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It is my pleasure to present the Summer edition of the *Linguistics Journal*. The purpose of the journal is to provide a medium for the dissemination of original and high quality research in theoretical as well as applied Linguistics. I believe the journal has been very successful in meeting this aim and it is gratifying to see how much we have grown in recent times both in terms of readership and of the quality of publications. The high quality of the articles is the main reason why the journal is attracting a bigger readership and why it is gaining wider recognition as an international scholarly journal of Linguistics. An indication of this wider recognition is in our recent inclusion in the Blackwell Publishing Linguistics index. These high standards have been possible due to the many authors who submit their research to us, and to our great team of editors and proofreaders who make sure all published articles are of the high standards our readers expect.

This year we are also proud to announce the launch of a special edition of our journal. Due to be published in the Summer of 2009, this edition will focus on the sociolinguistic exploration of Asian languages, cultures and identities. For those interested in submitting an article to this edition, please see our home page for more information and the submission criteria.

In this Summer edition of the *Linguistics Journal* we are pleased to present five articles which are further evidence of the continued progress our journal has made in recent times. Two articles focus on two important issues in English teaching: Focus on Form Episodes and English pragmatics. The next two articles are fascinating explorations of Swedish compound words and Malay prosody. The former through a detailed semantic analysis of Swedish compounds that contain the term *huvud* (Eng. ‘head’) and the second breaks new ground in the phonological analysis of Malay syllables and stress. The last paper is a very exciting experimental study on whether word perception in auditory or visual modalities is influenced by the degree of exposure to each modality.

The first article by Farahman Farrokhi, Ali Akbar Ansarin and Zhila Mohammadnia investigates the type and frequency of teacher-initiated preemptive Focus on Form Episodes (FFEs) in ten EFL classes and of two different levels of proficiency. The spontaneity of the FFEs initiation was also explored. The authors found that the proficiency of the learners did not affect the type or quantity of
FFEfs produced by their teachers. They also found that between vocabulary, grammar and pronunciation, vocabulary had the highest rate of preemptive FFES in both proficiency levels and grammar and pronunciation had higher reactive FFEs. Their findings seem to agree with research that says that learners at lower proficiency levels do not focus on form frequently as at their early stages of acquisition their attention is directed in processing meaning. Learners can only begin to pay attention to form when they become more proficient. It may also imply that focus on form is not adequate in drawing learners’ attention to grammar and pronunciation as it is for vocabulary. The authors suggest that deliberately focusing on grammar and pronunciation could be a fruitful thing to do in EFL classes.

The next article on EFL is by Caroline C. Hwang. In this study, the author recalls the tragic death of a young Japanese man in the USA due to the misunderstanding caused by his lack of pragmatic knowledge of the English language. Hwang stresses the fact that there is a real gap between what is taught in classrooms and the real-world English. Through the discussion of several types of pragmatic conventions and their use in socio-cultural contexts the author argues that learners of English need to be exposed to more authentic texts and speakers so as to develop more native-like linguistic awareness.

Ylva Olausson has contributed our third article on a semantic analysis of Swedish compound nouns. The main focus of her paper is to describe how the Swedish simplex word huvud (Eng. ‘head’) is used in its different meanings in 223 compound words. The author succinctly eases the readers through her discussion by comparing Spanish and English. Her analysis shows that there is a difference when huvud is used as the first or last element in a compound word. When huvud is the last element, the meaning extension is more varied and all subgroups are productive. When huvud is the first element only three of the six subgroups are productive. The most conspicuous difference between Swedish and Spanish and English is when huvud is used in its “prefix function” and means ‘the most important part of something’. Both English and Spanish do not use the corresponding words for ‘head’ in these cases and instead use the word ‘principal’ to express this meaning.

The next article from Zuraidah Mohd Don, Gerry Knowles and Janet Yong focuses on Malay prosody. Their findings are very interesting as they seem to contradict the accepted views of Malay prosody. While their initial work seemed agree with previous research and pointed towards Malay having penultimate stress, their analysis leads them to conclude that Malay does not have any stress at all. The authors state “… in spoken Malay corresponding to what phonologists call stress, and that
the whole notion of stress is completely irrelevant in the description of Malay. The pitch may go up and down, loudness and tempo may increase or decrease, and on occasion the effect may be superficially similar to that produced by stress in a language like English; but these phenomena are all accounted for independently of stress.” (Conclusion, para. 1). Their findings indicate that syllables may not be relevant in Malay prosody and according to their data there is no high level prosodic patterns in Malay that require reference to the syllable.

The last article is by Raphiq Ibrahim. The study’s aim was to compare performance differences of Native Arabic speakers in identifying spoken words and written words in the Arabic (L1) and Hebrew (L2) languages, and to examine whether such difference in performance patterns are related to factors like type of language and frequency of exposure to each modality (visual, auditory). Two lexical decision experiments were performed, in which the response times and error rates were compared. The results showed a frequency effect for each language- Arabic and Hebrew and within the presentation form (spoken or written), with longer reaction times in lexical decision tasks when the stimuli was presented orally in comparison to the visual presentation. A significant interaction was found between perceptual modalities and the language in which the stimuli were presented. Reaction times to Hebrew words were faster when the words were presented visually, while reaction time times for the Literary Arabic words were faster when they were presented orally. The results of the language exposure questionnaire revealed that in both languages, students whose exposure to a particular modality was greater performed faster and more accurate in that modality.

Finally I would like to thank the authors, the editors and the proofreaders for their efforts in putting this Summer edition of the Linguistics Journal together. I hope you enjoy reading these articles and I look forward to your continued support.

Francesco Cavallaro, Ph.D.
Associate Editor
The Linguistics Journal
Preemptive Focus on Form: 
Teachers’ Practices across Proficiencies

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Biodata

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Abstract

Studies investigating the use of focus on form episodes (FFE)s have been shown to positively affect the development of English as a Foreign Language (EFL). However, little is known on the type and quantity of teacher-initiated preemptive FFEs across proficiencies. This paper presents a case study investigating how five experienced EFL teachers spontaneously initiated preemptive FFEs to raise attention to form in elementary and advanced levels. Moreover, the study also investigates the frequency and type of FFEs, i.e. vocabulary, grammar and pronunciation used by five teachers in ten intact communicatively-oriented EFL classes. To this end, seventy hours of communicatively-oriented interactions between five teachers and their learners in five elementary and five advanced
EFL classes were observed and audio-recorded. Then, the frequency of preemptive and reactive FFEs were identified, coded, and categorized. The findings revealed that the proficiency of the learners did not affect the rate of teacher-initiated focus on form in the observed classes. However, this study found that the overall distribution of the linguistic focus of FFEs varied across proficiencies. Finally, the importance of taking teacher-initiated preemptive focus on form into account in EFL studies is highlighted.

**Keywords:** teacher-initiated & student-initiated focus on form episodes, preemptive & reactive focus on form episodes, proficiency level

1. Introduction

Recently, there has been a substantial number of research studies on focus on form, (Doughty, 2001; Doughty & Williams, 1998b; Ellis, Basturkmen, & Loewen, 2001a, 2001b; Long & Robinson, 1998; Lyster, 1998a, 1998b; Lyster & Ranta, 1997). The underlying common notion among these studies has been the emphasis on the dual need for meaning-focused and focus-on-form instruction in the second language (L2) classroom (Ellis, 2001; Hulstijn, 1995; Loschky & Bley-Vroman, 1993; Skehan, 1998). Ellis (2001) describes focus on form as “any planned or incidental instructional activity that is intended to induce language learners to pay attention to linguistic form” (Ellis, 2001, pp. 1–2). In other words, focus-on-form instruction encompasses “any pedagogical effort to draw learners’ attention to language either implicitly or explicitly” (Spada, 1997, p. 73).

Focus on form can broadly be realized in two major ways, namely reactively or preemptively. Moreover, preemptive focus on form can be generated by teachers or learners. In this concern, it has been suggested that teachers preferably limit themselves to providing reactive focus on form, where the need for their assistance is clear (Ellis et al. 2002). This viewpoint seems to undermine the value of experienced teachers’ judgment on recognizing if and when to preemptively draw attention to a particular form which may prove problematic for learners. Furthermore, Ellis et al. (ibid) claim that teacher preemption of form is the option most likely to disrupt the communicative flow as it tells the students that the teacher is mostly preoccupied with form rather than meaning. Also, the forms teachers preempt may not constitute actual gaps in the students’ L2 knowledge. The same argument could be made about student-initiated preemptive focus on form episodes. That is, one student’s gap is not necessarily another’s.

Questioning the teachers’ recognition of perceived gaps in students’ knowledge has been assumed rather than proven. Arguably, then, teacher-initiated preemptive focus on form is worthy of examination before such generalizations can be made. The present study complements previous
research by examining how five experienced EFL teachers spontaneously initiated preemptive focus on form episodes to raise attention to form across two proficiencies, namely elementary and advanced levels. The research questions in this study are as follows:

(1) How frequently do types of incidental focus on form episodes (FFEIs) occur in meaning-oriented EFL classes across proficiencies?
(2) To what extent does teacher-initiated preemptive focus on form differ in meaning-oriented EFL classes across proficiencies and teachers?
(3) What is the linguistic focus of reactive and preemptive FFEIs within and across proficiencies?

2. Literature Review

2.1. Planned vs. Incidental Focus on Form

Following Long’s (1991) original definition of focus on form in which he claimed that the attention to form arose incidentally, subsequent studies expanded the definition to include attention to form that was preplanned. Consequently, Ellis (2005) distinguished between planned and incidental focus on form. Planned focus on form involves targeting pre-selected linguistic items during a meaning-focused activity, either through input (e.g., input flood or input enhancement) or output (e.g., corrective feedback on errors in the use of pre-targeted forms). In contrast, the linguistic items addressed in incidental focus on form arise spontaneously in the course of meaning-focused activities. Although both types of focus on form might be beneficial for learners (Doughty & Williams, 1998b), their impact may vary. Planned focus on form has the advantage of providing intensive coverage of one specific linguistic item, whereas incidental focus on form provides extensive coverage, targeting many different linguistic items (Ellis et al., 2001a). Incidental focus on form can provide a brief time-out from focusing on meaning in order to assist learners in noticing linguistic items in the input that might otherwise go unnoticed in entirely meaning-focused lessons (Ellis et al., 2001a; Schmidt, 2001; Skehan, 1998). Although planned focus on form has been investigated in various contexts (e.g., Doughty & Williams 1998b; Long, Inagaki, & Ortega, 1998), incidental focus on form has been under-researched in the literature (Farrokhi & Gholami, 2007; Williams, 2001).

As mentioned above, a few studies have investigated the occurrence of incidental focus on form in various contexts. For example, in a study of negative feedback in French immersion classes in Canada, Lyster (1998a, 1998b) and Lyster & Ranta (1997) found that 62% of participant errors were followed by some kind of teacher feedback. Ellis et al. (2001a, 2001b), in their study of meaning-focused lessons in a private language school in New Zealand, found that incidental focus on form occurred at the rate of one episode every 1.6 minutes. Loewen (2003), in an investigation of L2
classes in another private language school in New Zealand, found a range of 0.24 to 1.24 FFEs per minute. Likewise, in an intermediate IELTS preparation class which took place in an EFL setting, Farrokhi & Gholami (2007) reported an average of one incidental focus on form episode per 1.9 minutes. These studies suggest that incidental focus on form does occur in meaning-focused L2 classroom interaction, although the rate might be variable.

2.2. Reactive vs. Preemptive Focus on Form

Much planned focus on form literature has investigated reactive focus on form, which occurs in response to learner errors. Reactive focus on form has also been known as error correction, corrective feedback, or negative evidence/feedback (Long 1996). Lyster and Ranta (1997) investigated different types of reactive focus on form that French immersion teachers provide when learners produce utterances that contain a linguistic error. They distinguished six types of feedback, namely explicit correction, recasts, clarification requests, metalinguistic feedback, elicitation, and repetition. In addition, a number of studies have explored the effect of corrective feedback on short term and long term second language development (Doughty & Williams, 1998a; Lyster, 2004; Radwan, 2005), the corrective feedback that leads to successful uptake as an immediate response to feedback (Farrokhi, 2003; Farrokhi & Gholami, 2007; Loewen, 2004a; Panova & Lyster, 2002; Sheen, 2004; Tsang, 2004), how learners perceive negative feedback (Mackey, Gass, & McDonough, 2000), and the relationship between input and interaction (Gass, 2003; Mackey et al., 2003; Mackey & Silver, 2005; Oliver, 1995, 2000).

Ellis et al. (2001b) also identified preemptive focus on form, which occurs when either the teacher or a learner initiates attention to form, generally by raising a question, “even though no actual problem in production has arisen” (p. 414). They argue that preemptive focus on form addresses an actual or perceived gap in the learners’ knowledge. In their study of two English as a Second Language (ESL) classes in New Zealand they found that preemptive focus on form constituted 52% of the focus on form that occurred in 12 hours of meaning-focused instruction. Furthermore, they distinguished between student-initiated focus on form in which students raised questions about linguistic items and teacher-initiated focus on form in which the teacher asked questions or provided unsolicited information about specific linguistic items. In comparison to reactive focus on form, preemptive focus on form has received much less attention in the literature.

2.3. Student vs. Teacher-initiated Preemptive Focus on Form

Regarding student-initiated preemptive focus on form, Williams (1999) found that learners did initiate focus on form but not very often. A similar finding is reported by Poole (2005a) in his study
of forms learners attend to during focus-on-form instruction in an advanced ESL writing class with international students. The advantage of student-initiated focus on form is that it addresses gaps in the students’ linguistic knowledge which can be presumed to be significant to them and which they are therefore strongly motivated to try to fill. A disadvantage of student-initiated attention to form, however, is that it can detract from the communicative activity. This is one reason why teachers may decline to answer a student query. Ellis et al. (2002) believe that a more serious disadvantage is that what is a gap for one student may not be for others, who thus may gain little or nothing from listening to the teacher address another student’s query.

Teachers also interrupt the flow of a communication activity to raise a specific form to attention. In so doing, they are inclined to disrupt the meaning-centeredness of an activity, presumably because they calculate that this is justified on the grounds that the form in question will be problematic to the students in one way. Borg (1998) found that the experienced teacher he studied often preempted language problems. Similarly, Mackey et al. (2004) suggest that teachers’ use of incidental focus on form techniques is closely related with teachers’ experience and education. In their study, experienced ESL teachers utilized more incidental preemptive focus on form techniques than novice teachers.

Based on their orientation to a communicative task, teachers differ enormously in the extent to which they employ teacher-initiated focus on form. While some of them hardly interrupt, preferring to maintain the communicative flow of the task, others intervene frequently, supposedly since they feel the need to create explicit learning opportunities out of the ongoing communicative activities in class. One problem with this is that they cannot know for sure whether the gaps they assume to exist in the students’ knowledge are actual gaps. If learners already know the forms the teacher raises to attention, little is gained.

Although both reactive and preemptive focus on form might be beneficial, learner topicalization of linguistic items in student-initiated focus on form might be particularly useful because learners are in a position to recognize and raise linguistic items that are problematic for them (Ellis et al. 2001; Slimani, 1989). For example, Slimani’s study found that learners reported a higher level of learning for linguistic items that they had initiated.

2.4. L2 Proficiency and Focus on Form

Another important aspect of this study deals with the relationship between focus on form and language proficiency of the learners. Hadley (2001) defines the term ‘proficiency’ as a learner’s general language ability in speaking, listening, reading and/or writing based on some kind of criteria. In other words, proficiency in an L2 requires that learners acquire a rich repertoire of formulaic
expressions, which caters to fluency, and a rule-based competence consisting of knowledge of specific grammatical rules, which caters to complexity and accuracy (Skehan, 1998). Using learners’ TOEFL scores as a proficiency measure, Yule and Macdonald (1990) investigated interaction and negotiation of meaning within mixed proficiency dyads during a task that presented specific referential conflicts. In their study, higher and lower proficiency learners were paired together that required one dyad member to take on a more ‘dominant’ role of providing map directions to another member who had a slightly different map. They found that when the higher proficiency member had the more dominant ‘sender’ role, little negotiation occurred. However, when the lower proficiency member was responsible for giving directions, these dyads were more likely to engage in negotiation of meaning, interactive turn-taking, and they were more likely to solve referential conflicts to successfully complete the task. Both proficiency and the role of the learner affected the task outcome as well as the interaction between dyad members.

How learners’ proficiency affects focus on form has also been considered in the literature on input processing and interaction. For example, Van Patten’s model of input processing (1990, 1996, 2003) states that in communicative exchanges, learners process language for meaning before anything else and that learners will be able to process certain grammatical forms only when processing the overall meaning of an utterance does not drain available processing resources. The implication is that it should be easier for more proficient learners to process grammatical forms better than less proficient ones given that learners with a higher proficiency do not have to struggle as much with processing meaning during communicative exchanges.

Similarly, the literature on ‘developmental readiness’ suggests that learners will be able to process and use particular grammatical forms only when they have acquired less complex structures (Lightbown, 1998; Mackey & Philp, 1998; Spada & Lightbown, 1993, 1999; Williams & Evans, 1998). This implies that proficient learners should be developmentally more advanced to notice and produce certain forms during communicative tasks. Less proficient learners, in their struggle to grasp meaning, may have a difficult time focusing on form at all. If they do, their focus seems to be primarily on those linguistic elements that carry the most meaning (i.e., content words or lexical items).

The research on input processing and interaction shows how proficiency can affect learners’ processing of form in the input and the emergence of forms and structures in communicative exchanges. Nevertheless, the way it influences those instances in which they explicitly talk about form (i.e., produce FFEs), and sometimes in the first language (L1) (e.g., Swain & Lapkin, 2000) is unclear. It is important to note that FFEs are not decontextualized utterances about language; rather, they always occur within the context of a communicative task in the L2. Furthermore, the episodes
arise (whether in the L1 or the L2) when learners encounter problems stemming from their inability to interpret and express meaning in the L2. Leeser (2004, p. 60) states that “if it is true, then, that FFEs centre around ‘gaps’ or ‘holes’ in a learner’s interlanguage, it follows that a learner’s proficiency will influence the types of FFEs that arise while engaged in a communicative task.”

3. Method
To address the research questions outlined in the introduction, interactions between five teachers and EFL learners were audio-recorded, transcribed, categorized and compared in terms of the frequency and type of incidental FFEs in two different proficiencies, namely elementary and advanced. For the sake of practicality, the intermediate level was not considered.

3.1. Participants
3.1.1. Teachers
The researchers’ initial criteria for choosing teachers were based on their years of experience, professional degree, familiarity with theoretical and empirical developments in the field and willingness to participate. The final decision was based on consultations with the quality promotion department of the institute where this study was conducted. The institute officials were also consulted on their evaluation of the expertise and professional qualifications of the teachers. The teacher participants were all female, non-native speakers of English with an MA degree in TEFL. All five teachers (hereby referred to as teacher 1 to 5) had between 3 and 6 years of EFL teaching experience at different proficiency levels. A preliminary interview was held with the teachers separately to discover their beliefs about teaching, and thereby their adherence to the integration of incidental focus on form with communicatively-oriented language teaching was confirmed. No effort was made by the researcher to guide the teachers in their choice of lesson plan. They were merely informed that the objective of the research was to investigate classroom interactions. Over one semester, one elementary and one advanced class per teacher was selected and their teaching practices in these classes were observed, recorded and compared.

3.1.2. Learners
Ten intact EFL classes were observed. There were 120 participating female language learners, who were studying English for a variety of reasons, including preparation for academic study, professional development or immigration, and their ages varied from 18 to 25 years. The classes ranged in size from 10 to 14 students, so there were plenty of opportunities for interaction in all classes. The
learners paid tuition and were generally highly motivated. The English proficiency of the learners, as measured by an in-house placement test, was either elementary or advanced.

3.2. Instructional Setting
The private language institute in which the study was carried out is located in Tabriz, Iran and adheres to a meaning-driven syllabus that stimulates students to talk about a variety of thought-provoking topics. In the institute, there was a set of placement tests prepared in-house and also interviews that learners were required to take before being placed in classes of various levels. The ten classes under observation met three times a week and every session lasted 90 minutes.

Based on a multi-skills syllabus, the course books covered in elementary and advanced levels were *Interchange 1* and *Passages 2* (Richards, Hull, & Proctor, 2004; Richards & Sandy, 1998) respectively. *Interchange 1* takes learners from false-beginner to low-intermediate level, presenting and practicing basic language items with opportunities for personalization from the start. *Passages* is a sequel to *Interchange* and brings learners to an advanced level. These books include activities designed to develop fluency and accuracy in all four skills. Key features in the *Interchange 1* and *Passages 2* series include personalized speaking features, task-based listening activities, and grammar in communicative contexts. They contain 16 units, 4 of which were to be covered in 20 sessions.

3.3 Data Collection Procedures
The study involved observation of the teachers’ lessons. The classroom interactions were audio-recorded using an MP3 recorder which was placed on teacher’s table. The analysis of the classroom data involved identifying focus on form episodes in each teacher’s lessons and coding the linguistic characteristics of each episode. From each class, a range of 8 to 9 hours of communicatively-oriented classroom interactions was observed and recorded. This initial collection of data was reduced to an average of 7 hours per class due to the fact that all cases where learners and teachers were engaged in focus on forms interactions were excluded from further analysis. Based on the nature of the study, pair-work activities and checking workbook assignments were not taken into consideration as well. Moreover, unintelligible recordings were discarded from analysis.

3.4. Identification and Coding of FFEs
Following the observations, the FFEs were identified. Ellis et al. (2001a, p. 294) define a focus on form episode (FFE) as consisting of “the discourse from the point where the attention to linguistic form starts to the point where it ends, due to a change in topic back to message or sometimes another focus on form”. Therefore, an FFE starts either when a student produces a linguistic error that is
addressed by the teacher (reactive FFEs) or when a student/teacher queried about or raised attention to a linguistic item while there was not any observable erroneous utterance (preemptive FFEs). As stated earlier, preemptive FFEs were further categorized into: student-initiated preemptive focus on form episodes (SIP FFEs) and teacher-initiated preemptive focus on form episodes (TIP FFEs).

After FFEs were identified, they were transcribed in detail and coded. In terms of proficiency, each FFE was first categorized as having occurred in elementary or advanced levels. The FFEs were then classified according to their type (reactive, student-initiated or teacher-initiated preemptive). After that, their linguistic focus (vocabulary, grammar or pronunciation) was identified. If the identity of the FFE category was ambiguous, it was eliminated from the data set, yet this happened with less than 3% of the FFEs. The categorization of the FFEs into various types of linguistic focus was based on these operational definitions:

Grammar: determiners, prepositions, pronouns, word order, tense, auxiliaries, subject-verb agreement, plurals, negation, question formation

Vocabulary: the meaning of single words and idioms

Pronunciation: suprasegmental and segmental aspects of the phonological system

An example of each type of linguistic focus taken from the data in the present study is given below:

Extract 1: Reactive FFE dealing with pronunciation
S: On the aisle /atzlə/
T: On the AISLE /atl/
S: Ok

As the above extract illustrates, the teacher takes time out from focusing on meaning to respond to the learner’s erroneous pronunciation of the word “aisle” in the form of a reactive FFE.

Extract 2: Student-initiated preemptive FFE dealing with grammar
S: We mostly visit my grandmother at Fridays. Can we use AT for days of the week?
T: No. You should use ON. ON Fridays, ON Monday….
S: ON Fridays

In extract 2, the student raises a question about the use of the correct preposition for the days of the week which reveals a gap in her linguistic competence. The teacher provides the correct preposition which is followed by the student’s verbal acknowledgement.
Extract 3: Teacher-initiated preemptive FFE dealing with vocabulary

T: Or when you go to the circus, they have a clown. You know what CLOWN is? A CLOWN has a big red nose and big shoes like Charlie Chaplin.

In extract 3, the teacher predicts that the students are less likely to know the meaning of “clown” and preemptively draws attention to it. (See the appendix for further examples of preemptive and reactive FFEs dealing with vocabulary, grammar and pronunciation).

To determine inter-rater reliability of FFE identification, a second rater coded a sample of about 15% of the data (about three lessons totaling 280 minutes), with a resulting agreement of 89%. Once the data was categorized as described above, raw frequencies and percentages were calculated. Since the data consisted of frequency counts of categorical data, Pearson’s chi-square analysis was performed on the raw frequencies. An alpha level of p<.05 was set for all chi-squares.

4. Results

4.1. Incidental FFE Types across Proficiencies

The first research question dealt with the frequency of types of incidental FFEs occurring in meaning-oriented EFL classes across proficiencies. A total of 1780 FFEs were identified in the 70 hours of communicatively-oriented lessons, 796 and 984 FFEs in the elementary and advanced levels respectively. Overall, this means that an average of one instance of FFE took place every 2.3 minutes. In the elementary class, one instance of FFE took place every 2.63 minutes whereas in the advanced class, one instance of FFE took place every 2.13 minutes. Table 1 reveals the frequency and percentage of incidental FFEs occurring in total and between two proficiencies in particular.

<table>
<thead>
<tr>
<th>FFE Types</th>
<th>Proficiency</th>
<th>Reactive</th>
<th>SIP</th>
<th>TIP</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total FFEs</td>
<td></td>
<td>522 (29.4%)</td>
<td>174 (9.8%)</td>
<td>1084 (60.8%)</td>
<td>1780</td>
</tr>
<tr>
<td>Elementary</td>
<td></td>
<td>194 (24.4%)</td>
<td>72 (9%)</td>
<td>530 (66.6%)</td>
<td>796</td>
</tr>
<tr>
<td>Advanced</td>
<td></td>
<td>328 (33.3%)</td>
<td>102 (10.4%)</td>
<td>554 (56.3%)</td>
<td>984</td>
</tr>
</tbody>
</table>
In general, the findings indicate that 522 (29.4%) instances of reactive FFEs occurred while there were only 174 (9.8%) instances of SIP FFEs and 1084 (60.8%) instances of TIP FFEs. Thus, the most frequent FFE type across proficiencies was TIP FFEs which account for over 60% of the total FFEs.

With regard to the proportion of FFE types across two proficiencies, this study found fairly similar results. According to the findings in Table 1, reactive FFEs ranged between 24% and 33%, SIP FFEs varied from 9% to 10%, and TIP FFEs were found to be between 56% and 66% in elementary and advanced levels respectively. The findings represent a substantial discrepancy in the frequency of reactive, SIP and TIP FFEs. A chi square analysis revealed a statistically significant difference, $\chi^2 = 20.47$ (2 df, $p<.05$).

### 4.2. Teacher-initiated Preemptive FFEs across Teachers in Two Proficiencies

The second research question was concerned with the extent teacher-initiated preemptive focus on form differ in meaning-oriented EFL classes across two proficiencies and five teachers. The results on the frequency of teacher-initiated preemptive FFEs are presented in Table 2.

<table>
<thead>
<tr>
<th>Teacher</th>
<th>TIP FFEs in Elementary</th>
<th>TIP FFEs in Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher 1</td>
<td>108 (48.6%)</td>
<td>114 (51.4%)</td>
</tr>
<tr>
<td>Teacher 2</td>
<td>122 (46.6%)</td>
<td>140 (53.4%)</td>
</tr>
<tr>
<td>Teacher 3</td>
<td>102 (44.7%)</td>
<td>126 (55.3%)</td>
</tr>
<tr>
<td>Teacher 4</td>
<td>82 (51.3%)</td>
<td>78 (48.7%)</td>
</tr>
<tr>
<td>Teacher 5</td>
<td>116 (54.7%)</td>
<td>96 (45.3%)</td>
</tr>
</tbody>
</table>

Generally, the findings show small variation among 5 teachers in their use of TIP FFEs across proficiencies. The major discrepancies were observed in classes taught by teachers 5, 2 and 4. Teacher 5 used the most preemptive FFEs in the elementary level while teacher 2 had the highest frequency of preemptive FFEs in the advanced level. Teacher 4 had the lowest frequency of preemptive FFEs in both elementary and advanced levels. Despite these variations, chi-square analysis did not show any significant difference between TIP FFEs across teachers in elementary and advanced levels, $\chi^2 = 5.38$ (4 df, $p<.05$).
4.3. Distribution of Linguistic Focus of FFEs at Elementary and Advanced levels

The final research question in this research dealt with the linguistic focus of FFEs within and across proficiencies. Tables 3 and 4 illustrate the linguistic focus within each proficiency whereas Tables 5, 6 and 7 illustrate the linguistic focus of FFEs on vocabulary, grammar, and pronunciation across proficiencies separately.

4.3.1. Linguistic Focus of FFEs within Proficiencies

Table 3 presents the linguistic focus of reactive and preemptive FFEs in the elementary level. The frequency of reactive and preemptive FFEs dealing with vocabulary were found to be 42 and 436 respectively. However, in terms of grammar and pronunciation, there is a negligible difference between reactive and preemptive FFEs.

Table 3. Linguistic Focus of Reactive and Preemptive FFEs in Elementary Level

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Linguistic Focus</th>
<th>Reactive</th>
<th>Preemptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>Vocabulary</td>
<td>42 (8.8%)</td>
<td>436 (91.2%)</td>
</tr>
<tr>
<td></td>
<td>Grammar</td>
<td>110 (51.4%)</td>
<td>104 (48.6%)</td>
</tr>
<tr>
<td></td>
<td>Pronunciation</td>
<td>42 (45.6%)</td>
<td>50 (54.4%)</td>
</tr>
</tbody>
</table>

The frequency of reactive FFEs addressing grammar (110) is more than twice that of both vocabulary (42) and pronunciation (42). Similarly, the frequency of preemptive FFEs dealing with vocabulary (436) is over four times as many as that of grammar (104) which in turn is more than twice that of pronunciation (50). The chi-square analysis on the relationship between the linguistic focus of reactive and preemptive FFEs in elementary level revealed a significant difference, \( \chi^2 = 168.62 \) (2 df, p<.05).

Table 4 represents the linguistic focus of reactive and preemptive FFEs in the advanced level. There were far more preemptive FFEs dealing with vocabulary than the reactive ones on vocabulary, 574 vs. 90. Conversely, the percentage of reactive FFEs dealing with grammar is 70.8% while only 29.2% of preemptive FFEs dealt with grammar.
Table 4. Linguistic Focus of Reactive and Preemptive FFEs in Advanced Level

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Linguistic Focus</th>
<th>Reactive</th>
<th>Preemptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced</td>
<td>Vocabulary</td>
<td>90 (13.5%)</td>
<td>574 (86.5%)</td>
</tr>
<tr>
<td></td>
<td>Grammar</td>
<td>126 (70.8%)</td>
<td>52 (29.2%)</td>
</tr>
<tr>
<td></td>
<td>Pronunciation</td>
<td>112 (78.9%)</td>
<td>30 (21.1%)</td>
</tr>
</tbody>
</table>

Furthermore, the frequency of reactive FFEs dealing with pronunciation is more than three times that of preemptive FFEs dealing with pronunciation. As expected, the proportion of preemptive FFEs dealing with vocabulary (574) is more than eleven times that of grammar (52). As was the case in elementary level, the chi-square analysis on the relationship between the linguistic focus of reactive and preemptive FFEs in the advanced level showed a significant difference, $\chi^2 = 361.77$ (2 df, p<.05).

4.3.2. Linguistic Focus of FFEs across Proficiencies

This study also investigated the linguistic focus of FFEs across proficiencies. Table 5 demonstrates the linguistic focus on vocabulary in reactive and preemptive FFEs across proficiencies.

Table 5. Linguistic Focus on Vocabulary in Reactive and Preemptive FFEs across Proficiencies

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Vocabulary</th>
<th>Reactive</th>
<th>Preemptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>42 (8.8%)</td>
<td>436 (91.2%)</td>
<td></td>
</tr>
<tr>
<td>Advanced</td>
<td>90 (13.6%)</td>
<td>574 (86.4%)</td>
<td></td>
</tr>
</tbody>
</table>

In the elementary level, the frequency of preemptive FFEs dealing with vocabulary is ten-fold that of reactive FFEs dealing with vocabulary. In the advanced level, the frequency of preemptive FFEs dealing with vocabulary is more than six times that of reactive FFEs dealing with vocabulary. In general, the percentage of reactive FFEs dealing with vocabulary in the advanced and elementary levels are 13.6% and 8.8% respectively. However, there is not a dramatic discrepancy between preemptive FFEs dealing with vocabulary in the advanced and elementary levels, 574 vs. 436. The inferential analysis on this categorical data found a significant difference, $\chi^2 = 5.72$ (1 df, p<.05).

Table 6 depicts the linguistic focus on grammar in reactive and preemptive FFEs across proficiencies. Based on the findings, the frequency of preemptive FFEs dealing with grammar is not drastically different from that of reactive FFEs addressing grammar in the elementary level.
However, in the advanced level, the frequency of reactive FFEs dealing with grammar is more than two times that of preemptive FFEs dealing with grammar.

**Table 6. Linguistic Focus on Grammar in Reactive and Preemptive FFEs across Proficiencies**

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Reactive</th>
<th>Preemptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>110 (51.4%)</td>
<td>104 (48.6%)</td>
</tr>
<tr>
<td>Advanced</td>
<td>126 (70.8%)</td>
<td>52 (29.2%)</td>
</tr>
</tbody>
</table>

In general, no major difference was observed in the rate of reactive FFEs dealing with grammar in the elementary and advanced levels. In contrast, the frequency of preemptive FFEs dealing with grammar in the elementary level is twice as many as that of the advanced level. The chi-square analysis on the relationship between the linguistic focus of reactive and preemptive FFEs in advanced level showed a significant difference, $\chi^2 = 14.44$ (1df, $p<.05$).

Finally, Table 7 illustrates the linguistic focus on pronunciation in reactive and preemptive FFEs across proficiencies. In the elementary level, there is a slight variation in the rate of reactive and preemptive FFEs dealing with pronunciation. However, in the advanced level, the frequency of reactive FFEs dealing with pronunciation (112) is more than three times that of preemptive FFEs dealing with pronunciation (30).

**Table 7. Linguistic Focus on Pronunciation in Reactive and Preemptive FFEs across Proficiencies**

<table>
<thead>
<tr>
<th>Proficiency</th>
<th>Reactive</th>
<th>Preemptive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>42 (45.7%)</td>
<td>50 (54.3%)</td>
</tr>
<tr>
<td>Advanced</td>
<td>112 (78.8%)</td>
<td>30 (21.2%)</td>
</tr>
</tbody>
</table>

In general, the frequency of reactive FFEs dealing with pronunciation in the advanced level (112) is remarkably more than that of the elementary level (42). However, the frequency of preemptive FFEs dealing with pronunciation in the elementary level (50) is not markedly different from that of the advanced level (30). The chi-square analysis on the relationship between the linguistic focus of reactive and preemptive FFEs in the advanced level showed a significant difference, $\chi^2 = 25.92$ (1df, $p<.05$).
5. Discussion

Since all the data for the present study come from naturally occurring classes, and no effort was made to manipulate the frequency or characteristics of incidental focus on form, the observations can be considered representative of what usually takes place in these classes. The findings of this study revealed that an average of one instance of FFE took place every 2.3 minutes. With regard to the overall frequency of FFEs in each proficiency, this study also found more FFEs in the advanced classes than in the elementary ones. Teachers felt the need and were more inclined to make a departure from meaning to highlight a linguistic form when they taught in the advanced level classes.

The overall rate of one instance of FFE every 2.3 minutes found in this study is lower than that of Ellis et al.’s (2001) study that found one FFE every 1.6 minutes or Lyster’s (1998a) study that found a rate of one FFE every 1.97 minutes. The relatively low incidence of focus on form in this EFL setting may imply that meaning received primary attention in these classes and the teachers or their learners opted less frequently to interrupt an ongoing communicatively-oriented activity. However, like other ESL/EFL contexts, EFL teachers in this context did try to integrate focus on form and meaning in their classes despite the variation in its extent.

5.1 Focus on Form: Teachers’ Preemptive Voice

The first research question focused on the frequency of types of incidental FFEs occurring in meaning-oriented EFL classes across two proficiencies. Overall, the results showed that in both elementary and advanced levels, TIP FFEs were overwhelmingly used. These findings are in sharp contrast with Basturkmen, Loewen, & Ellis’s (2004) which found TIP FFEs to be so low that they decided not to include them in their chi-square analysis. The low rate of TIP FFEs in ESL settings can be due to the fact that ESL teachers did not wish to preemptively draw attention to linguistic forms unless they felt obliged to. However, in EFL settings, it may be the case that teachers feel the need to focus on gaps before an error is made. It could be concluded that these teachers believed it was appropriate to preemptively focus on linguistic items to foster accuracy, even if no misunderstanding had occurred. Furthermore, it may be argued that learners are perhaps more willing to let their teacher intervene. Learners’ expectations from their teachers may have prompted the teachers to make abundant use of TIP FFEs as the researchers believe is the case in the Iranian EFL context. Employing TIP FFEs can be one way for an EFL teacher to manifest her/his status as a qualified teacher and win learner satisfaction.

This study found a very low incidence of the SIP FFEs in the observed data. A similar finding was observed in Farrokhi & Gholami (2007) who also reported a very low rate of SIP FFEs in comparison with TIP FFEs. The reason why SIP FFEs had the lowest frequency in both levels can perhaps be
related to cultural background, classroom atmosphere and personality factors. For example, Loewen (2003) found that European background students had higher frequencies of SIP FFEs than did Asian learners. Another possible explanation could relate to student’s perceptions of their role in the classroom (Cotterall, 1995). Some learners avoid initiating many FFEs on the assumption that their teachers are more entitled to highlight linguistic forms. On the other hand, other learners tend to be more autonomous and take responsibility for their own learning and thus dare to make queries about FFEs preemptively.

It is interesting to note that the proportion of reactive FFEs was much higher than that of SIP FFEs which seems to reveal a negative correlation between the two. In other words, the more instances teachers reacted to learners’ errors, the less likely learners were to preemptively draw attention to their gaps. Perhaps it can be argued that SIP FFEs are more likely to occur in classes where learners are not constantly corrected and therefore implicitly are more encouraged to ask questions about problematic areas. For SIP FFEs, it is possible that cultural differences in the norms of classroom conduct in general and in the predisposition to ask questions in particular could affect the number of FFEs. For example, Cortazzi and Jin (1996) discuss Chinese students’ negative perceptions of asking questions in class. However, further investigation into other individual factors such as personality types may provide further insight into the unequal levels of classroom participation.

5.2. Does Learner Proficiency Matter for Teachers?
The second research question addressed the extent to which TIP FFEs differed in meaning-oriented EFL classes across two proficiencies and five teachers. Surprisingly, it was found that there was no major difference in the use of TIP FFEs between elementary and advanced levels. Unlike the first three teachers, the fourth and fifth ones had higher amounts of TIP FFEs in their elementary as opposed to their advanced levels. It is possible that the first three teachers felt that advanced learners were more developmentally ready to focus on TIP FFEs while the other two believed that the elementary learners could benefit more from TIP FFEs than the advanced ones. Overall, the fact that there was a roughly equal proportion of TIP FFEs in both proficiencies seems to suggest that when it comes to preemptive attention to a linguistic item, teachers don’t appear to differentiate between levels of proficiency.

5.3. What Linguistic Forms Receive more Attention from the Teacher?
The third research question was concerned with the linguistic focus of reactive and preemptive FFEs within and across proficiencies. Like Williams (1999), Loewen (2003), Basturkmen et al. (2004), and
Poole (2005a), this study found vocabulary to be the predominant linguistic feature preemptively addressed in the observed classes. In other words, within each proficiency, vocabulary had the highest percentage.

Following vocabulary, grammar was the second most highlighted feature in preemptive FFEs. Harley (1994) noted that learners tend to be lexically oriented and often fail to notice syntactic features which are not essential for comprehending or making meaning. Instead, what learners notice is that they need words. It can be concluded that teachers consider focus-on-form instruction to be more beneficial for learning vocabulary. The fact that grammar was less frequently focused on in this study as well as in Williams (1999), Loewen (2003), Basturkmen et al. (2004), and Poole (2005a), implies that teachers are less willing to preemptively focus on grammar. This supports Sheen’s (2003) contention that focus on forms instruction or the preplanned emphasis on certain forms within a communicative context, offers a better hope for addressing learner needs in terms of grammar in a contextualized fashion than does focus on form instruction. Not only may focus on form be practically difficult to use, but it also may result in situations where a disproportionate amount of focus is on vocabulary to the almost total exclusion of syntax. Since learners at all levels are more concerned with sorting out lexical meaning than grammatical form, the responsibility for calling attention to grammar and pronunciation appears to remain with the teacher, especially at the early stages of acquisition.

The linguistic focus of reactive FFEs in the elementary and advanced levels was largely on grammar. There are two possible explanations for the high proportion of linguistic focus of reactive FFEs on grammar in these levels. It is possible that most of the errors made by the learners were grammatical in nature, although this was not investigated. Alternatively, one can speculate that the teachers were more concerned with grammatical errors. The frequent focus on grammar coincides with Mackey et al.’s (2000) and Sheen’s (2006) findings that reactive FFEs on grammar occurred much more frequently than reactive FFEs directed at vocabulary and pronunciation.

Interestingly, the frequency of each linguistic focus (vocabulary, grammar, pronunciation) increased with the advancement of the proficiency level in reactive FFEs. This finding supports those of Williams (1999, 2001) and Leeser (2004) who also found a similar trend that learners in higher proficiency levels produced more FFEs than those at lower levels. In support of the findings of this study, Williams (1999) found that lower proficiency learners did not focus on form frequently because they could not and only began to pay attention to form when they became more proficient. In other words, at higher levels of proficiency, learners are more able to notice formal features whereas at earlier stages of acquisition their attention was absorbed in processing meaning (Van Patten, 1990, 1996, 2003). At the higher levels of proficiency, the gap between their interlanguage and the target
may have become sufficiently narrow that they are able to notice it. However, the same trend was not observed in the case of preemptive FFEs in which the rate of FFEs dealing with lexical items increased from elementary to advanced levels but the opposite occurred with regard to grammar and pronunciation. This may be due to the fact that learners in advanced proficiency levels have developed a basic command of English in terms of grammar and pronunciation but still need to enhance their vocabulary repertoire.

Another explanation for the variation in the number of FFEs according to proficiency could be related to the relative difference in task demands for the higher and lower proficiency learners. Skehan (1998) summarizes research which suggests that task characteristics can influence the amount of negotiation of meaning. It could be the case that the lower proficiency learners were struggling with meaning (hence the focus on vocabulary) and could invest less attention on focus on form. For the more proficient learners, it could be that task demands were less, and therefore they were able to direct more of their attention to form. A closer examination of the activities could determine if task features influenced the frequency of the FFEs.

6. Implications for Further Research
In spite of the conclusions drawn here regarding the potential value of TIP FFEs, more research is needed before a generalization can be made about its efficacy on both theoretical and practical planes. Given the low amount of variations across proficiencies, it is important to consider what implications this may have for L2 research and teaching. First, the study has shown that a significant number of FFEs occur across proficiencies. Although the large amount of TIP FFEs was not completely unexpected, further investigation into the beliefs of teachers and learners regarding TIP FFEs is warranted. Moreover, it would be interesting to examine whether learners are able to integrate TIP FFEs into their interlanguage.

The finding that the occurrence of TIP FFEs did not significantly differ across proficiencies raises questions about whether the preemptive role of teachers in various levels should change. Currently, there is little guidance for teachers regarding the optimal number of TIP FFEs in a meaning-focused lesson in various proficiencies. Therefore, decisions about applying TIP FFEs across proficiencies may hinge on how comfortable and/or beneficial the teachers and students find the frequency of it to be. Further research investigating the effectiveness of various rates of TIP FFE occurrence may provide insight into its optimal amount across proficiencies.
The fact that lower proficiency classes had fewer instances of FFEs leads to the question of whether it is possible for elementary classes to focus on grammar and pronunciation given that they often struggle with lexical items during the task. In other words, are lower proficiency learners developmentally ready to benefit from linguistic focus on grammar and pronunciation? The findings of this study suggest that the proficiency of learners impacts not only how much they are able to focus on form but also how well they resolve language problems they encounter. It remains to be seen whether TIP FFEs can accelerate acquisition for these learners.

7. Conclusion
In conclusion, this study demonstrates a high prevalence of TIP FFEs in all classes irrespective of the proficiency. Given the findings observed in this study, it is important for researchers and teachers alike to know how TIP FFEs can best be incorporated into the classroom to promote L2 learning. This study, then, challenges the claim made by some researches that SIP FFEs are more worthy of consideration than TIP FFEs. Future research should take into account how teachers/learners view TIP FFEs. It may be that teachers/learners consider them less face-threatening than SIP FFEs and therefore find them preferable. Teachers might be encouraged to initiate more in meaning-focused activities by raising their awareness of its potential benefits. Moreover, the findings of this study indicate that the linguistic focus of elementary and advanced classes was overwhelmingly on vocabulary which seems to imply that focus on form is not adequate in drawing learners’ attention to grammar and pronunciation as it is for vocabulary. Utilizing focus on forms or deliberately spending more time on grammar and pronunciation could prove fruitful.

References


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Appendix

**Extract 1:** TIP FFE dealing with grammar

T: The students come to class at 8 am. For exact hours we use AT. AT 2 o’clock.

In extract 1, the teacher predicts a gap in the learners’ knowledge concerning the correct preposition for exact hours and discusses it briefly.

**Extract 2:** TIP FFE dealing with pronunciation

T: Some people feel ill when they see a CORPSE. Be careful not to mistake this word with CORPS which refers to a branch of the army.

In the above example, the teacher preemptively highlights the differences in pronunciation between two similarly sounding words, “corpse” and “corps”.

**Extract 3:** SIP FFE dealing with vocabulary

S: PORT is…?
T: PORT means near the sea. Do you know a synonym for PORT?
S: Bay?
T: No, HARBOUR.

In extract 3, the student preemptively asks the meaning of “port” from the teacher.

Extract 4: SIP FFE dealing with pronunciation
S: I can’t say E-QWUIP-MENT
T: You can try and say it slowly by saying each syllable separately. E/QUIP/MENT
S: E/QUIP/MENT

In extract 4, the student draws attention to her inability to correctly pronounce the word “equipment” and the teacher guides her.

Extract 5: Reactive FFE dealing with vocabulary
S: They killed themselves
T: They COMMITTED SUICIDE
S: Ok

In extract 5, the teacher uses a more appropriate term for “kill themselves”.

Extract 6: Reactive FFE dealing with grammar
S: We don’t know how many money he has
    T: How MUCH money he has
S: Yeah

In extract 6, the student thinks that “money” is countable and is corrected by the teacher.
Pragmatic Conventions and Intercultural Competence

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Biodata
Caroline C. Hwang received her Ph.D. in Applied Linguistics from the University of Texas at Austin. She has lived for over twenty years in English-speaking countries, teaching at the University of Texas at Austin, University of Houston, and Rice University in the U.S. and working in the U.K. as the editor-in-chief of a bilingual periodical. Dr. Hwang is currently a full-time associate professor at National Taipei University of Technology. Since 2000, she has been on the Editorial Board of CNN Bilingual Interactive Magazine and The CAVE English Teaching Journal Magazine. She has also coached translators in the Chinese cities of Shanghai and Tianjin.

Abstract
A number of years ago a Japanese student in the U.S. was killed because he was unable to understand the meaning of the exclamation “Freeze!” This tragedy is an extreme example that demonstrates the unfortunate consequences that can result when EFL speakers fail to grasp the full meaning behind real-world English expressions. Such misinterpretation commonly yields the gap between real-world English and textbook English. For these reasons, it is imperative that EFL classrooms expose learners to English as it is used in the real world and by real speakers, i.e. English pragmatics. Several types of pragmatic conventions that are commonly used in socio-cultural contexts (e.g. politeness, metaphors/idioms, euphemisms/hyperbole, lateral thinking, etc.) are discussed in an attempt to raise awareness of the linguistic intuition of native English-speakers. Most importantly, it is argued that authentic texts are needed in the EFL classroom to make students more aware of the realities of language use.

Key words: authentic, schema, pragmatics, communication, intercultural competence
I. Introduction
Many people still remember the tragedy that took place in the U.S. in 1992 when Hattori Yoshihiro, a Japanese exchange student, went to a Halloween party at a friend’s house. Yoshihiro, who was wearing a Halloween costume, did not exactly remember his friend's address and approached a neighboring house. Rodney Peairs, the owner of this house, was alarmed when Yoshihiro appeared on his doorstep, and the homeowner pulled out a gun. He yelled “Freeze!” several times. Unfortunately, Mr. Peairs was completely unaware that behind the mask was somebody who would only have understood “Stop!” as a command to cease all motion; “Freeze!” was incomprehensible to Yoshihiro. The exchange student kept walking, and Peairs fired. Yoshihiro, who had gone through years of English studies, was killed because he was familiar only with textbook English.

Each language comes with a variety of culturally specific concepts and expressions as well as contextually motivated usages. Its native speakers share a common internal capacity to conceptualize the world in a similar manner. On the other hand, its learners, even advanced ones who are capable of producing complex combinations of grammatical forms and lexical items, can fail to comprehend or convey messages because of pragmatic incompetence. Misconceptions and communication breakdowns are often brought about by cross-cultural discourse differences (Tyler 1995; Bardovi-Harlig & Dörnyei 1998; Boxer 2002; Pohl 2004) because the pragmatic conventions of native speakers and L2 learners may differ substantially (Walters 1979; Fraser, Rintell, & Walters 1980; Blum-Kulka, House, & Kasper 1989; Cohen 1996).

Over the years I have observed innumerable incidents related to pragmatic mismatch between English speakers and Chinese/Taiwanese EFL learners. Since the examples to follow could easily escape native-speaking English teachers who are unfamiliar with the learners’ L1, these insights prove informative for EFL teachers, especially those teaching in Asian countries. By bringing English pragmatics to learners’ attention, we can raise their awareness of how the language is used in actual socio-cultural contexts (Schmidt 1993; Kasper & Schmidt 1996).

II. The Importance of Pragmatics in EFL Pedagogy
Within the field of linguistics in the past twenty years, a rapidly growing interest has developed in pragmatics, the study of how language is used in the real world. The number of works that address pragmatics is now vast, and the issues discussed by these works are multifarious. Such issues include contexts, connotations, references, functions, implicatures, inferences, etc.; the bearing that these linguistic aspects have on the relationship between words/expressions and their meanings is developed and conventionalized. The socio-culturally conditioned meanings are highly predictable to
native speakers, who intuitively know how discourse should flow in a given situation. However, it is difficult for people from different cultures, who are unfamiliar with these referential meanings, to acquire this type of intuition (Bouton 1992). As a result, interaction across cultures can be problematic. The grammatically-correct but pragmatically-problematic expressions produced by non-native speakers can be misleading or even offensive.

Despite the enormous amount of attention given to pragmatics, EFL students in East Asia are still entrenched in pragmatic inadequacy (Austin 1998; Spencer-Oatey & Xing 2000). There are essentially two reasons for this: 1) their culture and frame of conceptualization is vastly different from Western culture(s); and 2) they have too much trust in their generic EFL coursebooks, which are produced for the “international” mass market. Once the students have to deal with authentic L2 materials or milieus that inevitably employ culture-specific references, they fall back on their own locally conditioned schemata for inferring meaning and thus arrive at a distorted interpretation.

Breakdown in communication often results from this type of incomprehension or misunderstanding. A Chinese delegation’s visit to the U.K. that resulted in a “face” problem (Spencer-Oatey & Xing 2000) is a case in point. This visit was initially a regular international business coalition meeting, but almost every step of the meeting, including the accommodation, the seating arrangement, the greeting protocol, as well as the services of the interpreter and the receiving manager, creates a fissure between the Chinese delegation and the British host company. (The details can be seen in http://209.15.42.137/ic.org.uk/publications/IACCP.pdf). Incomprehension, although frustrating, is relatively obvious and usually not dangerous. Misunderstanding, on the other hand, is a covert error. I encountered an amusing example years ago while viewing the film “A Cry in the Night” with Chinese subtitles. The entire court scene in the movie was “re-created” in Chinese with little regard for the original English script. As the characters in the scene were laughing, totally irrelevant, though humorous, Chinese subtitles appeared, making the uninformed audience laugh as well. “How clever!,” I thought. But in real world (mis)communication, cross-cultural pragmatic mismatch can result in irritation or even danger, and language that is grammatically correct but pragmatically ignorant can lead to serious offense. Familiarity with the patterns of the target language can only be obtained through endeavors to decrease the L1 to L2 social distance by increasing pragmatic awareness. A continually increasing awareness of the pragmatic conventions in the target language can eventually lead to near-native proficiency. By not focusing on pragmatic usage of the language, students’ comprehension of even basic words may be insufficient and even treacherous--the Japanese student’s tragedy being an extreme example. As such, it is imperative that EFL instruction expose learners to authentic English usage and thus provide them with the opportunity to eventually acquire the intuitive command of native speakers.
III. Various Types of Pragmatic Conventions

Cross-cultural differences appear in everyday speech acts such as greetings, requests, apologies, etc. All of these linguistic acts contain embedded cultural information. Observing the differences between rhetorical manners across cultures can reveal varying expectations from one society to the next. The cross-cultural pragmatic differences in the following areas all need to be considered by the EFL learner.

A. Politeness

The norms of politeness in different societies vary considerably, and these differences can cause misunderstandings in intercultural communication. Amy Tan (1999) presented a good example in her thought-provoking article “The Language of Discretion”:

My mother thinks like…an expatriate, temporarily away from China since 1949, no longer patient with ritual courtesies.

As if to prove her point, she reached across the table to offer my elderly aunt the last scallop from the Happy Family seafood dish.

Sau-sau scowled. “B’yao, zhen b’yao” (I don’t want it, really I don’t) she cried, patting her plump stomach.

“Take it! Take it!” scolded my mother in Chinese.

“Full, I’m already full,” Sau-sau protested weakly, eyeing the beloved scallop.

“Ai!” exclaimed my mother, completely exasperated. “Nobody else wants it. If you don’t take it, it will only rot!”

At this point, Sau-sau sighed, acting as if she were doing my mother a big favor by taking the wretched scrap off her hands.

My mother turned to her brother, a high-ranking communist official who was visiting her in California for the first time: “In America a Chinese person could starve to death. If you say you don’t want it, they won’t ask you again forever.”

My uncle nodded and said he understood fully: Americans take things
quickly because they have no time to be polite. (p. 292)

What this uncle does not realize is that American politeness—which considers asking repeatedly to be pushy—is not the same as Chinese politeness.

Here are some specific speech acts involving politeness in which intercultural mismatch is obvious and frequent:

1. **Greetings**

In English, a clerk or receptionist greets his customer or client with “Can I help you?” while the Chinese equivalent “You shenme shi ma?” (Have any matter?) sounds much like “What’s your problem?” By the same token, the American greeting “How are you doing?” often confounds Chinese learners, who do not realize it is not a real question but instead an example of phatic communication. Once they sense the questioner is not carefully listening to their litany, they easily jump to the conclusion that Americans are hypocritical. The following anecdote about a British tourist in Hawaii illustrates the function of the “how are you?” question in America (Mey 1993):

The waitress…said brightly, “How are you this evening, sir?” “Oh, bearing up,” said Bernard, wondering if the stress of the day’s events had marked him so obviously that even total strangers were concerned for his well-being. But he inferred from [her] puzzled expression that her enquiry had been entirely phatic. “Fine, thank you,” he said, and her countenance cleared. (p. 220)

Fortunately, the British man was aware of the discrepancy between his and the American waitress’s styles of communication.

2. **Requests**

English speakers habitually use interrogatives to make requests. For example, questions such as “Can you pass the salt?” “What time is it?” “Do you have the time?” and “Are you doing anything tonight?” are all requests masked as questions. The questioner would be taken aback by a “Yes” reply to the last question without any further action done or information offered. Blum-Kulka (1987) focused on indirectness and politeness in requests, and concluded that in response to another person’s question, an English speaker normally gives a constructive answer or indicates where to look for
information--“I don't know” (period) is socially unacceptable. This type of response is often heard in Chinese societies, though.

In contrast, certain English expressions that are phrased as requests are actually just phatic sayings. Take the sentence “Have a nice trip” for example: On the surface it is a request but it actually functions as a closing/greeting. Its Chinese equivalent, “zhù (wish) nǐ (you) yīlù (the whole trip) píngān (safe),” however, belongs to the category of direct speech acts, and has resulted in interesting “reverse translations” from Chinese into English. The sentence “Wish you a safe trip” often appears in greeting cards in China as well as on the streets in Taiwan. It is grammatically correct in English but pragmatically awkward.

3. Apology

English speakers use apologies (“sorry” and “excuse me”) profusely as compared to other cultures. “Sorry” can be a mere expression of sympathy, without suggesting any responsibility on the part of the speaker. However, this interpretation is not a universal notion and use or “sorry” can cause serious misunderstanding in international business and dealings. For instance, in recent years exorbitant lawsuits following traffic accidents have made American and British insurance companies advise their clients to refrain from saying “sorry” at the scene of an accident. Other common events, such as sneezing or burping, are automatically tagged by “excuse me” in English-speaking culture. This sounds strange to Chinese people, who consider these things natural and by no means an occasion for apology. Bisshop (1996) observed and described Asian speakers of English using “sorry” in Australia. Japanese utter *Sumimasen* (“Excuse me”) on many different occasions, including the offering of a gift or an invitation. Under the influence of Japanese culture, Taiwanese use *Bu hao yisi* (similar to *Sumimasen*) frequently. Japanese and Taiwanese speakers both understand “I’m sorry” to be the English equivalent of *Sumimasen* and *Bu hao yisi* and may use the English expression out of context as a result. This may have been the cause of one intercultural faux pas that I witnessed: An American friend of mine felt very uncomfortable in Taiwan when a waiter kept saying “I’m sorry” each time he brought food to the table, as if he had been imposing on the customer. This example illustrates how EFL students in East Asia often use “Excuse me” and “I'm sorry” inappropriately—the English terms are not perfect equivalents for the similar forms in their native languages.

4. Telephone Conversations
To begin a telephone conversation, there are different conventions in different cultures:

- Americans verify the number they reach; French people make an apologetic statement first; Germans identify themselves without being asked to do so; Egyptians seem to be unwilling to be the first to be identified... Westerners living in Egypt found this behavior strange, and even offensive. (Wolfson 1989: 96)

Chinese callers and receivers also tend to delay identifying themselves, and this has become the source of many a joke: Both parties keep exchanging “wei” (an equivalent but less polite form of “Hello”) before one party finally “gives in” to the other by reluctantly identifying himself—as if the two parties were engaged in a wrestling game. As a result of these pragmatic differences, phone calls between cultures may leave a negative impression on both sides if one party is not aware of the telephone call conventions of the other culture.

Furthermore, telephone conversation starters in English include both: A: “May I speak to...?” and B: “This is he/she” or “Speaking.” However, Chinese expressions include: A: “qing zhao (Please look for)…” and B: “wo shi (I am)....” Because of this, Chinese EFL learners tend to mistakenly say: “Please look for…” and “I am...,” when they make phone calls in English, thereby confusing the native speakers who answer the phone.

5. Compliments

Compliments as expressions of approval contain information concerning the underlying cultural assumptions (Wolfson 1989:113). In this way, compliments provide insights into what is considered desirable in a society. For example, in American society compliments are frequently given to an acquaintance who has something new—a new haircut, a new dress, or a pair of new earrings—which reflects that newness is highly valued in the society. American compliments can also serve as greetings or expressions of gratitude, e.g. “You look nice today,” when seeing somebody in the morning, or “It was a great meal” to a host. However, Billmyer (1990) found that ESL learners’ only partial understanding of the prevalent American custom of complimenting could lead to hilarious utterances, such as “I really like your lifestyle.”

On some occasions, less-than-sincere compliments with no great significance are a part of social life. Their institutionalized role is an important element in maintaining relationships. At Chinese banquets, for instance, a considerable amount of fawning is taken for granted as a way of greeting. As
for reactions to compliments, there is a difference between American and Chinese patterns, which could be a possible area for miscommunication, such as:

<table>
<thead>
<tr>
<th>(in English—downgrading)</th>
<th>(in traditional Chinese—denying)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A: “You’ve got a very nice apartment.”</td>
<td>A: “You’ve got a very nice apartment.”</td>
</tr>
<tr>
<td>B: “Thank you. I just wish it was less expensive.”</td>
<td>B: “Not really.”</td>
</tr>
</tbody>
</table>

The Chinese reaction, as if suggesting the compliment were insincere, could cause unpleasant feelings if said to an English-speaker.

6. Gift-Accepting

“In certain cultures, the mere expression of admiration of another person's property may be construed as a precursor to the obligatory offering of that property as a gift, followed by the equally obligatory acceptance of the property by the other party” (Mey 1993: 221). This practice, probably quite peculiar from a Western point of view, was in fact common in traditional Chinese culture. My mother, for example, would buy an identical item for a friend if that friend complimented her on something. When being offered a gift, elderly Chinese still behave in a “modest” way, i.e. pretending to reject/ignore the gift or to say something like “Excuse me” or “Sorry.” This type of “modesty” often baffles a Westerner. However, it is being phased out. Younger generations in China give compliments and gifts freely without fear of being misunderstood and often receive them with responses such as “Thank you, it’s great.”

B. Metaphors and Idiomatic Expressions

Metaphors and idiomatic expressions are a vital part of social communication. However, because different lifestyles and different environments spawn different metaphors, “not all metaphors mean the same to all cultures” (Kukulska-Hulme 1999: 75). In other words, the metaphors of one language are not necessarily recognized in another. For instance, the metaphor “life is like a box of chocolates; you never know what you’re going to get” (from the film Forrest Gump, 1994) would conjure only the image of “sweetness” to a Chinese person, since most Chinese are not familiar with chocolate.
Idiomatic and colloquial expressions can also be based on metaphorical language, e.g. “blow one’s cork” (anger compared to heated fluid in a container); “Freeze!” (human movement compared to a liquid’s physical change); “couch potato,” “vegetable” (human inactivity compared to the inactivity of plants); “Baby, you’ve come a long way” (a Virginia Slims slogan comparing success to forward movement). These expressions may not be readily familiar to EFL learners, but they can be easily taught. Interestingly, the learner may find target language idioms fresh and vivid, since they may have never encountered the same usages in their native languages before. As all human beings share a general analogous competence regardless of the differences in their conceptual systems, metaphors are perfectly teachable in EFL instruction. Once fully understood, they may constitute an essential part of the learners’ schemata of the target culture.

C. Euphemism and Hyperbole

In recent decades euphemism has become a salient pragmatic trend in most Anglophone cultures. Revell and Norman (1998), who promote euphemism as a type of “power language,” define the pragmatic concept as follows:

…to rename or re-label things in order to alter our perception of them.

This process is known as reforming. We can give otherwise negative things a positive connotation. (p. 28)

English-speaking societies have become increasingly attracted to euphemistic “emollient words,” so “sacrifice” is replaced by “contribution,” “difficulty” by “challenge,” “poor” by “underprivileged,” “retarded” by “mentally challenged,” “shy/awkward” by “socially challenged,” and—bordering on ludicrousness—“short” by “vertically challenged.” When considering EFL education, it is clear that a classroom that relies solely on EFL textbooks without recourse to authentic materials deprives learners of the opportunity to understand the current happenings and language of the Western World. Take political correctness, for example. A learner who was not aware that “Black” had been replaced by “African American” could easily commit a serious faux-pas or worse, as the former term has become almost taboo in the U.S. Such latent speech codes in English-speaking societies are bound to cause difficulties for textbook-focused EFL learners. In fact, even the term “speech code” can be mystifying to learners. When euphemisms are used in an excessive manner, they have the effect of hyperbole. Brown (1986) observes such euphemism and exaggeration in claims made by American advertisements:
[T]he advertising world...tend[s] to glorify very ordinary products into those that are “sparkling,” “refreshing”... In the case of food, these products are now “enriched” and “fortified”. In the U.S. there are no “small” eggs, only “medium,” “large,” “extra large,” and “jumbo.”

(p. 43)

In stark contrast to English-language advertising, formal writing in English is expected to be meticulously accurate and free from exaggeration. This distinction, can pose problems for EFL learners who are not aware of the two different sets of conventions in English. As You (1990) points out:

[A]pplication letters written by Chinese students read as rather arrogant and unconvincing because of the frequent use of superlatives when they evaluated themselves. This came as a surprise to American college admission officers, since actually Chinese society advocates modesty.

(p. 84)

It seems that when Chinese students write to U.S. colleges, they think overindulgent praise, like the blurbs on the back of a book-cover, is “the American way.” Their letters mistakenly take inspiration from the idea of American self-promotion, an idea taught by their teachers or culture books. Even handbooks (in Chinese) for applying to the U.S. colleges are of this misleading nature. Both applicants and their Chinese/Taiwanese advisors are hardly aware of the pragmatic errors within these guides.

D. Lateral Thinking

Lateral thinking, by which the speaker implies alternatives to the literal meaning of their words, plays a great part in American humor. It is prevalent in everyday American speech, and non-native speakers have to be “on guard” to comprehend the actual message when such language is used. For example, once I asked a repairman whether I should pay him or his company for the service he had provided. He replied: “Just donate it to my favorite charity.” Seeing my perplexity, he pointed to himself and said “me!” with a mischievous smile.

The following is a closer look at various situations involving humor, which all require lateral thinking:

1. Teasing, Superstition, and Irony/Sarcasm
Teasing, which is based on expressions that contradict the actual situation or the speaker’s actual feelings, is, strangely enough, a common way of showing affection in American communication. For example, upon seeing a colleague working overtime, an American may say, “You've been slacking off at work, haven't you?” Non-native speakers of English, if not keen to this linguistic play, would take it literally and may feel strongly offended. Another real-life case in point typical of Anglophone teasing occurred when NBC’s former veteran anchor Tom Brokaw was interviewed by Today’s Katie Couric on his retirement day (12/02/2004). Couric greeted Brokaw in a teasing manner, asking “Are you still here?!” with feigned exasperation. Such language could cause serious misunderstanding if used on a similar occasion in an Asian country.

Examples of other negative expressions for positive situations include “That's bad!” (actual meaning: “That’s great!”) or “Break a leg!” (actual meaning: “Good Luck!” between stage performers). The latter expression originated due to the belief that wishing an actor “good luck” would instead bring bad luck. Such superstition has Asian counterparts, for instance, in the old Chinese tradition of fending off evil spirits by nicknaming children “dog” or by giving a female name to a male child (because the Chinese used to believe that the male child was more precious than the female one and thus more likely to be snatched by ghosts). On the other hand, there are conventions that involve positive expressions used for negative situations, namely irony and sarcasm. Examples include: “There's a fat chance...” (Impossible!); or, “Oh, Great!” (disappointment, such as missing a bus). Although such forms of expression are very common in English-speaking societies, these utterances often cause misunderstanding among my students; the misunderstanding is clearly reflected in their translations of this type of language into Chinese.

2. Jokes, Puns, and Riddles

Another category of lateral thinking includes jokes, puns, riddles, etc. The United States is a country of stand-up comedy; Americans are constantly employing tongue-in-cheek language to lower psychological defense among their collocutors and to strengthen emotional bonds. To Americans, making puns within jokes is a common technique used to achieve a quick-fire, easily-understood effect on the listener, and jokes, puns, and riddles are often intertwined. Here are some examples illustrating how these linguistic devices work together:

- Girlfriend: I wish you'd pay a little attention to me.
  
  Boyfriend: I'm paying as little as I can.

- Knock, knock.
Who's there?
Lettuce.
Lettuce who?
Lettuce get married. (Brigandi 1994: 50, 61)

- Why did the vampire take a vacation?
  He was under too much blood pressure. (Kowitt 1996: 44)
- Funeral home — “We deal with grave issues.”
- Airline — “We never leave our customers up in the air.” (Bolton 1991: 60-61)

Although these types of expressions cannot be directly translated into a second language since they are linguistically bound, EFL learners’ interest in English could be triggered by such common wordplay. Indeed, I tried the expressions above on my students and was able to elicit a “quick-fire effect” (itself a metaphor-based idiom) on them. Teaching English with authentic humor is a good way to lead students into its pragmatics and to capture their attention in the subject.

IV. Context and Intention

We do not experience language in a vacuum; language comes to life only when it takes place in a context in which speakers are able to shape their communication patterns. How discourse flows in concrete settings is a matter of pragmatics. The complex relationship between meaning and form is mostly arbitrary, determined by conventions but subject to change depending on the various parameters at work in different contexts (Spencer-Oatey & Žegarac 2002). Communicative intention is often interpreted through cultural references. Poole (1999) has given an interesting example to illustrate how culture-based schemata affect comprehension:

We are likely to interpret in two very different ways notices on the door of a butcher's shop which say Sorry, no rabbits and Sorry, no dogs. As we do not eat dogs we assume that the second of these two notices is telling us that...we are not allowed to take a dog into the shop. Somebody from a very different cultural background might, however, assume that the butcher was apologizing for having run out of dog meat. (p.35)
Such opacity of meaning can pose significant comprehension problems for EFL students, especially those living in cultures quite removed from English-speaking countries. As Hollett (1998: 19) says, “good communication involves recognizing intentions, and our students need…to know what people really mean.” How misleading can a literal interpretation be? The following are recent examples of Chinese translations and/or Taiwanese‘ interpretations of popular English expressions:

- “At KFC, we do chicken right.”: translated into “*women zuo ji shi dui de*” (“*it is correct for us to do chicken”).
- A TV commercial for a Saab Automobile that starts with “at the end of the day …”: translated into “*dang ni lei le yi tian, zai hui jia de tu zhong*…” (*When you’re tired from working all day long, on your way back home…;*, which is followed by the picture of a head-on collision.
- “Sustainable development”: understood as “successful business operation that has lasted for a long time.”
- “Politically correct”: understood as “having bet on the candidate who gets elected.”

These miscomprehensions corroborate what is mentioned in section II of this article: Once EFL learners have to deal with authentic materials or milieus, they fall back on dictionary definitions and on their L1 schemata for inference, and this leads them to wrongly interpret the expressions. When the context of an utterance is not kept in mind, the speaker or writer’s intention may be completely blurred. To avoid misinterpretation, learners have no option but to keep up-to-date on the current and authentic use of English.

V. Awareness of Authentic Language Use

In Alan Pulverness’s paper given at “the Culture in ELT” Seminar (2004), the deficiency of EFL coursebooks was eloquently summarized:

Much published language teaching material seems designed to promote “cosmopolitan English,” partly as a consequence of idealised notions of English as a lingua franca, and partly to ensure maximum worldwide sales by avoiding any taint of cultural specificity. I feel very strongly that this attempt to separate language from its cultural roots is likely at best to prove inadequate, because it aims at developing the foreign language as a neutral code, free of its history, free of its social moorings
in short free of culture. It is lack of awareness of such contextual and pragmatic constraints that is often responsible for pragmatic failure.

As learners do not participate in the tacit agreements that create meanings among native speakers, the actual target language environment is very different from a traditional L2 classroom. While native speakers accommodate language concepts to new experiences, L2 learners rely on prescribed rules to be followed. Furthermore, test-driven education in East Asian countries has an overwhelming influence on how English is learned and taught; this is the root cause of the ineptness of Asian EFL instruction. Awareness of L2 pragmatics needs to be seriously addressed in the classroom. Just as students need to be taught how English functions in authentic contexts, EFL educators need to be more alert as to the artificiality of textbook language and more focused on the complexities and subtleties in real-world English. Kakiuchi (2005) notes the discrepancy between natural English speech versus English textbook speech, which had been earlier pointed out by Littlejohn (1998):

[I]t is time we…put more emphasis on choosing language points that actually facilitate communication. If uttered by one native speaker to another, much of the language taught to students would probably get the response 'Blimp' if not something stronger! (p. 12)

Along the same lines, Mey (1993) and Bolitho (1998) both address the misguided attempt of L2 textbooks to reduce a language to steadfast rules:

One should resist the temptation to believe that anything in linguistics, and especially in pragmatics, can be explained by 'laws'. (Mey, p. 105)

Publishers and writers have a vested interest in making English seem as simple and accessible as possible, and in reducing the grammar of the language to an apparently formulaic system, with rules for learners to hold on to....however, many of these rules are based on half-truths rather than on how real language works...As teachers, we have to decide whether to enter into this conspiracy of convenient half-truths or whether to expose our learners at an early stage to the reality of authentic language. (Bolitho, p. 4).

Consider Kukulska-Hulme’s (1999: 32) example taken from an authentic context: “Stop pedaling if you feel pain, dizzy, or faint,” where “pain” is a noun, “dizzy” is an adjective, and “faint” could be a verb. EFL students that have only textbook-based knowledge are likely to conclude that native
speakers use ungrammatical sentences. What they do not understand is that the actual use of a language often goes beyond its limited prescriptive grammar. Accordingly, true understanding does not come from contemplation or analysis, but from practical and active exposure to authentic resources. A far cry from the aridity of textbook exercises, the richness of authentic materials brings us closer to the living reality of language use.

At this point, one may argue: which variety of English can be “ordained” as “authentic”? I use the concept of authenticity in a broad sense. As a matter of fact, a “merger English” is gradually taking shape thanks to widespread Internet use and massive exchange of popular cultural items among both the core English-speaking countries, i.e. the U.K., the U.S., Canada, Australia, New Zealand, as well as the so-called outer-circle countries, e.g. South Africa, India, Singapore, Malaysia, etc., in which English is widely or officially used. A new, more inclusive global standard for English authenticity, flavored with culture-based variations, has made EFL teaching easier and more rewarding than before.

VI. Conclusion

Danesi (1992: 495) suggests that metaphorical competence, even at the level of comprehension, is inadequate in typical classroom learners. The reason is not that students are incapable of learning metaphors, but more likely that they have never been exposed in formal ways to the conceptual system of the target language. He points out that non-native speakers hardly even recognize the metaphorical use of language and rely on the literal meaning, which often leads to misunderstandings. Many real-world English expressions, even classified as “idiom” or “slang,” actually tend to share a common base with their original meanings and are in fact products of underlying polysemous extensions. However, figurative expressions and polysemous words have mostly been either taught separately or treated as peripheral in the East Asian EFL classroom. For example, my students, if not reminded, even consider “to present” (to give in a formal way) and “present” (a gift) as totally unrelated and plug them in as separate entries into their EFL memory. This disjuncted instruction of surface meanings, neglecting probable root semantic connections, is customary in East Asian EFL education and has consequently caused decades of deficient L2 schematic structures.

Since native speakers are incorporating new experiences and new realities into their language every day, L2 learners cannot be so naive as to consider L2 expressions decipherable by linguistic codes that exist in a social vacuum. Enabling students to strive for an intuitive sense with which to interpret real-world language should be a critical part of EFL instruction. The ability to relate to people from other cultures is achieved through understanding the functions and symbolic values of their ways of speaking. Familiarity with L2 pragmatics expands learners’ schemata and raises their
awareness of the ever-changing international scene. However, it is highly unlikely for learners to learn pragmatics from textbooks (Vellenga 2004), and residence in the target community is no panacea (Kasper & Rose 2003). Instead, the EFL classroom can be made a realistic English-learning environment through the use of current authentic materials. A successful EFL learner is one who has attained near-native mastery of English pragmatics, at least at the level of comprehension, and who can therefore communicate on an equal footing with native speakers. A student who has received such training in English will most likely understand the interpretation of “freeze” in any of the following sentences: “I’m freezing,” “Hiring freeze,” “When I face a large audience, I freeze” as well as the notorious “Freeze!” Understanding pragmatic conventions is the gateway to intercultural communicative competence.

References


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The Head as an Element in Swedish Compound Words

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Abstract:
This study aims to describe the meaning extension of huvud (‘head’) in modern Swedish compound words. In Swedish, and in other North Germanic languages, compounds are frequent. Most Swedish neologisms are compounds. By employing semantic analysis as a method and indicating productivity as well as translating into English and Spanish, the meaning extension is examined. The classification of the compound words shows differences in the use of huvud depending on whether it appears as the first or second element in the compound word. The translations into English and Spanish in general show good correspondence. The most significant difference that was found is the Swedish use of huvud meaning ‘the most important part of something’, which, with a few exceptions, lack correspondence in English and Spanish.

Key words: body part, extended meaning, compound words, semantic change

Introduction

The body plays a central role in our lives and words related to the body and its functions belong to the basic vocabulary. The human body is also used as a point of reference to describe how we experience our physical surroundings. We see with our eyes, we hear with our ears, and we can hear our
heartbeats. At the same time we can see our bodies as objects and forms in space, as in head of cabbage and letterhead. Words and expressions that belong to the semantic field of the human body are frequently used in extended meanings—possibly in all the languages of the world—making this area attractive to both lexicographers and language teachers. It is also ideal for semantic typology.

In Swedish, as in other North Germanic languages, compounds are frequent and most Swedish neologisms are compounds. The main purpose of this paper is to describe how the Swedish simplex word huvud is used in its different meanings in compound words. Comparisons with Spanish and English are made in search of similarities and differences.

It is of great importance for native speakers as well as for second-language learners to possess a large and varied vocabulary in order to understand what is said and written in different contexts and in different areas. Likewise the ability to express and communicate knowledge and experiences is of vital importance. Apart from being time-consuming there are many other difficulties associated with the extension of vocabulary. For non-native speakers of Swedish the large amount of compound words causes particular problems on one hand because compounds are often ambiguous when it comes to the exact relation between the first and second element (compare snowshoe and wooden shoe). The lexicalized meaning of a certain compound is often language specific and culture dependent and has to be learnt word by word. On the other hand compound words cause problems because a great number of them are not transparent; in other words it is not sufficient to know the meaning of the first and second elements in order to understand the meaning of the compound (compare dog head and skinhead).

Background
Semantic variation was studied in India almost three thousand years ago, and more than two thousand years ago the Greeks conducted research in etymology. However, these early attempts did not result in any theories about semantic change. According to Sjöström (2001), the first theory of semantic change was the logic-rhetoric theory, as it was called by some researchers. This theory emanated from the science of rhetoric, especially Aristoteles’ analysis of metaphor, and looked upon semantic change as an artistic device. Only the poets could shift the meaning of a word. There was no significant interest in the language of ordinary people and this view dominated until the middle of the 19th century. Since then semantic research has broadened and deepened. One example is a growing interest in the reasons for semantic change and different theories of classification (Sjöström, 2001, p. 30).

George Lakoff and Mark Johnson were the first to present a theory of metaphor in Metaphors We Live By (1980) in which they are primarily concerned with ordinary metaphors. That theory has been
further developed and applied by a number of researchers. One example is a Swedish thesis by Dr. Jan Svanlund (2001) in which the co-occurrence patterns for conventionalized metaphors from the weight domain in Swedish are investigated. The basic idea of the theory is that the ordinary metaphors we use are systematic and this depends on the fact that metaphors are central to the human thought process.

Chomsky (1975, p. 219) put forward the idea that humans have an innate knowledge of “the form and character of grammars and the principles by which grammars operate.” Since the rise of Chomsky’s transformational-generative grammar many linguists have focused on language universals, primarily in the syntactic and phonological properties of language. Study of the mental lexicon has nevertheless recently become an issue of increasing importance to linguists, language teachers, and others (Aitchison, 1994). At the beginning of the 20th century, the semantic fields appeared as a sphere of interest for scientists. A semantic field is, for example, words that represent parts of the human body. The idea is that each one of the lexical items has a fixed position in a structure and, if the meaning of one word changes, there are consequences for many other words within the same semantic field. An important cross-linguistic study of lexical universals was carried out in 1969 by Berlin & Kay in which they could demonstrate severe constraints upon the co-occurrence of color terms. They discovered, for example, that if a language has a word for yellow, it will also have a word for red but not necessarily the other way around. This indicates an implicational relationship; that is, color words have been added to languages in a specific order. Works treating body-part terminology have in many cases emphasized linguistic change. For example Friedrich (1969), Matisoff (1978), and Stross (1976) have been concerned with metaphorical extensions of body-part terms to domains outside the body. Although linguists have long been searching for universal laws to explain semantic change, they still have not found any valid universal “semantic law,” but as a consequence of their research they have begun to understand some of the mechanisms behind meaning extension. One of the distinct universal tendencies is that the human body represents a field of semantic change. An example of present research on body-part terms is a collaborative project presented in the special edition of Language Sciences 28 (2006). The articles in this edition are fieldwork-based descriptions of body-part terminology in ten different languages. The aim of the project is to develop methods for primary data collection in the field that facilitates cross-linguistic comparison of body-part terms. The studies presented in Language Sciences 28 indicate that there is no universal consistent way of categorizing the body.

Very few linguistic studies have been made on body-part names in the Swedish language. One exception is Niemi (2004), who conducted research into body-part idioms. She studies the frequency of body-part idioms in the Swedish language, and also what kind of idiom is typical for Swedish,
idioms with or without a verbal phrase. Niemi has also examined the idioms from a typological perspective. She investigates which body-part nouns and which verbs are most typical in Swedish idioms compared with other languages. In her article she presents the ten most frequent body-part nouns in six different languages. In both Swedish and English *hand* (‘hand’) occurs most frequently. In Swedish *hand* is followed by *öga* (‘eye’), *hjärta* (‘heart’), and *huvud* (‘head’). In English *head* is the second most frequent, followed by *eye* and *mind*.

**Research goals**
The main purpose of this study is to describe the meaning extension of *huvud* in contemporary Swedish compound words. Furthermore, comparisons are made with English and Spanish in order to find similar patterns of meaning extension on the one hand and, on the other, to look for traits that have gone along non-parallel paths and which, therefore, could be considered as traits that are distinctive for the Swedish language. The study is mainly synchronic; that is, modern Swedish compounds are categorized and analyzed but, as the first attested use of the words is specified in order to examine their productivity, there is also a diachronic perspective.

**Method**
All compound words that contain the word *huvud*, a total of 223, were extracted from *Svenska Akademinoms Ordlista* (2006, 13 uppl.; henceforth SAOL) and *Nyord i svenskan från 40-tal till 80-tal* (2001, henceforth NO). The first attested use of each word was specified according to *Ordbok över svenska språket*, published by the Swedish Academy (henceforth SAOB) with the purpose of clarifying the occurrence of neologism. Given the aims of this paper, Malmgren’s (2001, p. 302) broad definition of the concept *productivity* is considered appropriate: “A prefix or a suffix is productive if it is used in the contemporary language to form new words.”

SAOB is a historical dictionary that also lists extinct meanings and, therefore, it contains more compound words with *huvud* as the first or last element than does SAOL, which is a glossary for orthography of the contemporary language. Since the description of the meaning extension principally aims at presenting a picture of contemporary Swedish, words from SAOL and NO have been used for this study.

In his article *Sammansättning, SAOB en guldgruva för studium i ämnet* (2002) Jonsson defines the compound word in order to distinguish it from other types of word compilations. According to Jonsson, prosody alone cannot separate compound words from simplex words although most of the compound words have a specific pronunciation, the grave accent with a caesura between the elements, as in *kålhuvud*. There are two reasons why prosody is not the only distinctive feature. On
one hand a few compound words occur with the acute accent as in blåbär, on the other there are non-compound words with the grave accent and caesura, for example words with the suffix –het. Nor is it possible to find a semantic distinctive feature which alone separates lexical compounds from occasional compounds and other types of word compilations. Jonsson (2002) uses a combination of prosody and semantics to define compound words and that definition is valid also for the study presented in this paper:

A compound word is a combination of two (or more) words with 1) either (and usually) a specific accent with grave and cesur or simplex word accent 2) or a content that is a combination of (a part of) the content of the two elements, often with a meaning extension in the combination. (translated by Ylva Olausson)

According to Svenska Akademins Grammatik, (part 2, p. 44) the semantic relationship between the two elements in a compound varies a lot, but it is emphasized that in most of the cases the last element is the main element of the compound. This implies a determinative interpretation of the compound word. The first element is furthermore often a hyponym to the last element, for example, lejonhuvud (‘lion’s head’) is a kind of head. In determinative compounds the last element has less meaning range in comparison when it is used as a simplex word. For example, the compound word huvudregel (‘main rule’) requires a longer definition than the word regel (‘rule’). Klokhuvud (‘smarthead’) is an example of a compound that is not determinative. Klokhuvud is not a kind of head, it is a person with a smart head. This is a bahuvrihi compound, one in which the last element represents only a part of the entirety. Panini, an Indian linguist who, in the fourth century, described Sanskrit, was the first researcher who described different kinds of compound words, according to Josefsson (2005, p. 85). The term bahuvrihi has its origin there. A third kind of compound is the copulative, one in which the significance of the compound word is the first element + last element, that is the entirety as in sötsur (sweet-sour). Compound words can be occasional or conventionalized. In this paper it is assumed that the compounds that exist as headwords in SAOL and NO are conventionalized.

The definitions in SAOB of the different meanings of the simplex word huvud form the basis of the classification of the compound words in this paper. In certain cases it is necessary to have a close look at the linguistic environment before deciding to which category, or categories, the word belongs. Therefore the classification is done with the help of SAOB and Språkbanken vid Institutionen för svenska språket,¹ Göteborgs universitet (henceforth Språkbanken). Huvudklang, for example, is not the most important klang as a person without knowledge of music terminology might think. Literally, huvudklang means ‘head voice’ in English, ‘one of the higher ranges of the voice in
singing or speaking’. In this case *huvud* in the compound word has the meaning of the original, concrete simplex word ‘head’, not *huvud* meaning ‘the most important part of something’. Språkbanken is also used to illustrate the occurrence of neologism with *huvud* as first or last element in compound words and words that have developed more than one meaning, like *kålhuvud* (‘head of cabbage’), which means both a vegetable and a stupid person. Efforts have been made to classify the compound words as logically and coherently as possible, but there are, of course, cases where another division would have been conceivable.

In order to find similar patterns for meaning extension, as well as to have a closer look at those compound words in which the metaphoric extension of body-part terminology has gone along non-parallel paths, all the compound words have been translated into English and Spanish.

**Results**

The present study focuses on the classification of the 223 compound words that were excerpted from SAOL and NO. A presentation of the different meanings of *huvud* as a simplex word is necessary as an introduction since this is the basis for the classification. *Huvud* is a word that derives from Old Swedish (OS). According to SAOB it has got six different principal meanings, each one with a number of subdivisions. Below is a short presentation of the different meanings, with the first attested use in brackets. All the examples are taken from SAOB:

1. the concrete body part; head (OS)

2. organ for someone’s spiritual life; generally as a metaphor (1535)

   Vår here (*har*) hvarken skapat språket eller **Huvuderna** i Sverige sämre än annonstådes. CGTESSIN (1738)

3. about the bearer or owner of the head (with the meaning of 1 or 2) (1541)

   För itt grått **hoffuudh** skalt tu vpstå och ära the gamla. 3Mos.19:32 (Bib. 1541)

4. in a figurative use of meaning 1 (and 2), especially considering the head as the most important organ of the body (1540)

   Tå **huffuuet** är krankt bedröffuas all lemmarna. SvOrds. C 6a (1604)
5. about different objects that are intended for the head in meaning 1 (1695)

Vid lik-kistans **huvud** stoden äldre vän till den aflidne. STRINDBERG Kamm 3:69 (1907)

6. about objects of different kinds that, owing to their form or position, reminds one of a head (1626)

(Laddstockens) tjockare ända kallas **hufvudet**. JOCHNICK Handgev. 22 (1854)

**Table 1. The distribution of the 228 compound words into different categories**

<table>
<thead>
<tr>
<th>The distribution of the compound words into different categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Huvud as the last element</strong></td>
<td>50</td>
</tr>
<tr>
<td>1. Original, concrete meaning</td>
<td>15</td>
</tr>
<tr>
<td>2. Projection of <strong>huvud</strong> on other objects</td>
<td>17</td>
</tr>
<tr>
<td>3. Position in the room</td>
<td>6</td>
</tr>
<tr>
<td>4. Human characteristics</td>
<td>12</td>
</tr>
<tr>
<td>5. ‘the most important person in a group’</td>
<td>3</td>
</tr>
<tr>
<td><strong>Huvud as the first element</strong> (+ head as direct loan)</td>
<td>173</td>
</tr>
<tr>
<td>1. Original, concrete meaning</td>
<td>38</td>
</tr>
<tr>
<td>2. Projection of <strong>huvud</strong> on other objects and on the room</td>
<td>1</td>
</tr>
<tr>
<td>3. Human characteristics</td>
<td>2</td>
</tr>
<tr>
<td>4. ‘the most important person in a group’</td>
<td>2</td>
</tr>
<tr>
<td>5. ‘the most important part of something’</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>188*</td>
</tr>
</tbody>
</table>

* Some words fall into more than one category. Consequently this number is higher than the number of compound words with **huvud** as last and first element, respectively.

**-huvud as the last element in compound words**

Fifty compound words containing **huvud** as the last element were extracted from SAOL and NO and divided into the five different subcategories presented in Table 1. The semantic analysis shows that all compounds with **huvud** as last element are determinative with the exception of group 4, “human characteristics,” which are all bahuvrihi compounds. Examples of compounds originating from Old Swedish were found only in group 1, where **huvud** as the last element has its original, concrete meaning, while productivity has been found in all five subcategories. In the following each subcategory is commented upon, with illustrative examples of compound words, with their first attested use in brackets as well as their translations into Spanish and English.
1. **Huvud as the last element with its original, concrete meaning**

In 15 of the 50 compound words with *huvud* as the last element we find *huvud* in its original, concrete meaning:

- barnhuvud (1601)  cabezade niño  child head
- djurhuvud (OS)  cabezade animal  animal head
- renhuvud (1820)  cabezade reno  reindeer head

Two of the compounds in this subcategory, *djurhuvud* and *hundhuvud*, were used already in Old Swedish according to SAOB. The translations of the compound words in this group show no discrepancies when compared with Swedish.

2. **Projection of huvud on other objects**

Seventeen of the 50 compound words with *huvud* as the last element belong to this category. In the two subgroups “vegetables” and “tools, etc.” it is the form of the head as a metaphor which is the last element.

**Vegetables**

- blomkålshuvud (1773)  coliflor  head of cauliflower
- kålhuvud (1637)  col  head of cabbage

There are no discrepancies when compared with the English translations, but in Spanish *cabeza* (‘head’) is not used in any of the examples. On the contrary *garlic* is *cabeza de ajo* in Spanish, while neither *garlic head* nor *vitlökshuvud* is possible in English and Swedish. On the other hand English uses *head* about dill, *head of dill*, which is *dillkrona* in Swedish and *parte superior del eneldo* in Spanish.

**Tools, etc.**

- nithuvud (1873)  cabezade remache  tack head
- piphuvud (1732)  cazoleta de la pipa  pipe-bowl
- typhuvud (NO:1960)  modelo de cabeza  type-head
*Piphuvud* is the only word in this subgroup that has no equivalent in either English or Spanish. Otherwise *huvud* is translated into *cabeza* and *head* respectively with *klubbhuvud* as the only exception as Spanish uses *cara*, ‘face’, instead of *head*.

### 3. Position in the room

Six of 50 compound words with *huvud* as last element belong to this group.

<table>
<thead>
<tr>
<th>Swedish</th>
<th>Spanish</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>brevhuvud</td>
<td>membrete</td>
<td>letterhead</td>
</tr>
<tr>
<td>kolumnhuvud (SAOL)</td>
<td>encabezamiento de columna</td>
<td>column head</td>
</tr>
</tbody>
</table>

This way of using the body parts metaphorically can be found in the majority of the world’s languages, but the expressions may vary even when we compare languages that are closely related to each other (Sjöström, 2001, p. 139). A tendency in semantic change, which is possibly universal, is that the body is used as a point of reference to express position in the room. A typological survey of a great number of African and Oceanic languages shows that the most common origin of ‘up’-words as, for example, “over”, “up,” and “on” is that the name of a body part, almost always *head*, has been grammaticalized (Heine, 1997, pp. 40–41).

Once again, no discrepancies are found in the translations from Swedish to English. In two cases Spanish does not use *cabeza: membrete* (‘letterhead’) and *morro* (‘pier head’). The last example, *morro*, means ‘snout’, a body part, but from the animal kingdom.

### 4. Human characteristics

Twelve of the total of 50 compound words with *huvud* as the last element are bahuvrihi compounds in which *huvud* represents a person with a head with the quality that the first element indicates. A *blockhead*, for example, cannot, as in a determinative compound, be described as a type of head. *Blockhead* denotes a person who is stupid.

<table>
<thead>
<tr>
<th>Swedish</th>
<th>Spanish</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>brushuvud (1703)</td>
<td>impulsivo</td>
<td>hothead</td>
</tr>
<tr>
<td>dumhuvud (1987)</td>
<td>cabeza de chorlito</td>
<td>blockhead</td>
</tr>
<tr>
<td>hundhuvud (1541)</td>
<td>cabeza de turco</td>
<td>scapegoat</td>
</tr>
</tbody>
</table>

There are more discrepancies between English and Spanish than in the two previous groups. Spanish uses *cabeza* only in four of the twelve words and English uses *head* in seven. In several cases Spanish
and English have nothing in common when they differ from Swedish. The differences that are found in this subcategory could be an indication that these words are more culture-dependant than the previous subcategories.

5. Head, ‘the most important person in a group’

Three of the 50 words with huvud as the last element are compounds in which the preposition över as first element + the last element huvud have the meaning ‘the most important person in a group’.

familjeöverhuvud (1891) cabezade familia head of a family
statsöverhuvud (1870) jefe de estado head of a state
överhuvud jefe, cabeza head, chief

In three of the compounds the English word head is used. According to SAOB familjeöverhuvud is a Latin loanword (caput familia) and statsöverhuvud is a German loanword (staatsoberhaupt). This could explain why Spanish uses cabeza in the first example but not in the second.

_huvud_ as the first element in compound words

From SAOB and NO 173 compound words containing huvud as the first element were extracted and divided into five different subcategories presented in Table 1. The semantic analysis shows that all compounds with huvud as last element are determinative with the exception of group 3, “human characteristics,” which are bahuvrihi compounds. Examples of compounds originating from Old Swedish are found in group 1, where huvud as the last element has its original, concrete meaning, as well as in group 5, where huvud means ‘the most important part of something’. Huvud as the first element is productive in the subcategories 1, 5, and 6.

In the following each subcategory is commented upon, with illustrative examples of compound words with their first attested use in brackets as well as translations into Spanish and English.

1. _Huvud_ as the first element with its original, concrete meaning

In 38 of 173 compound words with huvud as the first element, huvud keeps the concrete meaning of the simplex word.

huvudbjudning (SAOL) encajado (posición fetal) engagement
huvudbonad (OS) cubrecabeza headgear
huvudbry (1686) quebradero de cabeza headache
Ten compound words in this category were already in use in Old Swedish according to SAOB. *Huvudfoting* has a new extended meaning that is not yet shown in SAOL and NO. SAOB has a reference to *cefalopod* (‘cephalopod’). *Cefalopod* is Greek for ‘head and foot’ and this mollusk got its name because the arms or legs it uses to move are directly attached to the head. In Språkbanken this example was found:

Hon reser sig återigen. Den här gången ritar hon en **huvudfoting**, figuren med det stora huvudet direkt ovanpå streckgubbebenen ... (Språkbanken, p. 97)
(She gets up again. This time she draws a **huvudfoting**, the figure with the big head directly on the legs of the stick figure.)

In both senses the compound word *huvudfoting* has *huvud* in its concrete meaning as first element. That means that the recent extended meaning presented above has no importance for the division into categories. As already mentioned, the human body is a point of reference that is universal and the head, of course, is one of the most important body parts. Therefore it is interesting to note how small children see the human body and the position of the head and to note that the Swedish language has even got a word for this.

Quite a few discrepancies are found in the translations. Spanish uses *cabeza* in 28 words and English *head* occurs in 26 words. Nine of the words in which the translations to Spanish and English do not contain *cabeza* and *head*, respectively, coincide. Only one word, *huvudlag* (‘headstall’), contains *head* in English but not *cabeza* in Spanish. And only three words, *huvudsvål* (‘scalp’) and the synonyms *huvudvärkpulver* (‘pain reliever’) and *huvudvärkstablett* (‘pain killer’) have the Spanish *cabeza* in the translation but English *head* does not appear. In this subcategory it seems as if Spanish and English are closer and that Swedish diverges somewhat.

2. **Projection of huvud on other objects and on the room**

Of 173 compound words with *huvud* as the first element there is only one that falls into this category, *huvudsallad* (and the spelling variant *huvudsallat*), with its first attested use in 1772. The word is synonymous with *salladshuvud* (‘head lettuce’), and it is the form of the vegetable that is described with a body-part metaphor.

3. **Human characteristics**

Only two of the 173 compounds with *huvud* as first element belong to this group. SAOL defines *huvudjägare* as a ‘person that recruits higher-ranked employees within the business world’. The
meaning of the first element, *huvud*, in *huvudjägare* och *huvudjakt* is here more or less ‘high-ranked employee’. By analogy with bahuvrihi compounds like *dumhuvud* (‘blockhead’), the first element in *huvudjakt* bears a meaning that could be explained as ‘a good business head’. This meaning of *huvud* as first element does not seem to be productive.

- *huvudjägare* (SAOL) cazatalentos/headhunter (American Spanish) headhunter
- *huvudjakt* (SAOL) caza de talentos/headhunting (American Spanish) headhunting

SAOL recommends the use of *huvudjägare* instead of the direct loan *headhunter*. The Swedish Language Committee (Svenska Språknämnden) suggests *huvudjakt* instead of the direct loan *headhunting*.

4. **Huvud as the first element meaning ‘the most important person in a group’ (head)**

In two of the 173 compounds in which *huvud* is the first element *huvud* means ‘the most important person in a group’ in analogy with the above mentioned *överhuvud* as in *familjeöverhuvud, statsöverhuvud*.

- *huvudlös* (1558) sin cabeza headless
- *huvudman* (1734) cabeza head

5. **Huvud as the first element representing ‘the most important part of something’**

In 145 of the 173 compound words with *huvud* as first element, *huvud* has the meaning ‘the most important part of something’. This is without doubt the most common use of *huvud* in compound words. *Huvud* does not have this meaning as a simplex word. We can consider the extended meaning ‘the most important part of something’ as a metaphorical association regarding the position and function of the head on the human body. This interpretation is supported by SAOB, which presents a figurative use of *head* when it is considered as “the most important organ of the body”. A meaning that is limited to the use of *huvud* as first element in some compound words has thus developed and SAOB states that it functions like a prefix. Since *huvud* is also an independent word, it is not a “pure” prefix according to prevalent definitions in the linguistic literature.

- *huvudkontor* (1746) oficina central head office
- *huvudmisstänkt* (SAOL) principal sospechoso prime suspect
- *huvudstad* (1526) capital capital
There are quite a lot of words in this category that were found in SAOL but not in SAOB. That means in most of the cases, if not all, that they have been added to the vocabulary quite recently. This is an indication that *huvud* as first element meaning ‘the most important part of something’ is productive to a considerable extent. In the compound words *huvudbeständsdel*, *huvudgudstjänst*, *huvudpostkontor*, and *huvudströmbrytare*, *huvud* functions as first element to a compound last element, and *huvudroll* and *huvudstad* are compound first elements for the last elements –*innehavare* and-*tidning*. According to Malmgren (2000), long and complex compound words have probably increased considerably during the last two hundred years. His explanation is that the society has become more complex, resulting in the need for more precise expressions. Teleman’s (1985) theories about the interplay between language change and the state of things in a society constitute the general theory frame for the Gothenburg project, *The Development of the Swedish Vocabulary 1800–1900*. In this context the productivity of this category can be interpreted as a reflection of an increasing need for broadening the vocabulary in an increasingly more complex society.

Regarding the translation into Spanish, *cabeza* is never used for any of the words in the list. In English *head* is used only in a few cases, for example, *head office*. *Huvudstad* is a special case where both the Spanish *capital* and the English *capital* have their origin in the Latin *caput*, which means ‘head’. Spanish and English show similarities as both languages sometimes use *principal* and *principal*, respectively, where Swedish uses *huvud*, for example, *oración principal* and *principal clause*. The most common equivalence for *huvud* meaning ‘the most important part of something’ seems to be *principal* in Spanish and *main* in English.

**Summary**

The present study aims at presenting the meaning extension of *huvud* in contemporary Swedish compound words. To achieve this goal I have employed semantic analysis as a method and indicated the productivity of each sense category. Furthermore, I have provided both Spanish and English translations.

The concrete meaning of *huvud* in compound words is found already in Old Swedish, both as a first and last element. There are also a few examples of *huvud* as first element meaning ‘the most important part of something’ dating back to Old Swedish. Since then a large number of neologisms with *huvud* as the first and last element in compound words have been added to the Swedish language. A difference is found in the use of *huvud* as first and last element. When *huvud* is the last element, the meaning extension is more varied and all subgroups are productive. In contrast, three out of six subgroups are productive when *head* is the first element. For example, the bahuvrihi compounds are productive only when *huvud* is the last element. On the other hand there are
considerably more compound words with *huvud* as the first element than as the last element. The main reason for this is that *huvud* has developed a function as a prefix where it means ‘the most important part of something’. This prefix shows considerable productivity.

The category where *huvud* is the last element in its original, concrete meaning is the only one where the translations to English and Spanish show no discrepancies at all. In all other categories English shows fewer divergences than Spanish, but the cases with correspondence in both English and Spanish are much more frequent than the divergences. The most conspicuous difference is when *huvud* is used in its “prefix function” and means ‘the most important part of something’. The Spanish *cabeza* cannot be used in this way at all, and in English we find only a few examples like *head office*. Both English and Spanish use in certain cases the word *principal* to express ‘the most important part of something’. Also in other cases Spanish and English show similarities when they diverge from Swedish. One example is when *huvud* is the first element with its concrete meaning. The translated words that do not contain *head* or *cabeza* coincide almost throughout the list. The compound words in the category “human characteristics,” with *head* as first element, show quite a few divergences in all three languages. This could be an indication that human characteristics are more culture-dependent than, for example, the position in the room.

**Conclusions and implications**

In this paper I have presented a limited study and it is not possible to draw any far-reaching conclusions. There remains a lot of research to be done. Translations into languages that are less close to Swedish like, for instance, Chinese and Korean would certainly yield totally different results. If universal laws for semantic change really exist, which is not yet proved, it would probably affect language teaching since one of the mayor impediments for language students is when the target language diverges from their native tongue. If it appears that universal laws explain the divergences, some obstacles could be removed on the student´s way to the target language. But as long as we lack the tools, and research results point towards more or less tangible tendencies of similarity but no universal law, even in closely related languages like those examined in this paper, we find divergences that are difficult to explain.

As already mentioned, there is a clear divergence in the Swedish use of *huvud* as a first element meaning ‘the most important part of something’ in comparison with Spanish and English. Whether or not this divergence is valid in comparison with other languages remains to be investigated. For teachers of Swedish as a second language and translators this sense of *huvud* is not difficult to explain and, as it is frequent, the language student will not have major difficulty in understanding and using it in words like *huvudstad* (‘capital’) and *huvudingång* (‘main entrance’). Also, it is not easily mistaken
for the use of *huvud* with its concrete meaning since the significance is usually clear from the context. There are few compounds where *huvud* as the first element has more than one meaning. The importance of the context is also evident when it comes to interpreting *huvud* as the last element, where the meaning extension is more varied.

The category “human characteristics” is where we find some signs of cultural influences. The variation we find in comparison with Spanish and English can be explained by the fact that the metonymic relation connected to body parts is more random than, for example, the use of *head* for the position ‘up’ which Heine (1997, pp. 40-41) demonstrates in his typological survey. For instance, clumsiness in English is associated with the thumb: *he is all thumbs*, in Spanish with the hand, *ser un manazas* (literally ‘be big handed’) and in Swedish we have *klantskalle* (*skalle*='head’). In Swedish we find the thumb referred to in the expression *ha tummen mitt i handen*. The English equivalent is *he has two left feet*. In Spanish, on the other hand, the left foot is associated with a bad mood, *se levantó con el pie izquierdo*, which in Swedish would be *han vaknade på fel sida*. Obviously, there remains a lot of research to be done to complete this list of similarities and differences. Such a list would be of great use for language teachers and translators since a word-to-word translation of this kind of culturally dependent expressions is possible only in rare cases. It would also be interesting to examine all Swedish body-part words in a more extensive study to see if the categories in this study can be used for all of them, as well as to find out if there are more categories that need to be added.

In order to reach a high level of second-language proficiency, including a vocabulary as close to the native speaker’s as possible, a prolonged, intensive, and diversified contact with the target language is required, and this includes, of course, the study of Swedish compound words. Since words seldom appear in isolation it is important that language learners study words in a natural context, listening to a lot of spoken Swedish and reading large amounts of texts. To achieve a good result in a relatively short period of time, a more conscious and systematic method is required, one which, above all, aims at improving the ability to guess the meaning of a word in context as well as learning patterns of word formation. Furthermore, the learner of Swedish as a second language needs knowledge about the inner structure of the lexicon so as to increase her awareness of the different relations that can be found between words and, over the course of time, to build up a sense of useful word combinations (Enström, 2006).

In many contemporary language textbooks and teaching aids one can find examples of influences from lexical-semantic research. One example is that emphasis is often put on practicing vocabulary in a context, and sometimes semantic fields are presented, but a lot remains to be done to communicate the meaning of words in a more systematic way in language teaching. New methods need to be developed to keep step with the progress of language science research.
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Note

1. Språkbanken, the Swedish Language Bank, was established in 1975 as a national center with a remit to collect, process, and store (Swedish) text corpora, and to make linguistic data extracted from the corpora available to researchers and to the public. Through Språkbanken, such users have been able to access linguistic and statistical data about a diverse range of Swedish texts since the 1970s.

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How Words can be Misleading:  
A Study of Syllable Timing and “Stress” in Malay  
Zuraidah Mohd Don, Gerry Knowles & Janet Yong  
University of Malaya, Malaysia  

Biodata  
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Abstract  
Duration and F₀ were studied in a set of 111 Malay words produced by two female native speakers of Malay in order to identify the citation pattern. This preliminary study seemed to provide strong evidence for penultimate stress. Seen in a wider context, the evidence collapsed, and it became clear...
that Malay does not have word stress at all. The search for syllable timing led to doubts whether the syllable is a relevant unit in Malay prosody. The conclusion is that in view of the lack of complicating factors, Malay is an appropriate language to adopt for the study of prosodic structure, and for the development of automatic techniques for the analysis of spoken corpora.

**Keywords** Prosody, Malay, word-stress, syllable timing, spoken corpora, automatic annotation

1. Introduction

The longer-term aim of the work reported here is to produce a prosodic annotation system for a corpus of Malay, building on the analysis of an informal corpus of Malay (Zuraidah Mohd Don, 1996), and the prosodic annotation of the Lancaster / IBM Spoken English Corpus (Knowles, Williams & Taylor, 1996). The system has to be designed for the Malay language, and mark patterns which are readily identifiable in the data. In order to make possible the annotation of large amounts of natural data, the system needs to be robust, and as far as possible it should lend itself to automatic processing. In view of the known problems involved in annotating natural conversational data, we have restricted this preliminary investigation to simplified types, namely one-word utterances produced in citation form.

Malay belongs to a group of languages which are among the most widely spoken (there are about 159 million Malay-Indonesian speakers) and least studied. These languages are generally considered to have a very simple phonology in that the vowel and consonant systems are simple, syllables are simple, and words appear to have a simple prosodic structure. What is not clear is whether an annotation system has to take into account anything in the Malay phonological system corresponding to English word stress. To an English ear it appears almost self-evident that Malay words have stress on the penult, and in some cases such as *kenapa* [kənəpə] ‘why’ the pattern approaches the English prototype. On the other hand, this pattern is not at all clear to Malay speakers, who often find it difficult to say whether their language has word stress or not, and if so what its nature might be. There is also a widespread belief that Malay is a syllable timed language, and while this description seems to be meaningful to native speakers, it is not clear exactly what it means. Understanding patterns at word level is of course the prerequisite for work on the prosody of Malay texts, and here we are confronted with a pattern which is both confusing and elusive.

When the project began we were not in a position to design formal tests or set up formal hypotheses about word stress, and the aim was to find out enough to enable us to do this. The Malay word has two important properties perceived by native speakers which could be associated with stress. First, the final syllable appears to be lengthened, and secondly there is a high pitch towards the end of the
word. There are no obvious variations in vowel and consonant quality which could be attributed to stress, and while central vowels certainly do occur, the central quality is part of the normal realisation of the vowel and has nothing to do with stress. In this respect Malay patterns like some North Indian languages. In the case of word citation forms, loudness would appear to vary with pitch, but in view of the complex role of loudness in texts (Zuraidah Mohd Don, 1996) where the correlation is not so close, it would be unwise to push the evidence of individual word forms too far. Another (but less clearly perceived) pattern is that the initial syllable seems to be given some kind of prominence.

2. Interpreting the Results of Previous Works
A problem in working on this paper is that previous work is not self explanatory. Research typically starts off with the assumption that Malay must have word stress like English, and that the task for the researcher is to find it and describe it. Thus it is claimed that word-stress in Malay is weak and so not very prominent (Yunus Maris, 1980), and that it involves length or loudness rather than pitch. Madzhi (1989) claimed to detect four degrees of word-stress, with primary stress falling on the last syllable of isolated and complex words; but this is to impose on to Malay the system put forward by Trager and Smith for English in 1959, and cannot be based on the empirical study of natural Malay data. There is no consistent understanding in the literature of what stress is, and to understand the claims being made it is first necessary to ascertain what notion of stress is being discussed.

In the present situation, instead of building on previous work, we have to explain previous results post hoc. Adam and Butler (1948) claimed that stress falls on the penult in Malay except when its vowel is a schwa, in which case stress falls on the final syllable. They also observed that stress shifts to the new penult when affixes are added to a word. Armijan Pane (1950), with the assistance of an Indonesian musician, developed a notation for stress and intonation using three pitch types: initial high pitch, pitch contour, and final pitch. He distinguished what he called syllable stress, word stress and sentence stress, and confirmed Adam and Butler’s analysis, except that the interrogative enclitic particle -kah had no effect on the position of the stress. This description might sound a little bizarre, but mutatis mutandis it could possibly be reconciled with the findings of our own study; -kah could well be an additional item ignored by the final cadence.

In an instrumental study of 200 disyllabic words, Verguin (1955) found that the first (i.e. penultimate) vowel was longer in duration, higher in pitch and greater in amplitude than the final vowel. (If the measurements of the penultimate vowel are accurate, they indicate a variant of the word citation form which could belong to a different dialect.) Kahler (1956) found the stress fixed on the penult when the root word is followed by an enclitic such as -kah, -lah or -pun. Alisjahbana (1967) distinguished dynamic stress, pitch stress and durational stress, claiming that word stress falls
on the final syllable, except when it is a clitic pronoun -ku or -nya. Amran (1984) made a
mingographic study of 140 words, and found word stress on the penult in isolated words, and on the
final syllable in context. He described a typical stressed syllable as longer and louder than unstressed
ones, and having a pitch contour containing a peak of pitch, although the initial pitch could be higher
or lower than the final pitch.

Generative accounts (Cohn, 1989; Cohn & McCarthy, 1994; Kenstowitz, 1994; Halle & Idsardi,
1994) place primary stress on the penult, with secondary stress on alternating syllables to the left and
on the initial syllable. Suffixes affect stress position, one suffix shifting the stress one syllable to the
right; while if there are two suffixes, the first suffix takes the primary stress and a secondary stress
falls on the penultimate syllable of the root. It is difficult to assess these claims because they have
only a tenuous relationship with what one finds in Malay phonetic data, and in order to understand
them one has to be familiar with the history of generative phonology.

3. Methodology

The data consists of a total of 111 Malay content words produced by two female native speakers of
Malay. These were recorded, digitised and analysed using MAC Speech Lab 2. The set of words
includes both simple and complex words and a few loan words from English, and words were
selected to illustrate (a) the various possible occurrences of Malay CV(C) syllable structure, and (b)
Malay word structure including simple words (containing from one to four syllables) and complex
words encompassing prefix + root (e.g. mem+baca ‘read’), prefix + root + root (e.g. berc+bagai+bagai ‘a variety of something’), prefix + root + suffix (e.g. mem+baca+kan ‘read to somebody’) and prefix + prefix + root + suffix (e.g. mem+per+bagai+kan ‘to have variety’). The
111 words were segmented into 422 syllables, each syllable being annotated with its duration and a
phonological representation. The data was then organised in the form of a database table.

Malay spelling is almost phonemic, and just some minor adjustments convert it into a phonological
representation. The digraphs ng and ny were replaced by symbols for velar and palatal nasals
respectively, e.g. orang → /oraN/ ‘person’. Initial vowels were preceded by a glottal stop symbol,
and a glottal stop or glide symbol was inserted between adjacent vowels, e.g. istiadat → /?isti?adat /
‘ceremony’; buah → /buwah/ ‘fruit’; sosial → /sosijal/ ‘social’. The phonological representation
was then divided into CV(C) sequences. The outcome of this procedure matched intuitive syllable
divisions except in the case of loanwords containing syllables with complex onsets, e.g. /kra/ in
/de.mo.kra.sil/. A problem also arose regarding the syllable break following prefixes with a final velar
nasal, e.g. *meng- /mUN/. The nasal patterns regularly before a consonant, e.g. *meng + hadkan → /mUN.had.kan/ ‘to limit’, but before a vowel it can either complete the first syllable as expected, e.g. /m@N.?is.ti.me.wa/, or begin the second syllable, cf /m@N.?is.ti.me.wa.kan/, in which case the glottal stop is elided. This remains to be investigated in spoken corpus data.

It was already clear from an initial study of the annotated waveforms that matters of prosodic interest cluster at the end of the word, and consequently the syllables were numbered from right to left, so that the final syllable was numbered 0, the penult 1, the antepenult 2, and so on. F₀ plots revealed a characteristic pattern at the end of words, in that in typical cases there was a rise to a peak on the penult followed by a complete fall to the bottom of the speaker’s range on the last syllable. These were encoded “RP” and “CF” respectively. There were very few incomplete falls (“IF”) and final rises (“R”), each having only two occurrences.

In most cases the peak coincided with the syllable boundary, but occasionally it was reached earlier or later, and these were marked “-” and “+” respectively. For example, “RP-” marks a case in which the peak is reached before the end of the penult, and “RP+” marks a case in which the peak is reached after the end of the penult. No other pattern has been identified. Syllables before the penult were left unmarked for pitch. Table gives the set of records for three sample words:

**TABLE 1.** Records for Three Sample Words

<table>
<thead>
<tr>
<th>ORTHOGRAPHY</th>
<th>SYLLABLE</th>
<th>FORM</th>
<th>DURATION</th>
<th>F₀</th>
</tr>
</thead>
<tbody>
<tr>
<td>istimewa</td>
<td>3</td>
<td>?is</td>
<td>111</td>
<td>RP</td>
</tr>
<tr>
<td>istimewa</td>
<td>2</td>
<td>ti</td>
<td>269</td>
<td></td>
</tr>
<tr>
<td>istimewa</td>
<td>1</td>
<td>me</td>
<td>143</td>
<td>CF</td>
</tr>
<tr>
<td>istimewa</td>
<td>0</td>
<td>w∅</td>
<td>412</td>
<td></td>
</tr>
<tr>
<td>teristimewa</td>
<td>4</td>
<td>t∅r</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>teristimewa</td>
<td>3</td>
<td>?is</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>teristimewa</td>
<td>2</td>
<td>ti</td>
<td>237</td>
<td></td>
</tr>
<tr>
<td>teristimewa</td>
<td>1</td>
<td>me</td>
<td>116</td>
<td>RP</td>
</tr>
<tr>
<td>teristimewa</td>
<td>0</td>
<td>w∅</td>
<td>454</td>
<td>CF</td>
</tr>
<tr>
<td>keistimewaan</td>
<td>5</td>
<td>k∅</td>
<td>158</td>
<td></td>
</tr>
<tr>
<td>keistimewaan</td>
<td>4</td>
<td>?is</td>
<td>159</td>
<td></td>
</tr>
<tr>
<td>keistimewaan</td>
<td>3</td>
<td>ti</td>
<td>253</td>
<td></td>
</tr>
<tr>
<td>keistimewaan</td>
<td>2</td>
<td>me</td>
<td>143</td>
<td></td>
</tr>
<tr>
<td>keistimewaan</td>
<td>1</td>
<td>wa</td>
<td>222</td>
<td>RP</td>
</tr>
<tr>
<td>keistimewaan</td>
<td>0</td>
<td>?an</td>
<td>348</td>
<td>CF</td>
</tr>
</tbody>
</table>
4. Result
The pitch patterns proved simpler than expected. There were no exceptions to the rule that the pitch rises to a peak on the penult. The pitch fell to low except in the case of the words *boikot* ‘boycott’ and *memboikot* ‘to boycott’. (While loanwords can have special segmental properties we have no evidence so far to suggest that they have any prosodic property of their own.) In some cases the fall is incomplete, and the pitch failed to reach the speaker’s bottom pitch; but there were too few cases to indicate a pattern. In 92 of the 111 words the peak coincided with the syllable boundary, and this is clearly the default case. There were too few cases of early peak to give an explanation. The remaining 10 cases of delayed peak suggested an association with (a) foreign words, and (b) final syllables containing nasals, particularly the velar nasal. In the latter case, the syllable is rich in pitch-bearing segments, so that it is physically possible to delay the pitch peak and still hear the fall.

Syllable duration proved more complex, and we begin with the kind of distribution curve we might expect. If there are no other factors involved at all, we would expect a peak corresponding to the dominant CV syllable types, although CV syllables with an initial glide or glottal stop may be shorter. CVC syllables will of course be longer. We would expect a skewed unimodal distribution with a rapid rise to a peak and a slower decay. Strict syllable timing should produce a normal curve with a small standard deviation. A mere tendency to syllable timing should produce a compromise between these two distribution types.
The histogram in Figure 1 displays the actual distribution of syllable durations for all positions in the word. It is clearly bimodal, and looks like two separate distributions (one centred at approximately 180ms and the other centred at approximately 420ms) overlapping in the region of 280ms. This suggests that the sample is not homogeneous, and that its elements come from two different populations. The relevant factor proves to be word position, all final syllables except one having a duration greater than 280ms, and nearly all non-final syllables having a duration below 280ms. This was confirmed when the data for final syllables was filtered out, leaving the unimodal histogram displayed in Figure 2. From this initial overview it is immediately clear that final syllables are longer than non-final ones, and the shape of the curve in Figure 2 does not lead to high expectations of syllable timing.

If final position is associated with a special duration, then perhaps other syllable positions are too. Table 2 displays the mean durations (in ms) of syllables in the eight different positions. As expected, the mean of 411ms for final syllables (0) was much greater than the means for non-final syllables (1..7) ranging from 146 to 210.
TABLE 2. Mean Syllable Durations for Different Positions in the Word

<table>
<thead>
<tr>
<th>Syllable</th>
<th>N</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>111</td>
<td>411.41</td>
</tr>
<tr>
<td>1</td>
<td>110</td>
<td>198.15</td>
</tr>
<tr>
<td>2</td>
<td>93</td>
<td>191.05</td>
</tr>
<tr>
<td>3</td>
<td>62</td>
<td>181.37</td>
</tr>
<tr>
<td>4</td>
<td>31</td>
<td>187.35</td>
</tr>
<tr>
<td>5</td>
<td>11</td>
<td>204.82</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>146.00</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>209.50</td>
</tr>
<tr>
<td>Total</td>
<td>422</td>
<td>249.40</td>
</tr>
</tbody>
</table>

A one-way Analysis of Variance (ANOVA) was used to test the hypothesis that there was a relationship between syllable duration and the position of a syllable in a Malay word. ANOVA was used because more than 2 groups (i.e. 8 groups each representing 8 syllable positions) were being tested. The results of the analysis (displayed in Table 3) reveal that the means for the 8 groups are significantly different from each other (p<0.05; the significant level being set at 0.05). The probability of the F value (F(7, 414)=295.82, p<.05) occurring by chance is .000, thus providing reasonable evidence that the relationship between syllable position and syllable durations does exist.

TABLE 3. The First F-Test of Difference of Group Means

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>3971448.0</td>
<td>7</td>
<td>567349.708</td>
<td>295.815</td>
<td>.000</td>
</tr>
<tr>
<td>Within</td>
<td>794019.56</td>
<td>414</td>
<td>2175.846</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>4765467.5</td>
<td>421</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

However, since ANOVA only looks for overall difference between groups, these results do not tell us where the differences lie. In order to determine which value groups of the independent variable have the most to do with the relationship, we conducted post-hoc comparison tests that compared each mean to each other mean. Pairwise comparisons between syllable positions and syllable durations
through Tukey HSD post-hoc analyses revealed that the mean differences were only significant between pairs containing a word-final syllable (p<0.05; the significance levels for post-hoc analyses being set at 0.05 for all post-hoc analyses). There was no significant difference between pairs which are made up of either both word-initial or word-medial positions or word-initial and word-medial positions. This confirms that the durations of the final syllables are significantly different from those of the non-final syllables.

5. Discussion
The first impression given by these measurements is that they provide overwhelming confirmation of a stress on the penult. The fact that the final syllable and only the final syllable is lengthened suggests further that the overall pattern associated with the stress includes the following long syllable. Patterns of this kind are also found in English, e.g. *widow* or *tissues*. While this explanation is consistent with the experimental data available so far, it is actually only one of a set of possible explanations. And since this particular explanation is closely related to what we already know about stress in English and other languages, there is at least a possibility that beliefs about English have been unintentionally transferred to Malay, where they may be less appropriate.

Our data contains different morphological types, but we have assumed that morphology is irrelevant. On the other hand, we have taken for granted that syllables are relevant, and that our syllabification procedure is the right one. Either or both of these assumptions could be false. Moreover, a list of 111 English words stressed on the penult would not prove that penultimate stress is the norm in English. The initial explanation must therefore be regarded as provisional until the necessary checks have been made. A suitable comparator in this connection is found in a study of stressed syllables in Arabic words by de Jong and Zawaydeh (1999). The “words” studied are not lexical items but phrases which happen to be written solid in the Arabic writing system. The phonological representation used is a hybrid of phonemic transcription and a transliteration using the Latin alphabet. Varieties of Arabic are known to vary in the alignment of $F_0$ and in vowel reduction, and yet the data contains a mixture of colloquial and standard forms. The domain of stress is the syllable, but the statistical analysis deals only with the vowels. The conclusion that Arabic is like English in this area is rather surprising for any practical phonetician familiar with both languages, and cannot safely be drawn without further confirmation. In order to avoid comparably contentious conclusions for Malay it is essential to begin with a rigorous organisation of the data, and to put the findings in a wider context.

The measurements of individual words clearly tell us something interesting about the prosody of Malay, but exactly what they tell us is not clear. For that reason, the observed pitch pattern and the
final lengthening were used as input to subsequent studies of spoken Malay, but the drawing of any conclusions was delayed pending further investigations. In the following discussion, we supplement the experimental findings with insights gained from more recent work on connected speech, involving in particular speech synthesis and the annotation of waveforms.

6. The Citation Pattern

The analysis of word duration failed to confirm the perception of some kind of prominence on the first syllable. However, a closer look at the F₀ plots (see the illustration in Figure 3 using the word mendengarkan) revealed a pattern consistently beginning on that syllable. The pitch is set on the first syllable to somewhere in the middle of the speaker’s range, and it then rises to a peak on the penult before falling to low on the long final syllable. This can be thought of as the word citation pattern.

**FIGURE 3.** The Citation Pattern on the Word

*MENDENGARKAN* ‘LISTEN TO’

The citation pattern is the pattern that occurs by default, when there is no reason to do anything else, when words are cited out of any communicative context. This is why this pattern was used almost exclusively for the test words uttered in isolation.

If we now examine phrases read aloud, we find that the word citation pattern is in fact made up of two elements, one initial and the other final, as shown in Figure 4. The initial pattern involves a rise in pitch to a peak at the end of the first word (henceforth the onset rise), and the pitch then remains mid until finally falling away at the end (henceforth the final fall). The important point is that the high pitch is not a property of the end of the speech interval (as might be assumed when only individual words are examined), but of the beginning.
A similar pattern can be seen in sentences read aloud, as illustrated in Figure 5. The middle section here is quite long, and the pitch seems to move up and down in a random fashion; in speech synthesis it has been found that this movement can be successfully emulated using a random function.

FIGURE 5. The Citation Pattern on the Sentences DIA BERSEKOLAH DI BANDAR ‘She goes to school in the city.’

7. Timing In Malay
It is difficult to characterise syllable timing precisely (cf Laver, 1994: 156-7), but it is usually taken to mean that all syllables are subjectively equal in duration. This is clearly not true of Malay. The distribution in Figure 1 does not point to isochronous syllables, and the systematic difference between final and non-final syllables undermines the conventional belief that Malay is a syllable timed
language. We could argue for a model with final lengthening imposed on underlying syllable timing. But the syllables are not even equal within the two subgroups. Final syllables vary from 514ms to 261ms, and non-final syllables from 359ms to 106ms, and a range of this kind is far too great for the members of the two sets to be regarded as equal.

Lengthening ratios vary considerably. The syllable /ca/ averages 402ms finally, and the one non-final token measures 262ms, a ratio of 1.53:1, while /gaj/ averages 477ms finally and 229ms non-finally, a ratio of 2.28:1. It might seem that /aj/ lends itself to lengthening in a way that /a/ does not, but this does not explain /da/ which averages 414 and 196, giving a ratio of 2.10:1. These ratios are much higher than found appropriate in speech synthesis where 1.2:1 or 1.3:1 gave realistic results.

The study of speech intervals (i.e. intervals of speech bounded by pauses) in texts read aloud shows that non-final words lack the final lengthening that they have when spoken in isolation. This suggests (as might be expected) that the lengthening is a property of the speech interval rather than a property of the word itself. It is the consequence of a reduction in tempo, and as in the case of a rallentando in music, the degree of slowing down is not fixed, so that the durations of final syllables varies in an unpredictable manner.

8. Words, Syllables and Stress

In designing our initial experiment to measure durations in words, we took for granted that the word is a relevant prosodic unit in Malay. We have found evidence that the first word in a speech interval has a corresponding prosodic pattern, as does the word aligned with the final cadence. We have no evidence so far that the word in between the first word and the word with the cadence have any prosodic status at all. For the purposes of speech synthesis, we treat these words as a single string of phones. In this way, the prosody associated with a typical short speech interval has a beginning, a middle and an end, and in the middle the word has at best a doubtful status.

We must also raise the question whether the syllable is a genuine prosodic unit in Malay. The reason we might want syllables at all in our description of Malay is to account for phoneme distributions. As in other languages, consonants typically overlap the beginnings and ends of vowels, and contiguous consonants typically overlap different vowels. The sequence VCCV is accordingly divided VC.CV. In this respect a word like demokrasi is something of an anomaly, since VCCV is here divided V.CCV and the sequence /kr/ is grouped with the following vowel. This is because when /k/ overlaps the preceding vowel it is realised as glottal constriction, and usually described as a glottal stop; but in this word it is a voiceless stop and characteristic of /k/ overlapping the following vowel. The grouping /kra/ at first sight involves a kind of consonant overlap that is alien to the Malay language, except in so far as it has been imported along with English loan words. However, in rapid
speech, it is normal for many vowels represented in the writing system (and therefore pronounced in citation forms) to be elided, and this brings together groups of consonants very similar to those which for English are regarded as syllable onset clusters. What is anomalous about the string /kt/ in the word demokrasi is that it has no vowel between the consonants even for the citation form.

The non-significant differences among the means indicate that there are no other factors affecting duration which relate to syllable position (counting right to left). There are other factors, but these are distributed across the positions. The most obvious factor is syllable structure, for CVC is presumably longer on average than CV. Possibly because of inequalities in syllable duration, the duration of the speech interval shows a better correlation with the number of phonemes than with the number of syllables. Durations can in fact be predicted remarkably well by distinguishing long, medium and short phonemes. The syllable has nothing to do with the onset rise, the domain of the final fall can be specified without reference to the syllable, and the syllable seems to have nothing to do with speech timing. This leaves the syllable with at best a marginal role in Malay phonology.

9. The Final Cadence

The slowing down in tempo coincides with the final fall, and together these form a final cadence. The onset rise is spread over the first word of the phrase, but in the case of a one word phrase, it is limited to the first part of the word not taken by the final cadence. The combination of the peak of the onset rise followed by the cadence gives considerable prominence to the end of the word, and since the pitch peak typically coincides with the end of the penult, the penult itself is made to stand out. This combination can give the impression of a word stress almost exactly like that of English, especially when the penult is surrounded by central vowels as in a word like kelapa [kəlapa] 'coconut'.

In rapid Malay speech, interconsonantal central vowels tend to be elided, and perhaps for that reason do not always take the pitch peak. In words such as sebut [səbut] 'mention' and betul [bətul] ‘true’, where the penult contains a central vowel, the pitch peak (and so the prominence) is delayed to the final syllable, which can give the impression that the “stress” has shifted. This impression is confirmed when the central vowel is elided in a word likeerus [tərus] ‘continue’, so that [tərus] become [trus], almost exactly as English [pəli:s] ‘police’ can become [pli:s].

Another case that has come to light concerns the diphthong [ai] in a word such as baik ‘good’, when it is the only vowel in the word and is followed by a consonant. In this case the diphthong is fractured, and the two elements in the resulting form [bajik] are linked by a palatal glide, the pitch rising to a peak on the first element, and falling to low over the lengthened second element. This fracture, too, has its counterpart in English stressed syllables, e.g. the Texan [bæjəd] ‘bad’.
The situation is more complicated in interactional data (Zuraidah Mohd Don & Knowles, 2006). Although the cadence is normally delayed until the last word, there are cases in which some final words, including vocatives and the deictic particle ini or ni ‘this’ when used to refer anaphorically, are ignored and treated as a kind of tail. In such cases the cadence begins on the penultimate word, e.g. *Macamana, doctor?* ‘How, doctor?’ and *logam ni* ‘this iron ore’. These tails are similar to tails at the ends of tone units in English resulting from the deaccentuation of similar kinds of item.

The final cadence can also be highlighted with high pitch and loudness of its own, creating a wide final fall to low pitch, and this pattern seems to constitute a signal to the listener to take over the turn. The initial pattern can be masked by high pitch and loudness extending over the whole word; this pattern is used by an interrupter seeking to take over the turn. The highlighted cadence can result in a pitch peak on the last syllable, again possibly giving the impression of a “shift of stress”. In the case of a word like *kenapa* [kənəpa] ‘why’, in which the final vowel happens to sound rather like a schwa, the “stress” seems to have shifted on to the wrong syllable.

It is an interesting fact that a carefully selected sample can give the impression that Malay has a stress system rather like English. But a similar argument can prove that English has tones like Mandarin Chinese: tone 1 for many onsets, tone 2 for elliptical questions, tone 3 for ‘non-final’ items, and tone 4 for primary stress. But English prosodic patterns have to be interpreted in the context of the English prosodic system, and the imposition of Chinese categories would lead to gross distortion. We would argue that exactly the same principle applies to Malay.

**10. Conclusion**

The first conclusion to be drawn is that there are no phenomena in spoken Malay corresponding to what phonologists call stress, and that the whole notion of stress is completely irrelevant in the description of Malay. The pitch may go up and down, loudness and tempo may increase or decrease, and on occasion the effect may be superficially similar to that produced by stress in a language like English; but these phenomena are all accounted for independently of stress.

There is also reason to doubt the need to use syllables in Malay prosody. The evidence of words like *demokrasi* is weak, and has no consequences beyond the overlapping of consonants on vowels. Syllables are important in the phonology of languages like English and Latin because they account for different patterns at different levels. At this stage we know of no high level prosodic patterns in Malay that require reference to the syllable at all. Unless and until evidence emerges to the contrary, we shall treat the syllable as irrelevant. It is difficult to believe that syllables are the cause of anything in Malay, and they are certainly not responsible for the timing of the spoken language.
It is important to note that these conclusions could not be drawn from our initial experiment. The measurements and other observations have to be interpreted, and it is significant that the simplest interpretation is one that seems to confirm the conventional view that Malay words have stress on the penult. The fact that this does not appear to be the case only emerges when we investigate in detail what happens when words are put together in continuous speech.

We therefore disagree with earlier researchers who have claimed stress on the penult. A methodology which involves the study of individual words is likely to reach this conclusion because the prosody of individual words cannot distinguish the onset rise from the final cadence. The error is therefore one of finding apparent patterns in the data which do not exist in reality. Our approach combines individual words with annotated naturally produced data. If stress and syllables really exist in the data, it is difficult to see how we could have failed to spot them.

The consequences of this finding are potentially disturbing for research in prosody. It seems a matter of common sense that if we want to find out about the prosody of a language we should start with individual words before investigating connected speech. Our evidence suggests that this may not be correct. The problem is that we cannot utter individual words with just their word level properties. When we utter a word we have to treat it as a sentence on its own, or at least as an item in a list, and this means assigning it higher level prosodic patterns. The task for the researcher is to separate out properties of the word from properties of the speech interval, and that cannot be done by examining isolated words alone.

Malay has a reputation as a “simple” language, whatever that means. It certainly does not mean it is an easy language to study, and it does not lend itself to generalisations about human language based on English and the languages of Europe. One of its more interesting properties is that it has no stress or tone or any other intermediate level of prosodic organisation. This makes Malay an ideal language to work on for the investigation of prosodic structure. It is certainly a better language for this purpose than English, in which stress and accentuation obfuscate prosodic patterns at discourse level. The prosodic relationships between words and texts are remarkably clear and simple in Malay; but as we hope we have shown in this paper, taking advantage of the clarity and recognising the simplicity can be exceedingly difficult.

The preliminary findings reported here raise a number of important theoretical issues. The lack of a stress system in Malay raises the question of how prominence should be approached. Work so far indicates that many of the prosodic patterns of Malay are phonetically similar to those of English, the difference being that these patterns are not constrained or motivated by stress. A task for future research is to develop a theoretical framework to account for these prosodic patterns directly. Secondly, if there is no stress in Malay we have to find another explanation for the distribution of
schwa and for vowel deletion, both of which seem superficially to constitute evidence for a stress system. Finally, if there is no evidence for the syllable as a relevant unit in Malay phonology, we need an alternative theory to account for the opening and closing of the vocal tract in spoken Malay corresponding to sequences of vowels and consonants. What we need is a more general theory of which the syllable theory is a specific instance.

References


Does Visual and Auditory Word Perception have a Language-Selective Input? 
Evidence from Word Processing in Semitic languages

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Biodata

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Abstract

The goal of this study was to compare performance differences of Native Arabic speakers in identifying spoken words and written words in the Arabic (L1) and Hebrew (L2) languages, and to examine whether such difference in performance patterns are related to the factors like; type of language and frequency of exposure to each modality (visual, auditory). Two lexical decision experiments were performed, in which the response times (reaction time- RT) and error rates were compared. In addition, each subject completed a structured questionnaire that examined the level of exposure to speech and reading in each language. The results showed a frequency effect within the language (for each language- Arabic and Hebrew) and within the presentation form (spoken or written), with longer reaction times in lexical decision tasks when the stimuli was presented orally in comparison to the visual presentation. A significant interaction was found between perceptual modalities and the language in which the stimuli were presented. Reaction times to Hebrew words were faster when the words were presented visually, while reaction time times for the Literary Arabic words were faster when they were presented orally. The results of the language exposure questionnaire revealed that in both languages, students whose exposure to a particular modality was greater performed faster and more accurate in that modality. These findings can be explained with the
fact that mature Arab students read more in Hebrew at schools and hear more in Literary Arabic. Consequently, Arab linguistic experience in a second language (L2) relies more on visual modality, and that affects significantly the language processing of this modality.

**Keywords** bilingualism, auditory, visual, word identification, Arabic, Hebrew

**Introduction**

The research on bilingualism has focused on two views. The first view was the lexical organization of the two languages in the cognitive system of bilinguals (see Kroll & de Groot, 1997) and the relationship between semantically related words and translation equivalents across languages (e.g., de Groot, 1995; Grainger & Frenck-Mestre, 1998). A second view in this area of research focused on the difficulties that second language learners encounter on both the visual and auditory perception (see Piske et al., 2001 for review). Of particular interest were questions addressing spoken (Flege et al., 1999) and written words in native and in second language (Johnson & Newport, 1989). In this work I am interested in investigating issues related to the second view (differences between visual and auditory perception). I asked whether the two forms of word (visual and auditory) identification systems are independent and have a language-selective input. Specifically, I am interested to know how specific information provided by printed or spoken words interacts during word perception (e.g., Taraban & McClelland, 1987) and whether word perception in different modalities are differentially influenced by the degree of exposure to these modalities. The mechanism by which the experience of these modalities affects second language processing is unclear (e.g., Best & Strange, 1992). Such a mechanism might involve phonetic (segmental and supra-segmental), phonological, lexical, and/or other linguistic and extra-linguistic processes (Guiora, 1994).

The language situation in Israel represents a fully complicated case that includes the coexistence of two official state languages (Hebrew and Arabic). This leads to situation in which the majority of Arab students in Israel are bilinguals. Operationally, I tried to examine whether word perception in auditory or visual modalities are differentially influenced by degree of exposure to these modalities in L1 and L2. To achieve this aim, lexical decision paradigm and accuracy measures were used, in which participants were presented to Arabic and Hebrew words auditorally and visually, and were asked to identify the stimuli. The target population was adult Arabic Learning experience of Hebrew. The question I asked in this study is: how does the degree of exposure to different modalities affect
the cognitive system? Given that *Learning experience* in the two languages differ in both modalities, the question is how this affects the performance pattern in word perception.

**Bilingualism**

For a long time, bilingualism was believed to require two separate word processing systems that function independently, and that can be accessed selectively. These assumptions are both intuitively appealing and have guided empirical research on multiple language proficiency for decades. Kroll and colleagues (Kroll & Stewart, 1994) proposed a model called the "Revised Hierarchical Model" which assumes separate lexicons postulated for L1 and L2. These two lexicons are connected to one another and to a common semantic system where word meanings are stored. The model is asymmetric, because for unbalanced bilinguals the connections from L2 word forms to their L1 translations are stronger than the other way around, because L2 words are often learned by associating them with their L1 translation. Other researchers assumed that even if L1 and L2 are activated simultaneously, at the functional level they can still be considered as two independent language systems, at least as far as word form identification is concerned (Paradis, 1997). Paradis put a three-store hypothesis of word perception, in which a distinction is made between word forms (orthographic and phonological forms with their syntactic properties), word meanings (which are often language-dependent), and conceptual features (the nonlinguistic mental representations underlying human thoughts). In Paradis’ model, the first two types of representations are language-specific, whereas the last is shared by the two languages.

*Spooken word perception*
In spoken word perception, the input reaches the listener sequentially over time. Many words take a few hundred milliseconds to pronounce, and very often these words are recognized before the complete signal has been presented. The “Cohort Model” of spoken word perception assumes that the selection of a lexical candidate would depend on a process of mutual differentiation between the activation levels of the target word and its competitors (Marlser-Wilson, 1987). This assumption predicts that a word with competitors of higher usage frequency should be recognized more slowly than a word matched on frequency but with lower frequency competitors. However, there is no consensus regarding the nature of the competitor set for a spoken word. The competitors are defined as consisting of all the words that may be generated by the addition, deletion or substitution of a single segment, and competition between candidates can potentially start at different points of time.

In the first stage, implemented as a simple recurrent network, all potential lexical candidates beginning at every phoneme in the input are activated in a strictly bottom-up fashion. Another important characteristic of the Cohort Model is that the activation of neighbors takes place in parallel, at no cost. As a consequence, there should be no effect of the number of neighbors with which the target word has to compete. Elman and McClelland (1984) developed a TRACE Model of speech perception that depicts speech as a process in which speech units are arranged into levels and interact with each other. The three levels are: features, phonemes, and words. The levels are comprised of processing units, or nodes; for example, within the feature level, there are individual nodes that detect voicing. To perceive speech, the feature nodes are activated initially, followed in time by the phoneme and then word nodes. Thus, activation is bottom-up. Activation can also spread top-down, however, and the TRACE Model describes how context can influence the perception of individual phonemes.

Visual word perception

In several models of visual word perception, researchers have proposed that fluent readers do not use the phonological information conveyed by printed words until after their meaning has been identified (e.g. Jared & Seidenberg, 1991). In their extreme forms, such models assume that, although orthographic units may automatically activate phonological units in parallel with the activation of meaning, lexical access and the identification of printed words may be mediated exclusively by orthographic word-unit attractors in a parallel distributed network (if one takes a connectionist approach, e.g., Hinton & Shallice, 1991) or by a visual logogen system (if one prefers a more traditional view, e.g., Morton & Patterson, 1980). Much of the empirical evidence supporting the orthographic-semantic models of word perception comes from the neuropsychological laboratory. For example, patients with an acquired alexia labeled deep dyslexia apparently cannot use grapheme-to-
phoneme translation, yet they are able to identify printed high-frequency words (Patterson, 1981). Furthermore, the reading errors made by such patients are predominantly semantic paralexias and visual confusions (for a review, see Coltheart, 1980). These data were therefore interpreted as reflecting identification of printed words by their whole-word visual-orthographic (rather than phonological) structure. The propriety of generalizing these data to normal reading is questionable, but additional support for the orthographic-semantic view can also be found in studies of normal word perception. For example, in Hebrew (as in Arabic), letters represent mostly consonants, whereas vowels may be represented in print by a set of diacritical marks (points). These points are frequently not printed, and under these circumstances, isolated words are phonologically and semantically ambiguous. Nevertheless, it has been found that in both Hebrew (Bentin, Bargai, & Katz, 1984) and Arabic (Roman & Pavard, 1987, Bentin & Ibrahim, 1996) the addition of phonological disambiguating vowel points inhibits (rather than facilitates) lexical decision. On the basis of such results, it has been suggested that, at least in Hebrew, correct lexical decisions may be initiated on the basis of orthographic codes, before a particular phonological unit has been accessed (Bentin & Frost, 1987). In English, a distinction has been made between frequent and infrequent words. Whereas it is usually accepted that phonological processing is required to identify infrequent words, frequent words are presumed to be identified on the basis of their familiar orthographic pattern (Seidenberg, 1995). Advocates of phonological mediation, on the other hand, claim that access to semantic memory is necessarily mediated by phonology (e.g., Frost, 1995). In a "weaker" form of the phonological-mediation view, it is suggested that although the phonologic structure may not necessarily be a vehicle for semantic access, it is automatically activated and integrated in the process of word perception (Van Orden et al, 1988). Such models assume that phonological entries in the lexicon can be either accessed by assembling the phonological structures at a prelexical level or addressed directly from print, using whole-word orthographic patterns. The problem of orthographic-phonemic irregularity is thus solved by acceptance of the concept of addressed phonology. Indeed, cross-language comparisons indicate that addressed phonology is the preferred strategy for naming printed words in deep orthographies (Frost, Katz, & Bentin, 1987; but see Frost, 1995). The assumption that words can be represented by orthographic, phonological, and semantic components is not new. Distributed representation triangle models (Plaut et.al, 1996) explicitly represent these three levels without having a level of lexical representation. Symbolic dual-route models (Coltheart et al., 2001) also represent these components. Although the constituency framework is theoretically neutral among various possible implementations, our description of it relies on a symbolic system. Thus, we emphasize that word representations comprise constituent identities. We also emphasize that the constituency framework is universal, not language or writing-system dependent. In any writing
system, it is the representation of the word that is at issue, and the specification of a value on each of the variables (the constituents) provides the identity of the word as it is represented in an idealized mental lexicon. The process of identification becomes one of specifying constituents. In processing terms, written word perception entails the retrieval of a phonological form and meaning information from a graphic form. Given that all of the above strategies are in principle possible, the focus of most contemporary studies of word perception has shifted from attempting to determine which of the above theories is better supported by empirical evidence, to understanding how the different kinds of information provided by printed or spoken words interact during word perception (e.g., Taraban & McClelland, 1987). To achieve this aim, we took advantage of a specific property found in both Arabic language and Hebrew language in which they related in the spoken form but unrelated in the printed form.

**Arabic and Hebrew- Background and Characteristics**

As Semitic languages, words in Arabic and Hebrew have similar morphological structures. Regardless if these words based on inflectional or derivational forms, the morpheme-based lexicon of these families implies the existence of roots and templates. Previous studies such as Harris (1951) recognized roots as autonomous morphemes expressing the basic meaning of the word. Roots are abstract entities that are separated by vowels adding morphological information (e.g., in Arabic, the perfective /a-a/ in daraba ‘hit’, or the passive /u-i/ in duriba ‘was hit’. In Hebrew for example, the perfective /a-a/ in lakah ‘took’, or the passive /ni-a/ in nilkah ‘was taken’). Other researchers defined both Semitic languages as non-concatenate, highly productive derivational morphology (Berman, 1978). According to this approach, most words are derived by embedding a root (generally trilateral) into a morpho-phonological word pattern when various derivatives are formed by the addition of affixes and vowels. Also, in Arabic and Hebrew, there are four letters which also specify long vowels, in addition to their role in signifying specific consonants (in Arabic there are only three – a, u, y). However, in some cases it is difficult for the reader to determine whether these dual-function letters represent a vowel or a consonant. When vowels do appear (in poetry, children's books and liturgical texts), they are signified by diacritical marks above, below or within the body of the word. Inclusion of these marks specifies the phonological form of the orthographic string, making it completely transparent in terms of orthographic/phonological relations.

In regard to semantics, the root conveys the core meaning, while the phonological pattern conveys word class information. For example, in Arabic the word (TAKREEM) consists of the root (KRM, whose semantic space includes things having to do with respect) and the phonological pattern TA—I.
The combination results in the word ‘honor’. In Hebrew, the word (SIFRA) consists of the root (SFR- whose semantic space includes things having to do with counting) and the phonological pattern –I—A, which tends to occur in words denoting singular feminine nouns, resulting in the word ‘numeral’. As the majority of written materials do not include the diacritical marks, a single printed word is often not only ambiguous between different lexical items (this ambiguity is normally solved by semantic and syntactic processes in text comprehension), but also does not specify the phonological form of the letter string. Thus in their unpointed form, Hebrew and Arabic orthographies contain a limited amount of vowel information and include a large number of homographs. Comparing to Hebrew, Arabic includes much larger number of homographs thus, it is much more complicated than Hebrew.

Despite the similarity between these languages, there are major differences between Arabic and Hebrew. First, Arabic has special case of diglossia that does not exist in Hebrew. Literary Arabic is universally used in the Arab world for formal communication and is known as “written Arabic” called also "Modern Standard Arabic" (MSA) and Spoken Arabic appears partly or entirely in colloquial dialect and it is the language of everyday communication and has no written form. Although sharing a limited subgroup of words, the two forms of Arabic are phonologically, morphologically, and syntactically different. This added complexity is found in several characteristics that occur in both orthographies, but to a much larger extent in Arabic than in Hebrew. The latter has to do with orthography that includes letters, diacritics and dots. In the two orthographies some letters are represented by different shapes, depending on their placement in the word. Again, this is much less extensive in Hebrew than in Arabic. In Hebrew, there are five letters that change shape when they are word final: (מ, כ, פ, צ, נ). In Arabic, 22 of the 28 letters in the alphabet have four shapes each (for example, the phoneme /h/ is represented as: ح, ه, ه, ه). Thus, the grapheme-phoneme relations are quite complex in Arabic, with similar graphemes representing quite different phonemes, and different graphemes representing the same phoneme. Concerning dots in Hebrew, they occur only as diacritics to mark vowels and as a stress-marking device (dagesh). In the case of three letters, this stress-marking device (which does not appear in voiceless scripts) changes the phonemic representation of the letters from fricatives (v, x, f) to stops (b, k, p for the letters ב, ק, פ respectively). In the voiceless form of the script, these letters can be disambiguated by their place in the word, as only word or syllable initial placement indicates the stop consonant. In Arabic, the use of dots is more extensive: many letters have a similar or even identical structure and are distinguished only on the basis of the existence, location and number of dots (e.g., the Arabic letters representing /h/ and /n/ ن، ت) become the graphemes representing /th/ and /b/ (ب، د) by adding or changing the
number or location of dots.

Many studies have demonstrated bilinguals do not recognize written words exactly the same as monolinguals. For example, it was proven that visual word perception in L2 is affected by the native language of the reader (e.g., Wang, Koda, & Perfetti, 2003). However, the opposite is true as well: knowledge of L2 may have impact on the identification of printed L1 words was published by Bijeljac-Babic, Biardeau, and Grainger (1997). In comparative studies of different languages, there are two points of comparison: The speech and the writing system. Thus, in comparing Arabic and Hebrew reading, we compare examples of two related language families (Semetic languages) that are similar in their morphological structure but radically differ in their orthographic and phonetic systems. Recent studies on Hebrew (Frost, Deutsch & Forster, 1997) and Arabic (Mahadin, 1982) support the assumption that roots can be accessed as independent morphological units. Recent research in the area of speech perception has suggested that there are differences in the phonetic perception of the speech signal between native and nonnative speakers (for reviews see Flege, 1992). These findings suggest that adult second language learners perform an assimilation process by which they perceive and produce L2 sounds via their L1 phonological system, at least at some stage of L2 acquisition (e.g., Major, 1999).  It must be noted, however, that adaptation of phonetic features (categories) of L2 is a necessary component of second language (speech) acquisition, and, consequently, bilinguals who attain a high level of proficiency in their L2 are able to exploit the phonetic categories of that language in speech production and perception (Goetry & Kolinsky, 2000). Further evidence for assimilation process comes from a case study we described (Eviatar, Leikin, & Ibrahim, 1999) in which a Russian-Hebrew bilingual aphasic woman showed a dissociation between her ability to perceive her second language (learned in adulthood) when it was spoken by a native speaker versus when it was spoken by a speaker with an accent like her own. We interpret this as supporting the hypothesis that perception of second language (L2) sounds is affected by phonological categories of their native language (L1), and that this assimilation procedure can be differentially damaged, such that L2 speech that conforms to L1 phonology (accented speech) is better perceived than phonemically correct L2 speech. This interpretation is supported also by an interesting dissociation in the writing abilities of the patient.

Method

Participants

The participants were 48 high school seniors (24 boys and 24 girls). Half of them were instructed to make lexical decisions for visual stimuli, and the other half were instructed to make lexical decisions for the same stimuli presented orally. In addition, the participants were asked to fill out a 12 item
questionnaire in an attempt to assess the learning experience and degree of exposure to Arabic and Hebrew in both modalities. The responses were on a Likert scale with in general (a) being maximum exposure to a one language, (e) being maximum exposure to the other and (b c d) in moderate level of both. The questionnaire is presented in the Appendix. No subjects with neurological deficits or learning disabilities were chosen to participate in the study.

Stimuli

Ninety-six Arabic stimuli were used: 48 frequent words and 48 non-frequent words. The words were from among the subset used in both spoken and literary Arabic. Among them, 24 were high frequency, and 24 were low frequency. Ninety-six Hebrew stimuli were used: 48 frequent words and 48 non-frequent words. All pseudowords (96 in Arabic and 96 in Hebrew) were built on the basis of real words by replacing on or two letters keeping the pronunciation of the stimuli acceptable.

The stimuli were recorded in a male voice, native speaker of the local dialect, and were presented to the participants orally, through earphones. The words underwent computer processing, designed to equalize their volume, and their length, as much as possible (700 ms duration time, on the average). A computer was used to present the stimuli.

Procedure

The participants were requested to perform a lexical decision task. The stimuli were presented at a steady rate, and the SOA (Stimulus Onset Asynchrony) was 2000 milliseconds. In this task, participants pressed one key with their dominant-hand index finger for positive answers and pressed another key with their non dominant hand index finger for negative answers. In Arabic, because of the poor quality of computer fonts, calligraphic-written stimuli were used. In the visual test, the stimuli remained on the screen until a response had been given. Because the same stimuli were used for both auditory and visual task, different participants were tested for each task. Half of the participants began the session with Arabic, and the other half began with the session with Hebrew.

In the auditory test, it was explained to the participants that they were about to hear words and pseudowords in different languages, and they were to indicate, by pressing a button, whether the phonological string presented was a word. The dominant hand was used for the affirmative detection of a word and the other hand for the negative detection of a pseudo-word. Accuracy and speed were equally stressed. The experiments were conducted at the school in a relatively quiet classroom. Experimental instructions were given in Spoken Arabic at the beginning of the session. After this
session, the participants were asked to fill out a questionnaire assessing the learning experience and degree of exposure to Arabic and Hebrew in both modalities.

Results
Mean RTs for correct responses and percentage of errors were calculated separately for each participant for high- and low-frequency words and for pseudowords. RTs that were above or below two standard deviations from the participants' mean in each condition were excluded, and the mean was recalculated. About 2% of the trials were excluded by this procedure. The data presented in Table 1 show mean responses (RTs) and percentage of errors of 12 categories. All analysis were conducted twice, one when the pseudowords were part of stimuli and one for words only. For each task, we have analyzed the stimulus-type effect within subjects (FI) and between stimulus types (F2).

Table 1: Lexical decision performance for written and spoken words in literary Arabic and Hebrew. The order of the parameters is as follows: Reaction times (in millisecond); Standard Errors (...); Error rates (%).

<table>
<thead>
<tr>
<th>Stimulus type</th>
<th>Auditory presentation</th>
<th>Visual Presentation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hebrew</td>
<td>Literary Arabic</td>
</tr>
<tr>
<td>High-frequency</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1027 (18)</td>
<td>1053 (19)</td>
<td>753 (18)</td>
</tr>
<tr>
<td>3.0%</td>
<td>3.9%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Low-frequency</td>
<td>1452 (33)</td>
<td>1354 (31)</td>
</tr>
<tr>
<td>20.7%</td>
<td>17.2%</td>
<td>20.2%</td>
</tr>
<tr>
<td>Nonwords</td>
<td>1432 (27)</td>
<td>1352 (29)</td>
</tr>
<tr>
<td>11.0%</td>
<td>8.5%</td>
<td>12.1%</td>
</tr>
</tbody>
</table>

A 4-way ANOVA with a 2 (Modality: visual and auditory) x 2 (Language type: Arabic and Hebrew) x 3 (Lexicality: high- and low-frequency words and pseudowords) x 24 subjects was conducted for the 6 means for every subject when the effects of type of language and lexicality was tested within subject and the modality effect was tested between subjects. This analysis showed that lexical-decisions for all stimuli (words and pseudowords) were faster when they presented visually than when they presented orally ($F_1(1,46) = 96.08, \text{MSe}=73264, p < 0.001; F_2(1,756) = 1376.7, \text{MSe}=13150, p < 0.001$). The difference between the modalities was found significant in the analysis of words only ($F_1(1,46)=99.97, \text{MSe} = 46264, p < 0.001$). In contrast, the language of the stimuli did not influence
significantly the lexical decisions either when the analysis include pseudowords ($F_1(1,46) < 1; F_2(1,756) < 1$) and when the analysis include words only ($F_1(1,46) = 1.061, MSe = 7919, p = 0.308$).

In addition, decisions were significantly faster for high-frequency words than for low-frequency words either when the analysis include pseudowords ($F_1(1,46) = 466, MSe = 7328, p < 0.001; F_2(2,756) = 609, MSe = 13150, p < 0.001$,) and when the analysis for words only ($F_1(1,46) = 544.5, MSe = 9251, p < 0.001$). The interaction between the frequency variable and language variable differ in the visual modality than in the auditory modality. It was shown that the frequency effect in Hebrew is significantly larger in the auditory modality (171 ms) than in the visual modality while in Arabic the frequency effect is equal (14 ms). The 4-way ANOVA revealed a significant three way interaction ($F_1(1,46) = 42.759, MSe=2403, p < 0.001 ; F_2(1,756) = 8.6, MSe = 13150, p < 0.001$). This interaction was further elaborated by checking the one-way interaction analysis.

As can be noticed, the reaction times were faster for Hebrew than for Arabic when words were presented visually and little slower for Hebrew than for Arabic when the words were presented orally ($F_1(1,46) = 14.7, MSe = 7920, p < 0.001 ; F_2(1,756) = 40.4, MSe = 13150, p < 0.001$)]. Post-hoc comparisons (t-test) for these differences revealed that within each modality a significant effect was found in the visual modality [$t(23) = 2.91, p < 0.01$] and in the auditory modality [$t(23)=2.543, P<0.025$]. A second interaction was found to be significant for subject analysis between frequency effect and language ($F(1,46) = 5.04, MSe = 2403, p < 0.05$) but this interaction was not significant for the stimuli analysis ($F(1,756) = 1.84, MSe = 13150, p = 0.158$). A third interaction that was significant is between frequency effect and modality ($F_1(1,46) = 8.09, MSe = 9252, p < 0.01; F_2(1,756) = 8.6, MSe = 13150, p < 0.001$). This interaction effect is due to that the frequency effect was larger in the auditory modality than in the visual modality.

A different pattern was gained in the error rate analysis. A three-way interaction between Language, Lexicality and Modality was found to be non-significant ($F_1(1,46) < 1 ; F_2(2,754) < 1$). The main effects of Language and Modality are not significant [$F_1(1,46)<1 ; F_2(1,754) = 1.1, MSe = 105, p = 0.294$ and $F_1(1,46) < 1; F_2(1,754) = 2.74, MSe=105, p = 0.098$ respectively] but a simple main effect of Lexicality was significant [$F_1(1,46) = 89.34, MSe = 134, p < 0.001 ; F_2(1,754) = 117.7, MSe = 105, p < 0.001$]. The interaction between language and modality was also not significant [$F_1(1,46)=2.377, MSe = 22.4, p = 0.13 ; F_2(1,754) < 1$] suggesting that effect of modality was similar in both Arabic and Hebrew. Also, the interaction between Lexicality and Modality was not significant [$F_1(1,46) < 1; F_2(2,754) < 1$] suggesting that the frequency effect was similar in visual and auditory presentation.

In order to investigate how degree of exposure to both modalities interacts with language (L1, L2), the mean score over the 12 questions in the exposure questionnaire were entered into a correlation
analysis with the measure of reaction time for the 48 participants of Arab children. These relationships are illustrated in Table 2.

Table 2: Correlation co-efficients between measures of word perception (RTs) and level of exposure in different modalities. Only significant correlations are shown (p<.05) (n.s-not significant).

<table>
<thead>
<tr>
<th>Language</th>
<th>Frequency</th>
<th>X2</th>
<th>X3</th>
<th>X4</th>
<th>X5</th>
<th>X6</th>
<th>X7</th>
<th>X8</th>
<th>X9</th>
<th>X10</th>
<th>X11</th>
<th>X12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arabic</td>
<td>frequent</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
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</tr>
<tr>
<td></td>
<td>nonfrequent</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
<td>.50</td>
<td>.01</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
</tr>
<tr>
<td>Hebrew</td>
<td>frequent</td>
<td>n.s</td>
<td>n.s</td>
<td>n.s</td>
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<tr>
<td></td>
<td>nonfrequent</td>
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</tbody>
</table>

The analyses of the visual modality revealed a significant positive relationship between exposure to Hebrew and the reaction times of word perception as the correlations were significant in questions 10, 11 and 12. On the other hand, in Arabic such correlation was not found between exposure to language in this modality and speed of word perception. In regard to the auditory modality, an opposite pattern was gained. The correlation analyses between language (L1, L2) and speed of word perception revealed a significant relationship as can be seen in question 7 but no significant effect was found in Arabic.
Discussion

The goal of this study was to examine the level of competence in terms of reaction time and error rates in different languages and the impact of linguistic experience on the level of competence in those languages. In this study, the level of competence of native Arabic speakers in lexical decisions for words presented orally and visually in Literary Arabic and Hebrew was compared. The results showed that the processing of the two languages took on different patterns. Reaction times in lexical decisions to stimuli that were presented orally were longer than when presented visually and there was interaction between this factor and the language of the stimuli. Analysis of the interaction showed that, while the responses were generally faster in Hebrew in the visual forms (62 milliseconds), they were faster in Literary Arabic in the oral forms (36 milliseconds). The implication of this result is that students read more of the Hebrew and hear more of the Literary Arabic.

This explanation is supported by the results of the questionnaire distributed to the subjects and by analysis of the degree of exposure to the different languages in the two forms with the speed of identification (reaction time) of the words in the languages and the corresponding forms. These results indicated different patterns of impact for the two languages with respect to the speed of performance. From investigation of the usage of these languages, it becomes clear that the use of Literary Arabic for speaking within the school, and particularly in lessons (as seen in the results of the questionnaire), is more common than Hebrew. In informal discussions, the breadth of usage of the Hebrew language is greater in written literature. In science-based classes, for example (from which most of the study population comes), science lesson books which the teachers use for instruction and students for reading (and as part of their preparation for university) are in Hebrew, although the lessons are given in Arabic. In addition, the students are exposed to written Hebrew media, which is more common than media in the Arabic language. In contrast, the Arabic language is more common in oral form during class hours, as well as in street conversation, at home, and in the primary electronic media (radio and television). Regarding usage habits in the Arabic language, there is a deliberate and established trend in school policy to expand the usage of the literary language in speech to strengthen the roots of the Literary Arabic language amongst the population. This desire is emphasized in light of the continuing threat of the waning usage of the literary language and its decreasing usage among the Arab population, at least in our country. This interaction can be explained by the analysis of the level of exposure and the level of usage in these two languages and the level of competence (reaction times and accuracy measures) in the lexical decisions of the subjects. From the analysis, it appears that students with greater oral and spoken exposure levels and degree of usage in the Hebrew language had better oral competence (in reaction time and precision),
while students who use Literary Arabic more in oral and spoken forms had faster and more accurate performance in oral identification. A similar pattern of results was obtained in the visual forms as well.

This result corresponds with previous findings on the acquisition of a second language. These findings show clearly that the usage of visual forms is broader in the second language since this language is learned more on the basis of reading than on the basis of speech. In fact, in the case of acquisition of the Hebrew language by the Arabic speaker, usage of the visual forms is supported by the testimony of the teachers and students of the same population. This finding with respect to the different cognitive performance pattern in the second language is also reflected in the hemispheric performance level. According to the hypothesis of the stages of second language acquisition, the later the second language is learned (as is true for our population), the greater the involvement of the right hemisphere, and only when expertise in this language increases, involvement of the left hemisphere observed (Albert & Olber, 1978). A study that examined children in 7th, 9th and 11th grades, whose mother tongue is Hebrew and who learned English as a second language from grade 5, showed right visual field advantage (RVFA) with respect to Hebrew. With respect to English, there was left visual field advantage (LVFA) principally among 7th grade students, while the advantage completely disappeared by grade 11 (Silverberg, 1979). These findings support the theory of stages but are not sufficient to negate the theory that the right hemisphere is important for the initial learning of a second language.

Another result that sheds light on the impact of the usage of these languages on their cognitive standing relates to the frequency effect. The performance of the current study participants with infrequent words was especially slow, with longer reaction times to infrequent words than to non-words in oral presentation in Hebrew and visual presentation in Literary Arabic. This is an unusual result in lexical studies, which was also found in our previous study (Bentin & Ibrahim, 1996). Furthermore, the error rate was found to be larger with infrequent words than with non-words. A possible explanation for these findings is that participants’ mastery of the languages was not sufficient to recognize the infrequent words in a situation of rapid presentation and time pressure. It is worth noting that judges within the same population were familiar with the infrequent words, which suggests that the problem is with the level of command rather than knowledge itself. In addition, this study did not find an identical frequency effect in the two languages and the different forms. In other words, the pattern of the frequency effect in the visual and oral forms is not similar between the languages. In Hebrew, there is significant disparity between frequency effect in the oral form compared with the visual form, with the oral frequency effect in this language being greater. Activation models in oral word recognition, such as the "Cohort Model" (Marlsen Wilson, 1987),
assume that *lexical priming* increases as increasing parts of the word are sounded. Given that the initial activation level with a frequent word is greater than with an infrequent one and that the activation grows with the passage of time, maximum frequency effects are expected in cases of slower reaction time. Support for this assumption of the model comes from a study by Connine, Titone & Wang (1993), who examined the word frequency effect in the identification of orally presented words. In their study, they showed that in lists where there was a trend toward infrequent words (general reaction times were slow); the influence of the frequency effect was greater than with words that appeared in mixed lists. This evidence supports the fact that the frequency effect occurs in later stages in the identification of the spoken word. However, the fact that the frequency effect was greater in the Hebrew language than in Literary Arabic appears to be related to the initial low level of recognition more than to the oral words in Hebrew. This result of the current study strengthens the conclusion that the study participants were less accustomed to exposure to the Hebrew language in oral form.

From the analysis of error rates, it appears that the language effect is not significant. That is, beyond the presentation form of the language there was no difference in the error rate. Contrary to the significant effect of the form on reaction times, no significant impact was found in error rates. In contrast, as in the analysis of reaction times, a significant effect was found in the frequency factor. Despite these differences, the error analysis does not contradict the direction of reaction times and it supports some of them. Furthermore, the study results as expressed in average reaction time and error rates show that the study participants had similar mastery of Literary Arabic and Hebrew, which strengthens former research results that pointed to Literary Arabic being a second language similar to the Hebrew language (Ibrahim & Aharon-Peretz, 2005). By itself, independence of lexicons for Literary Arabic and Hebrew does not imply language-selective access. It is possible that both lexicons of a bilingual are activated simultaneously to the extent that the input matches representations within each lexicon (Van Heuven, Dijkstra, & Grainger, 1998).

In regard to reading, written symbols perceived during this process and processed by visual system must eventually be translated by the brain into sounds. Thus the auditory system which is responsible for receiving, filtering and storing sounds, becomes a likely contributor to both normal and abnormal reading processes. Due to this contribution, it is possible that deficits in dyslexia and other reading problems (like fluency in reading), are related directly to auditory deficits. There is a large empirical support for this contribution in the literature. An early study that investigated the development of grapheme-phoneme conversion ability in normal and reading-age matched dyslexic readers, postulated that dyslexics have a specific difficulty in grapheme-phoneme conversion (Snowling, 1980). In more recent study, second and sixth grade poor and normal readers attempted to retain
orally and visually presented target letters for 0, 4, or 10 seconds while they were shadowing letter names presented orally in rapid succession (Huba, Vellutino & Scanlon, 1990). Target letters sounded either similar or dissimilar to shadowing letters. Since shadowing presumably disrupted phonological encoding of the target stimuli, it was possible to evaluate reader groups’ auditory and visual retention ability when they could not rely on such encoding. Consistent with the phonological coding interpretation of individual differences in reading ability, normal readers were less accurate than poor readers in auditory target letter recall when phonological encoding was disrupted. Normal readers were inferior to poor readers in visual target recall as well. As expected, differences between reader groups in phonological encoding were more strongly indicated in second than sixth grade, suggesting that older poor readers’ sensitivity to phonological information is more like that of normal readers.

In series of studies using behavioral (Reaction Times - RT) and electrophysiological (Evoked Related Potentials - ERP) measures, Breznitz and her colleagues, examined differences between ‘regular’ and dyslexic adult bilingual readers when processing reading and reading related skills in their first (L1 Hebrew) and second (L2 English) languages (i.e. Breznitz & Meyler, 2003; Breznitz 2003a; Oren & Breznitz, 2005). In first study (Breznitz & Meyler, 2003) they investigated speed of processing (SOP) among college-level adult dyslexic and normal readers in nonlinguistic and sublexical linguistic auditory and visual tasks, and a nonlinguistic cross-modal choice reaction task. The results revealed that RT and ERP latencies were longest in the cross-modal task. In other words, the gap between ERP latencies in the visual versus the auditory modalities for each component was larger among dyslexic as compared to normal readers, and was particularly evident at the linguistic level. These results support the hypothesis that there is an amodal, basic SOP deficit among dyslexic readers. The slower cross-modal SOP is attributed to slower information processing in general and to disproportionate “asynchrony” between SOP in the visual versus the auditory system. It is suggested that excessive asynchrony in the SOP of the two systems may be one of the underlying causes of poor readers and dyslexics’ impaired reading skills. Our data in this study is in line of the data reported by Breznitz and her colleagues and support the ‘script dependent’ hypotheses by demonstrating universal deficits in L1 and L2 among regular and dyslexic readers along with differential manifestations of these deficits as a function of specific orthographic features. According to our results, the automatization deficit that underlies dyslexics and poor readers’ performance in reading is due at least partially, to the unique features of the languages and orthographies (Oren & Breznitz, 2005).

Conclusions
The whole findings of this study related to Arabic language in addition to findings from our recent studies (see. Eviatar, Leiken & Ibrahim, 1999; Ibrahim, Eviatar & Aharon Peretz, 2002; Eviatar, Ibrahim & Ganayim, 2004), support the notion that Arabic has unique features that contribute to the inhibition and slowness of the reading process. In that regard, the findings do not allow us to ignore the fact that a normal Arab child (and for a further extent dyslexic child), who encounters special difficulties in reading acquisition needs special pedagogical methods and systematical professional intervention to overcome these difficulties that the Arabic language imposes.

In addition, this study could shed light on the relationship between visual and auditory language mechanisms during reading of regular readers, and offer also new psycholinguistic evidence to understand the dynamics of processing two languages in bilingual. Specifically, it adds an important contribution to our understanding the role of aspects like modality, status of language (L1, L2) and characteristics of language in processing a specific language. Although our focus was on children with normal abilities (or poor readers) and not on children with abnormal abilities (dyslexics), the pattern of results obtained could consider applicable in some limited aspects to dyslexic populations since verbal information mechanisms are universal, but this awaits further clarification in future studies.

References


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Appendix

Language questionnaire

1. What is the official language at school?
   a. literary Arabic       b. spoken Arabic       c. Hebrew

   Answer question number 2 only if your answer to question 1 is a. or b.

2. What is the language that is spoken in lessons that are not language lessons?
   a. only spoken Arabic    b. mainly spoken Arabic  c. both spoken Arabic and literary Arabic at the same rate    d. mainly literary Arabic
3. In which rate do teachers speak the Hebrew language in lessons that are not Hebrew lessons?
   a. not at all   b. very little   c. moderately so   d. very much so   e. extremely much

4. To which extent do teachers demand speaking literary Arabic during lessons?
   a. not at all   b. very little   c. moderately so   d. very much so   e. extremely much

5. To which extent do you use Hebrew in your speech?
   a. not at all   b. very little   c. moderately so   d. very much so   e. extremely much

6. To which extent do you use literary Arabic in your speech?
   a. not at all   b. very little   c. moderately so   d. very much so   e. extremely much

7. In which language do you usually watch TV programs (entertainment, news etc.)?
   a. spoken Arabic   b. literary Arabic   c. both forms of Arabic   d. only Hebrew   e. both Hebrew and Arabic

8. In which language are the teaching books (which are not languages teaching books) written (mathematics, physics, chemistry, biology etc.)?
   a. only in literary Arabic   b. mainly in literary Arabic   c. in Hebrew and Arabic at the same extent   d. mainly in Hebrew   e. only in Hebrew

9. In which language do you read academic material?
   a. only in literary Arabic   b. mainly in literary Arabic   c. in Hebrew and Arabic at the same extent   d. mainly in Hebrew   e. only in Hebrew

10. In which language do you read unacademic materials (newspaper, magazines, reading books)?
    a. only in literary Arabic   b. mainly in literary Arabic   c. in Hebrew and Arabic at the same extent   d. mainly in Hebrew   e. only in Hebrew

11. In which language do you write letters to friends or messages and notes in the diary?
    a. only in literary Arabic   b. mainly in literary Arabic   c. in Hebrew and Arabic at the same extent   d. mainly in Hebrew   e. only in Hebrew

12. In which language do you read the subtitles that are shown in foreign movies in the Israeli broadcast stations?
    a. only in literary Arabic   b. mainly in literary Arabic   c. in Hebrew and Arabic at the same extent   d. mainly in Hebrew   e. only in Hebrew