國立清華大學 101 學年度碩士班考試入學試題

系所班組別：外國語文學系碩士班乙組(語言認知與教學)

考試科目（代碼）：應用語言學(3502)

I. Define the following term briefly with an example, whenever possible. 50%

1. uptake
2. two-way information gap
3. total physical response
4. language attrition
5. willingness to communicate
6. placement test
7. construct validity
8. learner corpus
9. metalinguistic awareness
10. learner autonomy

II. Reading comprehension 25%

Abstract:

Research on language acquisition has shown that language development depends on language experience during early childhood. Early acquisition of one as opposed to two languages should therefore influence the development of language capabilities. Various psycholinguistic studies have provided support for this idea. The impact of early second language acquisition on the establishment of the cortical network, however, remains elusive. In the present study we used functional magnetic resonance imaging (fMRI[1]) to investigate this aspect. Language related brain activity was assessed in two groups of multilinguals with different ages of second language acquisition: "early multilinguals" had acquired a second language (L2) in early childhood (before the age of three years); "late multilinguals" learned a second language (L2) in early adolescence or later (after the age of nine years). Of particular interest was the previously unexplained question of whether the brain representation of languages learned as adolescents or adults is influenced by early second language acquisition. With this perspective in mind, all early and late multilinguals included in the study had also learned a third language (L3) after the age of nine years, so that not only early, but also late learned languages could be compared between both groups. All multilinguals were tested in their three languages (L1, L2 and L3) by fMRI. The brain activity was measured during a language production task in which the subjects had to report the happenings of the previous day. To reduce influences not specifically related to language processes such as variable attention or valuation of the described experiences, the subjects were tested twice, on different days. The average brain activity during processing of L1, of L2 and of L3 has been statistically assessed for the groups of early and late multilinguals separately, including both tested runs.

The comparison of the early acquired languages between both groups revealed striking differences in language related neuronal activity. Indeed, the analysis of the data shows that early multilinguals in both of their early acquired languages (L1 and L2) use cortical language regions more than late multilinguals in their L1. Particularly, increased neuronal activity was observed in regions of the left frontal lobe i.e. Broca's area and the adjacent prefrontal cortex. It should be noted that the early acquisition of a second language (L2) determines not only its own cortical representation, but also that of the first acquired language (L1).

The cortical region which is most influenced by the effect of early second language acquisition i.e. the prefrontal cortex, plays a crucial role during early procedural language acquisition. Here, higher activation could indicate the engagement of functions related to the resolution of cross-linguistic interference. Indeed, left prefrontal regions support processes necessary for a selection between competitive alternatives of a motor plan. In early multilinguals, specific cross-linguistic interference between the early acquired languages seemed to manifest itself during the preparation for the speech action.

Further evaluation of the data provided more evidence for the involvement of cortical functions to resolve cross-linguistic interference between two early acquired languages. This is apparent from the comparison of the language-related activation pattern in left perisylvian regions between early and late multilinguals, particularly in Broca's area and in the supramarginal gyrus. The neuronal network connecting these brain regions supports sensory-motor integration of phonological information, i.e. the function of the "phonological loop". The evaluation led to the discovery of a pronounced motor load of the activated network in early multilinguals. It is known that such a functional adjustment is necessary to resolve interference of sensoryrelated language information at the phonological level. Thus, the comparison of early acquired languages between early and late multilinguals could indicate, that early second language acquisition influences the function of the cortical language network to resolve various aspects of cross-linguistic interference. Since the changes in brain activity could be demonstrated in adults, the results of the present study indicate a persistent adaptation of brain language functions to the early presence of two languages.

The comparison of the later-learned L3 between both groups showed principally the same result as the comparison of the early acquired languages: in early multilinguals, functions of language networks supporting resolution of language interference seem to be more established than in late multilinguals. This is the first study which has described an influence of early second language acquisition on the organisation of the cortical language network of subsequent late learned languages. An effect of early second language acquisition on the use of the language network by later-learned languages could however not be described. Indeed, later-learned languages of both groups showed similar differences to the early acquired languages. By demonstrating that exposure to a second language during early childhood not only manifests in the cortical language network of early but also of late acquired languages, this study extends the current view of the importance of early language acquisition for the establishment of the cortical language network.

(from "*Effects of early second language acquisition on the cortical language network in multilinguals: evidence from fMRI*", 2006, unpublished dissertation, Elise Wattendorf, University of Freiburg, http://ethesis.unifr.ch/theses/downloads.php?file=WattendorfE.pdf, 2012/1/20)

1. Summarize findings you learn from this abstract in 100 words. 10%

2. Argue to which extent the fMRI data may help language scholars know more about human learning behavior. 15%

Note 1 fMRI: The recent discovery that magnetic resonance imaging can be used to map changes in brain hemodynamics that correspond to mental operations extends traditional anatomical imaging to include maps of human brain function. The ability to observe both the structures and also which structures participate in specific functions is due to a new technique called functional magnetic resonance imaging, fMRI, and provides high resolution, noninvasive reports of neural activity detected by a blood oxygen level dependent signal (Ogawa, et al, 1990 a and b, 1992, 1993; Belliveau, et al, 1990, 1991). This new ability to directly observe brain function opens an array of new opportunities to advance our understanding of brain.

FUTURE ROLE IN UNDERSTANDING THE PHYSIOLOGICAL BASIS FOR COGNITIVE AND PERCEPTUAL EVENTS

Due to the ability to image the entire 3-dimensional volume of brain, fMRI is capable of isolating many simultaneous and coordinated brain events. This "multi-level" view of brain activity can include "executive" functions and high level cognitive tasks simultaneously with the primary and secondary input such as vision and audition as well as cerebellar contributions. We are currently applying fMRI methods to identify brain structures uniquely involved with visual perceptions, language generation, comprehension of sequential information as in a movie, the execution of visually guided responses, and complex problem solving.

These aspects of brain function have not previously been scrutinized with such precision, and represent some of the remaining frontiers in Neuroscience.

III. Essay questions 25%

1. If you are a conversation instructor and read an article that provides a summary below: 10%

To summarise, the factors contributing to second language learning speaking-in-class anxiety identified in the study are:

_ speech anxiety and fear of negative evaluation;

_ uncomfortableness when speaking with native speakers;

_ negative attitudes towards the English class;

_ negative self-evaluation;

_ fear of failing the class/consequences of personal failure;

_ speaking in front of the class without preparation;

_ being corrected when speaking;

_ inadequate wait-time;

_ not being allowed to use the first language in a second/foreign language class. (from *System, 2011,* p. 210, vol. 39, by B. Mak, "An exploration of speaking-in-class anxiety with Chinese ESL learners")

What implications can you draw when you conduct the next speech or oral skills class for your own students, based on the summary above?

2. The following abstract is from an article by CHRISTOPH RU HLEMANN, "A Register Approach to Teaching Conversation: Farewell to Standard English?"

Abstract: Owing to analyses of large spoken corpora the linguistic knowledge of conversation has grown in recent years exponentially. Up until now little of this knowledge has trickled down to the EFL classroom. One of the reasons, this paper argues, is the failure in the relevant literature to spell out clearly how teaching conversational grammar affects the role of what is the major variety in the EFL classroom, Standard English (SE). My aim in this paper is threefold. First, I briefly discuss some neglected conversational features in relation to SE, concluding that the contrast between the grammars of conversation and SE is so stark that the notion of SE is problematic in talking of the spoken language. Second, I consider what this contrast implies for EFL teaching, arguing that for authentic conversation to be taught effectively it is necessary to reduce the role of SE to 'a core variety' that has its place in teaching writing while conversational grammar might serve as the underlying model in teaching speech.

I argue that such a redefinition of SE would best be implemented in a 'register approach' which shifts the emphasis from a monolithic view of language to a register-sensitive view thus acknowledging the fundamental functional diversity of language use. Third, I discuss some important issues arising from this approach and, finally, outline what may be gained by it. (*Applied Linguistics,* 29/4: 672–693, 2008)

Respond to this passage by addressing what an EFL teacher should do in his/her classroom teaching of writing and speaking. 15%