

ABSTRACT

Brain-based learning (BBL) has the potential to improve learner's engagement and learning outcome in English Language learning. While many studies have been conducted in various parts of the world, studies on BBL in Malaysia especially in relation to English language learning is scarce. The problem examined in this study was two-fold. First, previous studies in the Malaysian ESL literature component lessons revealed that the lessons were considered uninteresting and did not sufficiently engage the learners. Although teachers have been trained in BBL, there has been little to no follow-up concerning if and how they are implementing brain-based strategies. Despite claims that brain-based learning strategies improve learner success, the extent to which teachers implement brain-based strategies in different contexts is unknown. Second, previous BBL studies conducted in Malaysia is currently limited to other school subjects. There appears to be a lack of research on Malaysian low ability ESL learners' performance and responses after BBL implementation. This study intends to narrow these gaps, and the aim is to investigate the use of BBL strategies among low ability Malaysian ESL learners. The theoretical and conceptual framework was adapted from BBL and Constructivist learning principles. The design for this study was both quantitative and qualitative. The quantitative described the 150 upper secondary school low ability L2 learners' performance in a literature response writing test. The qualitative design employed semi-structured interviews and classroom observations. Six ESL teachers teaching these learners were also involved. The non-participant classroom observation and semi-structured interviews were conducted to these six teachers. Separate interviews were also conducted to three learner focus groups. After a six-week BBL implementation, a pair samples t-test showed that there was a statistically significant improvement in the literature component essay writing scores from the pretest ($\underline{M}$ =2.45,

SD=1.50) to the post-test (M=5.35, SD=2.40), $t(149) = -15.48, p < .05$. An inductive thematic analysis on the classroom observations and the participants' responses revealed that there were positive responses to the four BBL theoretical components of this study's framework—experiential learning, individual differences, search for meaning through patterning and the brain processes the whole and parts simultaneously. However, two components - learning that is low in threat but high in challenge and positive social interactions yielded mixed responses. The negative responses were largely attributed to the learners' limited ESL proficiency. This study indicates that BBL was able to enhance low ability ESL learners' writing performance, meaningful learning, and active learning engagement.

Keywords: Experiential learning, meaningful patterning, individual differences, classroom social interaction and neuroscience in L2 learning

Penggunaan Strategi Pembelajaran Berasaskan Fungsi Otak Dalam Pengajaran Komponen Sastera Kepada Pelajar Bahasa Inggeris Sebagai Bahasa Kedua Yang Berkeupayaan Rendah

ABSTRAK

Pembelajaran berasaskan fungsi otak (Brain-based Learning) atau BBL berpotensi untuk meningkatkan penglibatan aktif dan keberhasilan pembelajaran murid. Kajian ini meneliti dua pernyataan masalah. Pertama, kajian terdahulu berkaitan dengan kelas komponen sastera Bahasa Inggeris sebagai bahasa kedua (ESL) mendapati sesi pembelajaran tidak menarik dan kurang melibatkan murid. Walaupun guru telah dilatih dalam penggunaan BBL, setakat ini tiada atau terlalu sedikit tindakan susulan mengenai apakah dan bagaimanakah guru melaksanakan strategi BBL di dalam kelas. Sesungguhnya ada dapatan yang menunjukkan BBL mampu meningkatkan hasil pembelajaran murid, namun sejauh mana guru melaksanakannya dalam konteks berbeza belum lagi diketahui. Kedua, kajian terdahulu yang dijalankan di Malaysia setakat ini adalah terhad kepada mata pelajaran yang lain di sekolah. Oleh yang demikian, ternyata sekali terdapat kekurangan kajian mengenai prestasi dan respons murid ESL yang berkeupayaan rendah selepas pelaksanaan BBL di Malaysia. Kajian ini berhasrat untuk merapatkan dua jurang tersebut dan tujuannya ialah untuk mengaji penggunaan strategi BBL di kalangan murid ESL berkeupayaan rendah. Rangka kerja teoretikal kajian ini diadaptasikan daripada prinsip-prinsip BBL dan pembelajaran konstruktivis dalam kelas bahasa yang kedua. Kajian ini menggunakan reka bentuk kajian kuantitatif dan kualitatif. Kuantitatif meneliti prestasi 150 murid berkeupayaan rendah dalam ujian penulisan komponen sastera mata pelajaran Bahasa Inggeris. Enam guru yang mengajar murid tersebut juga terlibat dalam kajian ini. Kajian kualitatif pula menggunakan pemerhatian di dalam kelas tanpa penglibatan langsung penyelidik dan temu ramah separa struktur untuk semua guru dan kumpulan fokus murid. Selepas intervensi BBL

selama enam minggu, analisis keputusan pair samples t-test menunjukkan peningkatan signifikan markah penulisan essay secara statistik dari ujian pra ($\underline{M}$ =2.45, $\underline{SD}$ =1.50) ke ujian pos ($\underline{M}$ =5.35, $\underline{SD}$ =2.40), $t(149) = -15.48, p < .05$. Analisis secara induktif bertema sesi temu ramah dan pemerhatian di dalam kelas menunjukkan respons positif guru dan murid secara keleseluruhan dalam enam komponen kerangka teori kajian ini – “pembelajaran berasaskan pengalaman, perbezaan individu, “search for meaning through patterning, and the brain processes the whole and parts simultaneously”. Walau bagaimanapun, terdapat dua komponen yang menghasilkan respons berbeza – pembelajaran seharusnya rendah dari segi ancaman tetapi tinggi dengan cabaran dan interaksi sosial yang positif. Punca respons negative adalah berkaitan dengan tahap penguasaan murid yang terhad terhadap penggunaan Bahasa Inggeris. Kajian ini telah menunjukkan bahawa BBL mampu meningkatkan prestasi penulisan murid ESL berkeupayaan rendah, pembelajaran bermakna dan penglibatan aktif murid.

Kata kunci: Pembelajaran berasaskan pengalaman, pembelajaran bermakna, perbezaan individu dalam pembelajaran, interaksi sosial dalam bilik darjah dan neurosains dalam pembelajaran bahasa kedua