



Communication Strategy Use in an Oral Narrative Task among English Learners with Different Hemispheric Brain Dominance

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Abstract

Certain functions are neurologically indicated to be lateralized to different brain hemispheres. Among numerous studies on impacts of communication strategy use and brain dominance on second language learning, only a small number of them, specifically in the Thai context, comprehensively explore possible relationships between learners' communication strategy use and their brain dominance. This paper aimed at exploring the communication strategy choices in an oral narrative task applied by English learners with different hemispheric brain dominance and discovering their different uses. The sample included 100 EFL Thai undergraduates. The instruments covered the Brain Dominance Inventory (BDI), a 4-picture series, retrospective comments, and semi-structured interviews. The study was based on Dörnyei and Scott (1997)'s communication strategy taxonomy. Descriptive statistics and Kruskal Wallis Test were applied in data analysis. The findings indicated that the whole-brained learners were the highest users of message replacement, restructuring, all-purpose words, mumbling, self-rephrasing, fillers and verbal strategy markers. All of these belong to achievement strategies. The left-brained learners most preferred message abandonment, which is an avoidance strategy, literal translation, retrieval, omission, and self-repetition. The right-brained learners most frequently used message reduction, which is the other avoidance strategy, circumlocution, approximation, mime, similar sounding words, and self-repair. Code switching was equally highly applied by both the left-brained and the right-brained learners.

Keywords: communication strategies, brain dominance, oral narrative task

Introduction

Language learners with poor linguistic competence face difficulties during their communication, sometimes resulting in communication failure. Consequently, learners seek strategies to bridge the gap between their linguistic and communicative competences. Individuals' communication strategies vary according to different factors, among which is hemispheric brain dominance. It is neurologically indicated that certain functions are lateralized to different brain hemispheres upon the maturity of the human brain (Brown, 2000). Accordingly, brain hemispheric functioning plays a vital role in the process of language acquisition. The hemispheric brain construct is beneficial to second language acquisition in defining second language learners' learning styles based on their brain hemispheric dominance. It reflects a feature of the learner, resulting in their learning strategies, while a feature of the language brings about communication strategies (Bialystok, 1982).



Communication strategies relate to cognitive processes presented in different communication strategy taxonomies, specifically those which are based on the cognitive approach placed within a psycholinguistic framework. Among them are Færch and Kasper's (1983) speech model covering two phases: *a planning phase* and *an execution phase*, and Kellerman and Bialystok's (1997) model of language proficiency consisting of two processing components: *analysis of knowledge* and *control of processing*. Brain hemispheric functioning, accordingly, seems to affect the learner's communication strategy use. This assumption was the impetus for a larger number of studies on the relationship between language learners' brain hemispheric dominance and their communication strategy use.

Literature review

Definitions and classifications of communication strategies

First raised by Selinker (1972), communication strategy (CS) is a component of communicative competence (Dörnyei & Thurrel, 1991). Many prominent researchers define CS differently according to their perspectives. In the traditional perspective, Tarone (1977), Færch and Kasper (1983), Ellis (1997) and Saville-Troike (2006) define CS as a communicative device applied when trying to overcome linguistic deficiency in the second language (L2) in order to reach a particular communicative goal. A few years later Tarone introduced a broader definition in the interactional perspective where CS is considered as a tool for interlocutors used in jointly negotiating meaning (Dörnyei & Scott, 1997). Brown (2000) suggests CS based on the perspective of error resources for he views it as the process of interlingual transfer.

From the extended perspective, Dörnyei and Scott (1997) extend previous CS definitions by including "every potentially intentional attempt to cope with any language-related problem of which the speaker is aware during the course of communication (p.179)". Reviewing nine different CS taxonomies, Dörnyei and Scott (1997) discover many similarities in spite of significantly varied terminologies and specificity levels. For example, "reduction strategies" (Varadi, 1973; Færch & Kasper, 1983), "avoidance strategies" (Tarone, 1977), and "message adjustment strategies" (Corder, 1981) share the common aim of preparing one's message based on one's resources by changing, reducing or leaving the original content (all cited in Dörnyei and Scott, 1997). They suggest their updated taxonomies which integrate their first four classifications communication problems (resource deficit, processing time pressure, own performance of problems, and other performance problems) with three basic categories (direct, indirect, and interactional strategies). Accordingly, in their latest taxonomies, each subcategory includes the same four types of communication problems with different subtypes. As this study focuses on learners' one-way productive communication strategies used in an oral narrative task, interactional strategies are excluded from the discussion in this part.

A. Direct strategies

Learners, with deficiency in their communicative resources, might use various types of problem-solving strategies including message abandonment, message reduction, message replacement, circumlocution, approximation, use of all-purpose words, word-coinage, restructuring, literal translation, foreignizing, code switching, use of similar sounding words, mumbling, omission, retrieval and mime. They might adopt the means of either self-rephrasing or self-repair on their own performance

problems. Most traditional communication strategies are found in this category.

B. Indirect strategies

To process time pressure, learners might use fillers or repeat what they utter. Aware of their own performance problems, they can use verbal strategy markers. Indirect strategies focus on facilitation of conveyance of meaning directly to prevent communication breakdowns, rather than providing alternative expressions of intended meanings.

Hemispheric dominance and learning of English

Brain hemispheric dominance refers to different functioning of left and right cerebrals which significantly affects learning style and strategies (Brown, 2000). Left hemispheric dominant learners are field-independent, with logical and analytical thoughts, preference of talking, writing, multiple-choice tests, logical problem solving, and planned and structured processing information. They are good at mathematics, controlling feelings and remembering names, and poor at interpreting body language with rare use of metaphors. In contrast, right-brained learners are field-dependent, processing holistic, integrative and emotional information. With good synthesis, they prefer open-ended questions and intuitive problem solving. They are good at interpreting body languages and remembering faces. They can learn more efficiently through demonstration. Previous studies discover significant relations between brain hemispheric dominance and achievements in learning of English. Oflaz (2011) and Ashraf et al. (2014) are consistent as they find that left-brained learners perform well in their reading comprehension because they are good at applying logic to solve problems. On the other hand, learners with right brain dominance successfully achieve in vocabulary and writing tests due to their excellent response to demonstrations and responses (Oflaz, 2011). In agreement with the previous study, Weisi and Khaksar (2015), who investigated relationships between Iranian EFL learners' brain hemispheric dominance and their creativity in EFL writing, discovered that the right-brained learners could perform better. According to Mireskandari and Alavi (2015), language learners with different brain hemispheric dominance were not significantly different in their spoken communication strategies. However, significant difference was discovered in their use of specific compensatory of speaking strategies, that is, whole-brained learners applied compensatory communication strategy differently from left-brained and right-brained ones.

Task types and communication strategy use

A learning task is basically defined as a classroom activity with goal orientation (Ellis, 2003; Nunan, 2006; Oxford, 2006), involving learners' comprehension, production, and interaction in the target language (Towndrow, 2007). It encourages learners to use the target language with a more focus on the conveying of meaning rather than on the practice of form (Ellis, 2003; Nunan, 2006). Task-based learning activity can improve learners' language proficiency, specifically their speaking skills (Lochana & Deb, 2006 cited in Rohani, 2011). It also promotes learners' greater use of positive communication strategies, with less use of reduction and abandonment strategies which are considered negative (Rohani, 2011). Ghout-Khenoune (2012) discovers that learners try to use the target language more frequently in communicative tasks: writing and speaking, rather than retrieving communication strategies rooted in their learned language. It is additionally found that learners' communication strategies vary with each different task. They apply more interlingual-based strategies than



L1/L2-based strategies in their picture description task (Ghout-Khenoune, 2012).

Among studies on EFL learners' oral communication strategies, hemispheric brain dominance has been rarely taken into consideration. In addition, investigations of communication strategies through oral narrative tasks, which are more authentic than questionnaires, have been scarcely conducted. Specifically, these topics have never been studied among Thai EFL participants whose mother tongue is Pattani-Malay, a Malay dialect, some words of which are similar to English. To fill these gaps, the present study aimed to explore communication strategies applied by Thai EFL learners with different brain hemispheric dominance in an oral narrative task. Findings will promote more understanding of differences in learners' communication strategy use possibly resulting from different hemispheric brain patterns. This comprehension could later initiate more varieties of learning activities promoting learners' more effective oral communication strategies.

Research questions

Based on the above purpose of the study, the following questions were raised:

1. What communication strategies are used by left-brained, right-brained and whole-brained English learners in an oral narrative task?
2. Are there any differences in communication strategies used by English learners with different hemispheric brain dominance in an oral narrative task? If so, how and to what extent?

Methodology

Participants

Of a population of 134 third and fourth-year Thai EFL undergraduates, of academic year 2015, majoring in English at a private university in southern Thailand, 100 students were drawn and stratified by brain hemispheric dominance. Their average language proficiency was at the elementary level (A2) based on their scores of the Oxford's Quick Placement Test. The majority of them were Pattani-Malay-native speakers residing in the three southernmost provinces of Thailand, while a smaller number was from the other provinces of the country speaking Thai as their mother tongue.

Instrumentation

In the present study, data were collected by using (1) the Brain Dominance Inventory (BDI), (2) a four-picture series, (3) retrospective comments, (4) semi-structured interviews, and (5) Dörnyei and Scott (1997)'s communication taxonomy.

The Brain Dominance Inventory (BDI), widely used and accepted in previous studies on brain hemispheric dominance (Dulger, 2012; Kok, 2013; Mireskandari & Alavi, 2015), was a modified version of Davis et al. (1994) which was originally in English and translated into Thai to avoid participants' misunderstanding or misconception of the items in the survey. The inventory including 39 items with three options each was used to determine if the respondent was primarily left-brain, right-brain, or bi-lateral dominant.

A narrative task material was a free-copyrighted four-picture series presented in the correct order and formed a coherent storyline. The pictures depicted a man, a woman, a baby in a baby carriage and a cow eating grass. The setting was at the

backyard of a house. The man was asked by the woman to bottle feed the baby. The milk was up and the baby needed more milk so the man solved the problem by attaching a rubber tube to the cow breast. The fourth picture presented a humorous sense.

For more in-depth investigation of the phenomenon of the participants' communication strategy use in an oral narrative task, the participants were asked to write their retrospective comments in the given form immediately after they completed their task.

Finally, to probe for the participants' use of communication strategies including avoidance strategies in an oral narrative task, video-stimulated recall interviews were conducted at the final stage with 12 participants purposively drawn based on their video-recorded task performance and retrospective comments.

These all 4 instruments were previously validated and tested for their practicality and appropriateness by a panel of three experts: two in the Second Language Acquisition and one in Testing. The communication strategy taxonomy was inter-rated by three raters in the pilot study with 30 pilot participants' video scripts. The inter-rater reliability (IRR) was 80.95%.

Procedure

To have three homogeneous brain groups of 100 participants, the BDI was administered to 136 English major undergraduates. Purposively drawn and categorized into three strata: 26 left-brained learners, 22 whole-brained learners, 52 right brained learners, the total of 100 participants performed an oral narrative task individually with the researcher. Given four pictures numbered orderly with clear instructions, the participants have two minutes to prepare a narration of the event in the picture, and three minutes later to tell a story in the picture series. The narration was video recorded.

Upon completing the task, they went to a next-door room prepared for a retrospective comment session for a more in-depth investigation of the phenomenon of using their communication strategies. They filled in a form of retrospective comment about their linguistic problems they had faced during performing the task and their immediate solutions. Time is not limited for this session. Then they left the room without meeting their friends waiting outside to prevent telling what activity they had done. These steps were facilitated by a research assistant.

After that all of narrations were transcribed and all of communication strategies were identified by the researcher. Finally, a few weeks later, 12 participants, four of each brain pattern, with the widest use of their communication strategies were drawn for joining the video-stimulated recall interview. Quantitative data obtained from identified communication strategies elaborated with qualitative data from retrospective comments and stimulated recall interviews were analyzed using the SPSS software.

Results

Communication strategy use in an oral narrative task

To identify communication strategies (CS) applied by the participants in performing an oral narrative task, the video scripts elaborated by the data from the retrospective comments were rated and tallied into the CS taxonomy. Descriptive statistics of overall participants' communication strategy use in Table 1 showed large gaps of CS use among most and least frequently used strategies. An individual's



maximum use of overall strategies was 54 times, a minimum use was 2 times. Word-coinage and foreignizing strategies were not found. Indirect achievement strategies: use of fillers ($\bar{X} = 9.14$) and self-repetition ($\bar{X} = 4.10$) were most frequently used. The third and fourth frequency rankings fell into direct avoidance strategies: message reduction ($\bar{X} = 0.87$) and message abandonment ($\bar{X} = 0.84$), respectively. However, they were closely followed by another three direct achievement strategies including approximation ($\bar{X} = 0.81$), self-repair ($\bar{X} = 0.81$) and literal translation ($\bar{X} = 0.78$), respectively.

Communication strategy use by hemispheric brain dominance

To discover use of communication strategies in an oral narrative task by three learner groups categorized by their hemispheric dominance: left-brained, right-brained, and whole-brained, the data were analyzed using descriptive statistics. Overall, shown in Table 1, communication strategies were more applied by the whole-brained and the left-brained learners ($\bar{X} = 22.64$, S.D. = 13.00 and $\bar{X} = 21.50$, S.D. = 7.58, respectively) than the right-brained learners ($\bar{X} = 17.63$, S.D. = 8.99). Similarly, the achievement, the direct, and the indirect strategies were found more highly used among the whole-brained and the left-brained learners than their right-brained counterparts. The reverse, however, was shown in the avoidance strategies where the right-brained learners became the highest users ($\bar{X} = 1.79$, S.D. = 1.24), very closely followed by the left-brained ($\bar{X} = 1.69$, S.D. = 1.41) and the whole-brained ($\bar{X} = 1.55$, S.D. = 1.06) learners.

Table 1

Descriptive Statistics of Hemispheric Brain Dominance on Communication Strategy Use

Strategies	Total (n=100)		Left-brained learners (n=26)		Right- brained learners (n=52)		Whole- brained learners (n=22)			
	Minimum Use	Minimum Use	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
1. Avoidance Strategies										
<i>1.1 Direct Strategies</i>										
Message abandonment	0	5	0.84	1.16	1.08	1.38	0.73	1.10	0.82	1.01
Message reduction	0	5	0.87	0.84	0.62	0.75	1.06	0.89	0.73	0.70
2. Achievement Strategies										
<i>2.1 Direct Strategies</i>										
Message replacement	0	3	0.32	0.65	0.38	0.70	0.21	0.57	0.50	0.74
Circumlocution	0	1	0.09	0.29	0.04	0.20	0.13	0.34	0.05	0.21
Approximation	0	3	0.81	0.76	0.77	0.71	0.83	0.73	0.82	0.91
Word-coinage	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Restructuring	0	2	0.20	0.51	0.23	0.59	0.12	0.38	0.36	0.66
Literal translation	0	4	0.78	0.98	0.85	1.05	0.73	0.84	0.82	1.22
Foreignizing	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Code switching	0	2	0.10	0.39	0.12	0.43	0.12	0.43	0.05	0.21
Retrieval	0	5	0.24	0.71	0.42	0.81	0.23	0.78	0.05	0.21

Strategies	Total (n=100)				Left-brained learners (n=26)		Right- brained learners (n=52)		Whole- brained learners (n=22)	
	Minimum Use	Minimum Use	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.	\bar{X}	S.D.
Mime	0	1	0.09	0.29	0.04	0.20	0.12	0.32	0.09	0.29
Use of all- purpose words	0	6	0.49	0.93	0.50	0.91	0.38	0.63	0.73	1.42
Use of similar sounding words	0	3	0.16	0.53	0.15	0.46	0.17	0.58	0.14	0.47
Mumbling	0	1	0.05	0.22	0.04	0.20	0.04	0.19	0.09	0.29
Omission	0	2	0.08	0.31	0.15	0.37	0.04	0.19	0.09	0.43
Self-repair	0	6	0.81	1.25	0.77	1.11	0.87	1.36	0.73	1.20
Self-rephrasing	0	2	0.33	0.55	0.27	0.53	0.29	0.46	0.50	0.74
2.2 Indirect Strategies										
Self-repetition	0	18	4.10	4.16	4.50	4.43	3.77	3.59	4.41	5.14
Use of fillers	0	34	9.14	6.85	10.42	5.14	7.67	6.33	11.09	9.00
Verbal strategy markers	0	5	0.24	0.75	0.15	0.61	0.13	0.40	0.59	1.30
Overall strategy	2	54	19.74	9.85	21.50	7.58	17.63	8.99	22.64	13.00
Avoidance strategies	0	5	1.71	1.24	1.69	1.41	1.79	1.24	1.55	1.06
Achievement strategies	1	53	18.03	10.03	19.81	7.67	15.85	9.19	21.09	13.18
Direct strategies	1	14	6.26	2.66	6.42	2.44	6.06	2.35	6.55	3.54
Indirect strategies	0	41	13.48	8.68	15.08	6.51	11.58	7.89	16.09	11.57

Upon consideration of the use of specific communication strategies, message replacement, restructuring, all-purpose words, mumbling, self-rephrasing, fillers and verbal strategy markers, all belonging to achievement strategies, were most highly used by the whole-brained learners. Message abandonment, an avoidance strategy, literal translation, retrieval, omission, and self-repetition were most frequently applied by the left-brained learners. Message reduction, the other avoidance strategy, circumlocution, approximation, mime, similar sounding words, and self-repair were most highly applied by the right-brained learners. Code switching was equally highly applied by the left-brained and the right-brained learners.

Due to abnormal distribution of data, the Kruskal Wallis Test was carried out to explore differences in communication strategies used by the English learner participants with different hemispheric brain dominance in an oral narrative task. Table 2 indicated that only message reduction (Chi-square = 6.602, $p = 0.04$) and use of fillers (Chi-square = 6.024, $p = 0.05$) strategies were applied differently among the left-brained, the right-brained and the whole-brained learners. The message reduction strategy was quite similarly applied by the left-brained ($\bar{X} = 0.62$, S.D. = 0.75) and the whole-brained ($\bar{X} = 0.73$, S.D. = 0.70) learners, while the right-brained learners' application ($\bar{X} = 1.06$, S.D. = 0.89) became nearly double of their counterparts. The reverse was presented in the use of fillers strategy which was much less frequently applied by the right-brained learners ($\bar{X} = 7.67$, S.D. = 6.33) than the other two groups who possessed similar applications.

**Table 2**

Kruskal Wallis Test of Hemispheric Brain Dominance on Communication Strategy Use

Strategies	Left-brained learners (n=26)		Right-brained learners (n=52)		Whole-brained learners (n=22)		Kruskal Wallis Test	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Chi-Square	Asymp. Sig.
Message reduction	0.62	0.75	1.06	0.89	0.73	0.70	6.602*	0.04
Use of fillers	10.42	5.14	7.67	6.33	11.09	9.00	6.024*	0.05

* $p \leq 0.05$

Discussion

This study specifically aimed at investigating differences in communication strategy use among the left-brained, the right-brained and the whole-brained learners in oral narration of a 4-picture series. The above findings indicated a vital role of brain hemispheric dominance in learners' application of communication strategy choices when performing the oral narrative task. The learners with left brain dominance most frequently applied message abandonment, literal translation, retrieval, omission, and self-repetition strategies. The right-brained learners, on the other hand, most frequently used message reduction, circumlocution, approximation, mime, similar sounding words, and self-repair strategies. The whole-brained learners were reported the highest users of fillers, all-purpose words, verbal strategy markers, message replacement, self-rephrasing and restructuring strategies. Different hemispheric brain dominance indicates differences in individuals' cognitive styles. These differences could be clarified by hemispheric brain functions.

Word retrieval and literal translation mainly function in the left hemisphere which is specialized in speech and sequential procedures (Sousa, 2002). According to Price (2012) cited in Ries, Dronkers & Knight, (2016), word retrieval is associated with left hemisphere regions of the frontal and temporal lobes. Literal translation involves morpho-syntactic procession of the word in the first language and needs sequential information processing. Left-brained learners show judgement based on analytical process. These cognitive styles result in left-brained learners' most frequent use of the word retrieval and the literal translation strategies.

Right-brained learners are good at interpreting body language; hence, they use mime to explain their narration. Additionally, circumlocution and approximation strategies are associated with the right hemispheric functioning on sentence processing and semantic integration (Mashala et al., 2008).

Learners with whole-brain dominance have more flexible function of hemispheres. That is, both left and right hemispheres function collaboratively. They try the best to achieve a communicative goal. Their applied strategies include message replacement, restructuring, use of all-purpose words, mumbling, self-rephrasing, use of fillers and verbal strategy markers, all of which belong to achievement strategies.

Learners of different hemispheric brain patterns applied message reduction and fillers strategies differently. The left-brained and the whole-brained learners share similar tendency of using these two strategies. On the other hand, the right-brained learners' use was shown distinctively different. It is interesting to further explore influential factors to this phenomenon.

Implications and suggestions for further research

Implications

This study raises some pedagogical implications in relation to learning activities in an English speaking class. Teachers should design various speaking activities and tasks to facilitate and suit learners of different brain hemispheric dominance which is invisible from their physical appearance but clearly noticeable from their empirical performance. Left-brained learners with analytical thinking need time for processing sequential information. Impromptu speaking tasks are not much suitable for them and possibly result in their poor performance. Right-brained learners with creative ideas enjoy telling a story according to their imagination. Accordingly, speaking task types and topics should be varied and not orientating to specific brain dominance. To encourage students to speak fluently and naturally both in class and out of class, proper use of communications strategies should be introduced to them (Færch and Kasper, 1983). When facing linguistic problems during performing a speaking task, they should be encouraged to apply message replacement, restructuring, all-purpose words, mumbling, self-rephrasing, fillers and verbal strategy markers, which are all achievement strategies. Highly used by whole-brained learners, these strategies function in the bilateral hemispheres. Individual students of different hemispheric dominance can mutually enjoy practicing the strategies. At the same time, the message abandonment and the message reduction strategies should be gradually and naturally eliminated from left-brained and right-brained learners, respectively, through various collaborative speaking tasks. For example, oral narrative tasks with impromptu and prepared situations can be assigned to students working in pairs and in groups. First, individual learners might do a brain dominance inventory and assess their own weak and strong communication strategies. Then the learners with different brain dominance and weak and strong communication strategies pair off to practice speaking tasks. This might help to improve their weak achievement strategies individually.

Suggestions for further research

The findings of the present study are inconsistent with many previous studies. However, there are some limitations in the study which might influence the results. Use of different length of time, with a maximum of 3 minutes, in the oral narrative task could affect frequency of communication strategy use. A future study should specify equal time length for task completion. For example, each participant might need to take 2 minutes to finish a narration. Given the control on time length for task completion, a replication of this study is worth pursuing for the confirmation of its results. It is also interesting to further explore communication strategy use among English learners who share the same hemispheric dominance but with different language proficiency. Up to this point, it is not known whether low left-brained proficient and high left-brained proficient learners use the same communication strategies.



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References

- Ashraf, H., Yazdi, M.T. & Kafi, Z. (2014). The relationship between Iranian EFL students' brain dominant quadrants and reading comprehension skill. *Procedia -- Social and Behavioral Sciences*, 98, 292-296.
- Bialystok, E. (1982). Some factors in the selection and implementation of communication strategies. In C. Færch & G. Kasper (eds), *Strategies in Interlanguage Communication* (pp. 20-60). New York: Longman.
- Brown, H.D. (2000). *Principles of language learning and teaching*. (4th ed). NY: Longman.
- Dörnyei, Z. & Scott, M.L. (1997). Communication strategies in a second language: definitions and taxonomies. *Language Learning*, 47(1), 173-210.
- Dörnyei, Z. & Thurrel, S. (1991). Strategic competence and how to teach it. *ELT Journal*, 45(1), 16-23.
- Dulger, O. (2012). Brain dominance and language learning strategy usage of Turkish EFL learners. *Cognitive Philology*, 5. Retrieved from <http://ojs.uniroma1.it/index.php/cogphil/article/view/10131/10054>
- Ellis, R. (1997). *Second language acquisition*. Oxford: Oxford University Press.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Færch, C. & Kasper, G. (1983). Plans and strategies in foreign language communication. In C. Færch & G. Kasper (eds), *Strategies in Interlanguage Communication* (pp. 20-60). NY: Longman.
- Ghout-Khenoune, L. (2012). The effect of task type on learners' use of communication strategies. *Procedia -- Social and Behavioral Sciences*, 69, 770-779. doi:10.1016/j.sbspro.2012.11.472
- Kellerman, E. & Bialystok, E. (1997). On psychological plausibility in the study of communication strategies. In C. Kasper & E. Kellerman (eds), *Communication Strategies* (pp. 31-48). London: Longman.
- Kok, I. (2013). Listening comprehension achievement and brain dominance. *Procedia -- Social and Behavioral Sciences*, 122, 329-334. doi:10.1016/j.sbspro.2014.01.1348

- Mashala, N., Fausta, M., Hendlerc, T., & Jung-Beemane, M. (2008). Hemispheric differences in processing the literal interpretation of idioms: converging evidence from behavioral and fMRI studies. *Cortex XXX, 1*, 1-13. Retrieved from http://groups.psych.northwestern.edu/mbeeman/documents/Mashal_etal_Cortex08.pdf
- Mireskandari, N. & Alavi, S. (2015). Brain dominance and speaking strategy use of Iranian EFL learners. *International Journal of Applied Linguistics and English Literature, 4*(3), 72-79. doi:10.7575/aiac.ijalel.v.4n.3p.72
- Nunan, D. (2006). Task-based language teaching in the Asia context: defining 'task'. *Asian EFL Journal, 8*(3), 12-18.
- Oflaz, M. (2011). The effect of right and left brain dominance in language learning. *Procedia -- Social and Behavioral Sciences, 15*, 1507-1513. doi:10.1016/j.sbspro.2011.03.320
- Oxford, R. (2006). Task-based language teaching and learning: An overview. *Asian EFL Journal, 8*(3), 94-121. Retrieved from <http://www.idemployee.id.tue.nl/g.w.m.rauterberg/amme/oxford-2006.pdf>
- Ries, S., Dronkers, N., & Knight, R. (2016). Choosing words: Left hemisphere, right hemisphere, or both? Perspective on the lateralization of word retrieval. *Analysis of the New York Academy of Sciences, 1-21*. Retrieved from http://knightlab.berkeley.edu/statics/publications/2016/01/15/Ries_et_al-2016-Annals_of_the_New_York_Academy_of_Sciences.pdf
- Rohani, S. (2011). Impact of task-based learning on Indonesian tertiary EFL students' employment of oral communication strategies. *The International Journal of Interdisciplinary Social Sciences, 5*(10), 85-101. Retrieved from <http://eds.b.ebscohost.com/eds/pdfviewer/pdfviewer?sid=5daa9b38-a836-40e3-82ee-761e172c53aa%40sessionmgr104&vid=0&hid=112>
- Saville-Troike, M. (2006). *Introducing second language acquisition*. Cambridge: Cambridge University Press.
- Sousa, A. (2002). *How the gifted brain learns*. California: Sage Publications.
- Tarone, E. (1977). Conscious communication strategies in interlanguage: A progress report. In H.D. Brown, C.A. Yorio & R.C. Crymes (eds), *On TESOL '77* (pp. 194-203). Washington: TESOL.
- Towndrow, P.A. (2007). *Task design, implementation and assessment: Integrating information and communication technology in English language teaching and learning*. Singapore: McGrawhill.
- Weisi, H. & Khaksar, Z. (2015). The effect of hemispheric dominance on Iranian EFL learners' creativity in writing. *International Journal of English and Education, 4*(2), 383-397. Retrieved from http://ijee.org/yahoo_site_admin/assets/docs/36.8843519.pdf