson, Chase & Faloon, 1980). Differences of similar magnitude can also be easily demonstrated for expert music performers and elite athletes, where the reproducible performance of the experts is completely outside the normal range of performance of novices, and sometimes even less skilled performers (Ericsson, 2001; Ericsson & Lehmann, 1996).

Based on preliminary search I was unable to find extended case studies validating verbally described representations and mechanisms in individual expert interpreters. In fact, I was even unable to find extended studies of individual expert interpreters or super-expert

interpreters, where their superior performance compared to those of other interpreters or bilingual controls and their superiority were demonstrated to be reproducible across tests. When simultaneous translation performance was reported it was often only given as an average performance across all interpreters (Chernov, 1979; Gerver, 1974) without information about the existence of stable generalizable differences among interpreters.

If one could identify expert interpreters with consistently superior performance they would most likely offer very exciting opportunities to assess and explore the detailed structure of the mediating working memory representations, such as LTWM (Ericsson & Kintsch, 1995).

#### Examination of How the Mechanisms Mediating the Experts' Superior Performance is Acquired

Once it is possible to describe and measure the mechanisms mediating the experts' performance advantage, one would still want to know if and how these mechanisms were acquired. There are already interesting efforts to trace the development of interpreting performance and the types of mistakes that are gradually eliminated during training (Moser-Mercer, 2000). However, if we are primarily interested in the development of vastly superior interpreting performance, it may be necessary to seek out those individuals who exhibit outstanding performance (assuming that we can develop reliable assessment procedures). We would then interview these exceptional interpreters about their developmental history and contrast their development to that of less proficient interpreters. This type of interview combined with experimental assessment of performance allowed our group (Ericsson et al., 1993) to identify the type of training activities that are most closely related to the attainment of the highest levels in music performance, namely deliberate practice. Deliberate practice has since then been shown to be highly correlated to the level of attained performance in a wide range of domains (Ericsson, 1996, 1998, 2001; Krampe & Ericsson, 1996). I think that there might be some interesting parallels between how very high level of expert interpreting performance is attained and the training activities of chess players who refine their representations to encode the meaning and structure of chess positions. I see similar parallels to how music experts represent music when they have to play music at first sight (sight-reading).

My principal goal has been to demonstrate potential parallels between the study of expert interpreting and the study of other types of expertise. I am convinced that viewing expert interpreting as a form of reproducibly superior performance will benefit the study of interpreting and its search for the mechanisms that mediate this performance. I also think that the study of interpreting will in turn contribute significant insight into the acquisition and refinement of representations that preserve meaning of messages—an essential aspect of other related forms of expertise and skills, especially reading and text comprehension.

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