



METODOLOGI **RISET**

KRITIK JURNAL ILMIAH

Buku metodologi riset ini merupakan hasil kajian dari menganalisis jurnal bereputasi ilmiah metodologi penelitian tujuannya adalah untuk membandingkan riset terdahulu untuk dikembangkan sesuai perkembangan metodologi mutakhir riset penelitian. Dari beberapa analisis hasil riset jurnal bereputasi dari beberapa peneliti kelas dunia, membantu peneliti mengembangkan metodologi riset lebih berkelas dan menjadi rujukan selanjutnya.

Dr. Desri Arwen, M.Pd

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KATA PENGANTAR

Penelitian hakikatnya merupakan operasionalisasi metode ilmiah dalam kegiatan keilmuan atau bisa dikatakan bahwa penelitian pada dasarnya adalah suatu proses sistematis untuk memecahkan masalah yang dilakukan dengan menerapkan metode ilmiah. Penelitian dapat dipahami sebagai suatu dialog atau percakapan yang terjadi tanpa henti antara dua jenis kenyataan yaitu antara realitas argumentasi dan realitas pengalaman. Metode penelitian selalu berkembang sesuai dengan perkembangan ilmu pengetahuan, penelitian pendidikan merupakan penelitian yang dikhkususkan meneliti bidang pendidikan berbeda dengan penelitian ilmu eksakta lainnya, mengapa, karena penelitian pendidikan bisa di lihat dari penerapan melalui kritik jurnal ilmiah bereputasi, dalam buku ini penulis mencoba menguraikan penelitian yang berhubungan dengan penelitian kualitatif, *content analysis*, metode kuantitatif, metode gabungan,

Metodologi penelitian selalu berkembang baik penelitian dalam bidang Sosial, Sains, Budaya dan Agama. Untuk perlu adanya kajian mendalam dalam suatu metodologi penelitian tujuannya adalah untuk membandingkan riset terdahulu untuk dikembangkan sesuai perkembangan metodologi mutakhir riset penelitian. Dari beberapa analisis hasil riset jurnal bereputasi dari beberapa peneliti kelas dunia, membantu peneliti mengembangkan metodologi riset lebih berkelas dan menjadi rujukan selanjutnya.

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DAFTAR ISI

BAB 1 Hakikat Penelitian, Metode Ilmiah Dalam Paradigma Penelitian Kuantitatif, Kualitatif, Dan Metode Gabungan	1
A. Pendahuluan	1
B.Metode Ilmiah Paradigma Penelitian Kuantitatif, Kualitatif, dan Metode Gabungan.....	4
1.Metode Ilmiah Paradigm Penelitian Kuantitaif Dan Kualitatif	4
2.Metode Ilmiah Paradigma Penelitian Metode Gabungan.....	8
 BAB 2 Pemilihan Dan Pendefinisian Topik Penelitian.....	 15
A. Pendahuluan	15
B.Identifikasi dan Perumusan Masalah Penelitian	21
C. Variabel Penelitian dan Fokus Penelitian	30
D. Review Literatur (Tinjauan Pustaka)	34
E. Perumusan dan Pernyataan Hipotesis Penelitian....	39
 BAB 3 Populasi Dan Sampling	 48
A.Pendahuluan	48
B.Populasi dan Sampel dalam penelitian kuantitatif	49
C.Data dan Sumber Data dalam Penelitian Kualitatif...61	61
D.Teknik Pengambilan Sampel.....	64
 BAB 4 Pengambilan Instrumen Penelitian	 67
A.Pendahuluan.....	67
B.Konstruk (Variabel)	68
1. Variabel.....	70
2. Karakteristik Pengukuran Instrumen.....	74

3. Jenis-jenis Metode atau Instrumen Pengumpul Data	77
4. Validitas dan Realibilitas	79

BAB 5 Analisis Data Kuantitatif Statistik Deskriptif Dan Statistik Inferensial	88
A.Pendahuluan.....	88
B. Landasan Teori.....	89
1.Statistik Deskriptif	89
2.Statistik Deskriptif Pendidikan.....	94
BAB 6 Analisis Dan Intrepetasi Data Kualitatif.....	100
A.Pendahuluan.....	100
B. Analisis Data Kualitatif	104
C. Intrepetasi Data Kualitatif	110
1. Intrepetasi Data Menurut Moleong.....	110
2. Intrepetasi Data Menurut L.R. Gay	112
BAB 7 Kritik Jurnal Ilmiah	116
A.Crossing Metacognitive Strategy Awareness in Listening Performance: An Emphasis on Language Proficiency”.....	116
B. A Comparative Analysis of the effects of small group versus individual pre-reading activities on the reading comprehension of college students of Spanish”	123
C. Investigating the Relationship between Personality Type and Writing Performance of Iranian EFL Learners.....	129
D. The Relationship between Cognitive and Metacognitive Strategies, Age, and Level of Education.....	135

E. Task Effectiveness and Vocabulary Learning and Retention in Foreign Language	141
D. The Syntactico-Semantic Proficiency of Written English Language for Undergraduated Students in Tanzania	150
F. The effect of a socio-cognitive approach to teaching writing on stance support moves and topicality in students' expository essays	155
H.Teaching Vocabulary Through Web-Based Language Learning (WBLL) Approach.	160
G. The Relationship between Test Takers' Critical Thinking Ability and their Performance on the Reading Section of TOEFL	164

BAB 1

Hakikat Penelitian, Metode Ilmiah dalam Paradigma Penelitian Kuantitatif, Kualitatif, dan Metode Gabungan

A.Pendahuluan

Penelitian adalah suatu kegiatan yang dilakukan seseorang untuk menemukan, mengembangkan, menguji kebenaran suatu pengetahuan berdasarkan data dan fakta. Oleh karena itu, dalam penelitian ilmiah harus menggunakan metode ilmiah yaitu metode deduktif dan metode induktif. Artinya, suatu penelitian dikatakan ilmiah apabila melibatkan dua wilayah teori (deduktif) dan wilayah empiris (induktif). Untuk melakukan penelitian kita sebagai seorang peneliti diharuskan banyak membaca dan mengamati lingkungan yang ada di sekitar kita, diharapkan dengan membaca dan mengamati akan memukan masalah yang akan kita teliti dan bagaimana pemecahan dari masalah tersebut melalui sebuah penelitian. Tahap pertama dimulai dengan mengetahui masalah tersebut yang dimulai dari yang global menuju ke arah yang lebih khusus. Setelah kita mengetahui permasalahannya barulah kita merumuskan masalah tersebut kemudian penyusunan hipotesis yang akan kita buktikan melalui pengumpulan data kemudian analisis data dan yang terakhir adalah kesimpulan dari penelitian yang akan menjawab kebenaran hipotesis yang kita buat sebelumnya. Apakah diterima atau tidaknya hipotesis yang kita buat sebelumnya.

Penelitian hakikatnya merupakan operasionalisasi metode ilmiah dalam kegiatan keilmuan atau bisa dikatakan bahwa penelitian pada dasarnya adalah suatu proses sistematis untuk memecahkan masalah yang dilakukan

dengan menerapkan metode ilmiah. Penelitian dapat dipahami sebagai suatu dialog atau percakapan yang terjadi tanpa henti antara dua jenis kenyataan yaitu antara realitas argumentasi dan realitas pengalaman.

Berkaitan dengan hal tersebut, bahwa penelitian merupakan suatu kegiatan ilmiah yang didasarkan pada analisis dan konstruksi yang dilakukan secara sistematis, metodologis dan konsisten serta bertujuan untuk mengungkapkan kebenaran sebagai salah satu manifestasi keinginan manusia untuk mengetahui apa yang sedang dihadapi. Begitu juga dengan Hadi menurutnya, penelitian ialah usaha dalam menemukan segala sesuatu untuk mengisi kekosongan atau kekurangan yang ada, menggali lebih dalam apa yang telah ada, mengembangkan dan memperluas, serta menguji kebenaran dari apa yang telah ada namun kebenarannya masih diragukan.

Jadi, dalam pencarian kebenaran, cara ilmiah digunakan untuk mendapatkan data dan informasi sebagaimana adanya dan bukan sebagaimana seharusnya, tentunya dengan tujuan untuk mencari dan menggali kebenaran yang sesungguhnya.

1. Penelitian Sebagai Aplikasi Metode Ilmiah

Menurut Emzir (2014:3). Tujuan dari semua usaha ilmiah adalah untuk menjelaskan, memprediksikan, dan mengontrol fenomena. Tujuan ini didasarkan pada asumsi bahwa semua perilaku dan kejadian itu beraturan dan bahwa semua akibat mempunyai penyebab yang dapat diketahui. Kemajuan ke arah tujuan ini berhubungan dengan pemerolehan pengetahuan dan pengembangan serta pengujian teori-teori.

Metode ilmiah merupakan suatu proses yang sangat beraturan yang memerlukan sejumlah langkah yang

berurutan: pengenalan dan pendefinisian masalah, perumusan hipotesis, pengumpulan data, analisis data, dan pernyataan kesimpulan diterima atau ditolaknya hipotesis. Langkah-langkah tersebut dapat diterapkan secara informal dalam pemecahan berbagai masalah sehari-hari, seperti contoh waktu yang sangat baik untuk mengerjakan tugas. Penerapan yang lebih formal dari metode ilmiah untuk pemecahan berbagai masalah adalah semua yang dilakukan oleh peneliti.

2. Sistematika Penelitian

Beberapa ahli mendefinisikan penelitian sebagai suatu proses yang teratur dan terpola. Menurut Mc Millan dan Schumacher dalam Emzir mendefinisikan penelitian sebagai suatu proses sistematik pengumpulan dan penganalisaan informasi (data) untuk berbagai tujuan. Ada lima langkah yang sesuai dengan metode ilmiah dan kelengkapan umum pada sistematik adalah (1) identifikasi masalah penelitian, (2) review informasi, (3) pengumpulan data, (4) analisis data, dan (5) penarikan kesimpulan.

Langkah pertama, agar suatu penelitian menjadi sistematik, maka hakekat masalah harus didifinisikan dalam istilah luas. Seperti paradigma piramida terbalik. Kedua pengumpulan informasi dari informan yang mempunyai masalah yang sama akan membantu masalah yang akan diteliti, sumber penelitian akan menjadi acuan penelitian. Ketiga pengumpulan data yang sesuai dengan masalah penelitian merupakan bagian dari sistematik penelitian. Selain itu proses pengumpulan data memerlukan penyusunan yang baik dan kontrol yang layak. Dengan demikian data akan menghasilkan keputusan yang valid akan digunakan untuk membuat masalah penelitian.

Keempat tentang analisis data. Data yang sudah dikumpulkan kemudian diolah dan dianalisis menggunakan teknik statistik maupun tidak. Data dianalisis dalam suatu cara yang memungkinkan peneliti untuk menguji hipotesis dan menjawab pertanyaan penelitian. Kelima proses penggambaran kesimpulan atau penarikan secara umum setelah penelitian itu dianalisis. Kesimpulan didasarkan pada data dan analisis didalam kerangka kerja studi penelitian.

3. Aktivitas dalam Proses Penelitian

Aktivitas dalam proses penelitian, secara umum yang terdiri dari lima langkah telah diuraikan sebelumnya. Akan tetapi setiap jenis penelitian memiliki langkah-langkah yang dapat diaplikasikan sesuai dengan karakteristik penelitian tersebut.

B. Metode Ilmiah Paradigma Penelitian Kuantitatif, Kualitatif, dan Metode Gabungan

1. Metode Ilmiah Paradigma Penelitian Kuantitatif dan Kualitatif

Keterampilan berpikir ilmiah melalui tahap-tahap alur pemikiran ilmiah. Melalui alur pemikiran ilmiah peneliti akan dapat menggunakan kesempatan dengan sebaiknya, memecahkan masalah, mengetahui cara mencapai tujuan penelitian, dan mengambil resiko jika terdapat kendala dalam penelitian. Alur pertanyaan yang merupakan bagian dari alur pemikiran ilmiah diatur dalam metode penelitian. Alur pertanyaan itu sendiri merupakan tahapan-tahapan dalam kegiatan penelitian.

Metode penelitian merupakan bentuk pemecahan sebuah masalah dalam sebuah penelitian. Pemecahan masalah yang ada pada suatu penelitian membutuhkan penyelidikan yang teliti, sedangkan untuk mengetahui bagaimana seharusnya langkah penelitian harus dilakukan dengan menggunakan metode penelitian. Dengan kata lain, metode penelitian adalah suatu teknik atau cara mencari, memperoleh, mengumpulkan data primer maupun data sekunder yang digunakan untuk keperluan menyusun suatu karya ilmiah. Mengenai hal tersebut Syamsuddin dan Damaianti (2011:14) memberikan pendapatnya mengenai metode penelitian, metode penelitian merupakan cara pemecahan masalah penelitian yang dilaksanakan secara terencana dan cermat dengan maksud mendapatkan fakta dan simpulan agar dapat memahami, menjelaskan, meramalkan, dan mengendalikan keadaan. Selanjutnya Sugiyono (2007:9) dalam hal ini juga menyatakan bahwa metode penelitian pada dasarnya merupakan cara ilmiah untuk mendapatkan dengan tujuan dan kegunaan tertentu. Metode yang tepat dapat membuat seorang peneliti tidak hanya mampu melihat fakta sebagai kenyataan, tetapi juga mampu memperkirakan kemungkinan-kemungkinan yang dapat terjadi melalui fakta-fakta.

Metode penelitian dikendalikan oleh garis-garis pemikiran yang konseptual dan prosedural. Pemikiran konseptual yang berupa gagasan-gagasan orisinal sedangkan pemikiran prosedural dimulai dari observasi dan percobaan dan diakhiri pada pernyataan-pernyataan umum. Dengan kata lain proses yang ditetapkan dalam metode penelitian sangat sistematis dan penuh tujuan.

Langkah-langkah dalam penelitian kualitatif berbeda dengan penelitian kuantitatif. Proses penelitian kuantitatif

V. Measurement

1. Terdapat bukti realibilitas dalam penelitian ini ($r = 0,81$), dan peneliti menggunakan versi Farsi dari penilaian yang keandalannya mencapai 85% (Cronbach's $\alpha = 0,85$). Scoring difasilitasi melalui ketersediaan kunci jawaban, menghasilkan nilai komposit untuk lima subbagian dari penilaian dimulai dari 0 ke 80.
2. Terdapat bukti validitas, namun tidak dipaparkan secara jelas.

VI. Interpretation

1. Kesimpulan dan hasil penelitian ini konsisten. Penelitian ini dilakukan untuk mengetahui apakah ada hubungan yang signifikan secara statististik antara kemampuan berpikir kritis dari peserta yang mengikutinya dan kemampuan mereka berpikir dalam mengerjakan tes membaca pada TOEFL. Hasilnya adalah terdapat hubungan yang signifikan antara dua variabel tersebut.
2. Terdapat generalisasi populasi dalam penelitian ini sehingga hasilnya berlaku secara umum karena tidak dijelaskan hal tersebut berlaku bagi siswa-siswi atau peserta didik dari sekolah atau institusi tertentu.

VII. Generalisasi

Penelitian ini merupakan penelitian penting. Penting bagi pendidik, guru bahasa kedua, bahasa asing dan

siswanya, juga bagi masyarakat umum pada konteks sosial. Hal tersebut bermanfaat untuk meningkatkan kemampuan berpikir kritis dan meningkatkan tidak saja bagi tes membaca dalam TOEFL, tapi juga jenis membaca dan minat baca itu sendiri. Walaupun penelitian ini masih terbatas pada hubungan kemampuan berpikir kritis dan membaca pada TOEFL, namun diharapkan penelitian ini dapat dikembangkan dan menjadi referensi bagi penelitian-penelitian keterampilan berbahasa lainnya di kemudian hari.

The Relationship between Test Takers' Critical Thinking Ability and their Performance on the Reading Section of TOEFL

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Abstract—The vitality of the ability to think critically is now widely recognized among educators and assessors. Critical thinking is defined as the ability to discipline thinking through efficient information processing (Paul, 1990; cited in Longman, Atkinson & Breeden, 1997). This study aimed at uncovering the extent to which the reading section of a ubiquitous standardized test of English language proficiency, namely TOEFL, engages the critical thinking ability of test takers. To this end, 83 advanced EFL learners completed the Watson-Glaser Critical Thinking Appraisal (1980), and the results were correlated with their scores on the reading section of Paper-Based TOEFL (PBT). The findings indicated a statistically significant advantage for those with greater critical thinking skills. Implications relate to the need to incorporate critical reading strategy training in PBT reading preparatory courses and other EFL reading

programs. This way, the quality of Measurement-driven Reading Instruction and other EFL reading courses can be improved with a broader goal in mind, that of enhancing critical thinking among learners. Moreover, some of the objections lodged against the idea of teaching to the test, as the prevailing practice today, would be, to some extent, met.

Index Terms—critical thinking, standardized test, English reading proficiency, critical reading, measurement-driven instruction

I. INTRODUCTION

To every complex question there is a simple answer and it is wrong... (H.L. Mencken)

Critical thinking can be defined as “the systematic evaluation or formulation of beliefs, or statements by rational

standards” (Vaughn, 2008). Given the extortionate rate at which massive amounts of information, arguments and counter-arguments, beliefs and interpretations are put forth, the development and exploitation of such rational standards seems to be the only path to achieving a hard core around which to shape one’s own thinking and reasoning. As such, critical thinking is an ability essential for successful performance in not only educational but also professional and social contexts. The common thread running through the related literature is that it is upon educators and educational systems to develop and hone critical thinking skills in students and prepare them to look upon the realities of the world through a critical lens. This entails helping students move away from knowledge absorption to

judging and evaluating information, and arguing with cogent reasons. (Ku, 2009; Kuhn, 2005; Schafersman, 1991).

Assessment, as an indispensable part of education, in general and language assessment in particular , can be designed in such a way as to best represent what a critical thinking-oriented pedagogy is supposed to achieve. The need surfaces even more visibly when one considers the stakes involved in large-scale standardized language testing. Every year, an astronomical number of candidates enroll on preparatory courses for TOEFL, IELTS and other English language proficiency tests for vocational, academic and other high-stakes purposes. Therefore, in an attempt to uncover the extent to which the reading section of the Paper-Based TOEFL engages the critical thinking ability of test takers, the following question and null hypothesis were put forth:

Research question: Is there a significant relationship between test takers" critical thinking ability and their performance on the reading section of TOEFL? Null hypothesis: There is no significant relationship between test takers" critical thinking ability and their performance on the reading section of TOEFL.

II. CRITICAL THINKING

A. *Definition*

With the surge of the Information Era, the concept of *critical thinking* has received ample attention from researchers in general, simple transmission and absorption of such constantly burgeoning information being no longer possible. According to Paul, critical thinking is „learning how to ask and answer questions of analysis, synthesis and evaluation” (1985, p.37). These processes are cognitively

much more demanding than those that the majority of educational systems have unconsciously valued and held in high respect, namely memorization and uncritical knowledge absorption. In the context of language teaching, Dubin and Olshtain (1986) present a scale for assessing the cognitive potential of language learning processes drawn upon in the classroom as follows, beginning with the most through to the least cognitively demanding; of course, these processes are not exclusive to language learning and can be applied to all kinds of learning:

1. Evaluation
2. Synthesis
3. Analysis
4. Application
5. Interpretation
6. Translation
7. Memory

What Paul deems as central to the concept of critical thinking are those that Dubin and Olshtain view as the most cognitively demanding. Accordingly, developing the ability to think critically is on a par with directly engaging one's cognitive resources.

Brookfield (1987, p. 229) takes a similar path when he states that critical thinking involves two inextricably interrelated processes: „identifying and challenging assumptions, and imagining and exploring others.“ This definition highlights the significance of original and creative thinking in an attempt to unearth hidden agendas and judge them on the basis of one's own designated standards.

In like manner, Pithers and Soden (2000) believe underlying critical thinking are a number of abilities

including: Uncovering assumptions underlying a problem;
Focusing the problem;
Inferencing;
Inductive and deductive reasoning;
Judging the validity and reliability of assumptions and sources of information.

Notwithstanding the cognitive aspect of critical thinking, Ku (2009) posits an additional dispositional aspect to it, and maintains that the ability to think critically will not ensue unless one has a strong intention and initiative to engage in the processes germane to it. Simply put, "besides the ability to engage in cognitive skills, a critical thinker must also have a strong intention to recognize the importance of good thinking and have the initiative to seek better judgment." (p.71). What Ku is advocating is that before trying to enhance critical thinking in learners, they must be made aware of its significance in order for the effort to yield the most satisfactory results.

B. Critical Thinking and L2

Following the recognition of the centrality of critical thinking in general education, foreign and second language learners, teachers, and researchers are now increasingly coming to grasp the concept and sketch its application in language learning and teaching. For one, Birjandi and Bagherkazemi (2010) found out a high positive correlation between Iranian EFL teachers' critical thinking ability and their student-evaluated professional success. They state that the general trend toward communicative language

teaching with its emphasis on the process rather than the product of learning well embodies a greater concern with critical thinking, and believe in order to develop in learners the ability to think critically teachers themselves must possess this dispositional and cognitive capacity.

But the question is: Is critical thinking teachable in an L2 classroom? Atkinson (1997) has his doubts, offering four reasons:

1. Critical thinking is a kind of social practice, with no easily definable pedagogical set of behaviors;
2. Critical thinking is exclusive and reductive in nature.
3. Critical thinking may not be valued by some non-native cultures.
4. Critical thinking skills are not transferrable beyond their context of instruction.

Davidson (1998) takes a critical stance against Atkinson, using Siegel's (1989) terminology, "self-reflective justificatory strategy", meaning that even to make a case against critical thinking, one has to presuppose its validity, i.e. to be a critical thinker. Insofar as the cultural bias of critical thinking is concerned, he maintains:

Part of the English teacher's task is to prepare learners to interact with native speakers who value explicit comment, intelligent criticism, and intellectual assertion. Maybe even more than the L1teacher, we as L2 teachers have good reason to introduce higher level students to aspects of critical thinking. If we do not, our students may well flounder when they are confronted with necessity of thinking critically, especially in an academic setting. (p.121).

There are some studies which confirm that critical thinking is teachable in a language learning environment. For one, n a pilot study using a critical thinking essay test, a

treatment group of Japanese college students receiving supplemental instruction in critical thinking skills significantly outperformed a control group receiving only content-based, intensive academic English instruction (Davidson & Dunham, 1997).

Birjandi and Bagherkazemi (2010, p. 138) warn us against the confusion of critical thinking in TESOL with a critical approach to TESOL; they quote Pennycook (1999) as saying the former is apolitical while the latter is political in nature.

Oster (1989) points out the significance of critical thinking in American and European universities and believes a language pedagogy should help learners develop this ability. What about widespread proficiency tests, such as TOEFL and IELTS, which function as gate keepers to such universities? Should they be such designed as to test, in addition to test takers' language proficiency, their ability to think critically? Would such an ability make up part of the construct-relevant or irrelevant variance? To the researchers' best knowledge, such questions have not been approached by L2 researchers yet. In an attempt to initiate research on such issues, the present study was undertaken to determine to what extent successful performance on the reading section of the paper-based TOEFL, PBT, is contingent upon test takers' critical thinking ability.

C. Critical Thinking and Second Language Reading

Reading is probably the most important skill for second language learners in academic contexts.

no surprise that countless number of studies have addressed this skill both theory-wise and practice-wise. Toward the end of the twentieth century, ESL reading researchers came to appreciate the psycholinguistic processes underlying reading comprehension. Sheorey and Mokhtari (2001) assert “reading is not a linear process but one in which readers constantly form hypotheses, test predictions, and use their knowledge of the world and of the language to construct meaning” (p.432). This line of research along with burgeoning evidence as to the vitality of *strategic awareness* and *monitoring* as two of the vital aspects of skilled reading (*ibid*) allude to the significance of reading critically if one considers the attributes of a critical thinker. There are seven key aspects of critical reading (www.criticalthinking.com):

1. Identifying the line of reasoning, an angle or point of view, a position that is being defended or a case that is being made;
2. Critically evaluating the line of reasoning in terms of relevant and contributing propositions, logical progression, false premises and flawed reasoning;
3. Questioning surface appearances and checking for hidden assumptions or agendas;
4. Identifying evidence in the text;
5. Evaluating the evidence in terms of valid criteria;
6. Identifying the writer's conclusions;
7. Deciding whether the provided evidence supports the conclusions.

III. METHODOLOGY

A. Participants

To answer the research question, 83 female Advanced EFL learners, ranging in age from 24 to 39, from a variety of academic backgrounds, learning English at a private language institute in Iran took part in the study. They had all been placed into two consecutive advanced levels (Ad3, and Ad4) and homogenized on their reading comprehension proficiency by the researcher (see Procedure).

B. Instruments

For the purposes of the present study, three instruments were utilized:

1. Watson-Glaser Critical Thinking Appraisal-Form A (Watson &Glaser, 1980) The Watson-Glaser critical Thinking Appraisal comprises five subsections which practically measure the five aspects of critical thinking as defined by Watson and Glaser (1980): Drawing inferences based on factual statements; Recognition of assumptions in a number of assertive statements; Making deductions: To determine if conclusions follow from information in given statements; Interpreting evidence to decide if conclusions are legitimate or not; Evaluating arguments as being strong or weak; The appraisal consists of general scenarios along with 16 items for each aspect of the construct and is not subject-related (Watson & Glaser, 1980). It includes 80 items each followed by two to five alternatives, which can be completed in 60 minutes. In addition to the face, content, construct, and criterion validity of the appraisal, its test-retest reliability has been shown ($r=0.81$) by Watson and Glaser (1980). The researcher used the Farsi version of the appraisal, translated by Faravani (2006), of which the reported reliability is 85% (Cronbach's $\alpha=0.85$). Scoring is

facilitated through the availability of an answer key, yielding a composite score for the five subsections of the appraisal from 0 to 80.

2. The Reading Section of general training IELTS

On this reading test, there are 40 questions for the candidates to be answered within 60 minutes, following 3 sections of increasing difficulty containing texts taken from notices, advertisements, leaflets, newspapers, instruction manuals, books and magazines (www.IELTS.org).

Each item is worth one mark and scoring is facilitated through the availability of an answer key indicating alternative words/phrases within an individual answer (Cambridge IELTS 2, 2002). Scores on the Reading module in the present study were scaled on full and half band scores from 0 to 9.

3. The Reading Section of PBT (paper-based TOEFL)

The reading section of PBT makes up the third section of the test. It contains 50 multiple-choice questions with a completion time limit of 55 minutes. The version used in the present study comprised 5 passages each followed by 9 to 11 multiple-choice items. Generally, passages are written in a formal, academic style, typical of most college or university level texts and journals (www.TOEFL.org). The scoring was carried out by first calculating the number right scores and then converting them to scaled scores ranging from 31 to 67.

C. Procedure

To expedite the study, initially 117 female advanced EFL learners, placed through interviews or placement tests

into two consecutive advanced levels (Ad3 and Ad4), in 8 classes altogether, were selected as the participants of the study. To homogenize them on their reading comprehension ability, the eight classroom teachers administered the reading section of a 2002 version of General Training IELTS during the regular class time. Subsequently, for the purposes of the present study, those who scored below or above one standard deviation from the mean were excluded from data analysis. Out of 117 test takers, 96 scored within one standard deviation from the mean. Having gained a homogeneous sample in terms of English reading comprehension ability, the next step was to obtain the participants' scores on the reading section of PBT, and the Critical Thinking Appraisal. The reading section of a 2002 version of PBT was administered, within one week from the first testing session, by the same classroom teachers during the regular class time. Finally, due to time limitation, the participants were asked to complete the Farsi version of the Critical Thinking Appraisal, which has a time limit of 50 minutes, in their free time. On the whole, the number of participants for the final data analysis shrank to 83 due to either absence on the second testing session or failure to make time to complete the Critical thinking Appraisal.

D. Data Analysis

answer the research question, the 16th version of the Statistical Package for Social Sciences (SPSS) was utilized. First, to ensure the homogeneity of the sample on English reading proficiency, after calculating the mean and standard deviation of the participants' scores on the reading subsection of the General Training IELTS, only

those scores which fell within one standard deviation from the mean were included in further data analysis. Totally, 83 participants met the score requirement at this stage. Table 1 contains the descriptive statistics of the test takers' performance on the reading section of IELTS, and Figure 2 provides a visual representation of the distribution of these scores.

TABLE 1
IELTS SCORES' DESCRIPTIVE STATISTICS

	N	Minimum	Maximum	Mean	Std. Deviation
IELTS Scores	11 7	2.00	8.50	4.547 0	1.39578
Valid N	11 7				

Having obtained the scores of 83 out of the 97-member homogenized sample on the reading section of PBT and the Critical Thinking Appraisal (see Table 2), the researchers set off on the task of testing the null hypothesis:

There is no significant relationship between test takers' critical thinking ability and their performance on the reading section of TOEFL.

Statistically speaking, the assumption behind the null hypothesis is that the correlation coefficient between

the participants' scores on the reading section of PBT and the WGCTA has a value of zero ($r=0$). In order to test this claim, a Pearson product-moment correlation coefficient was run. Table 3 presents the outcome of this analysis. As shown in the table, the correlation coefficient between the two variables at issue, namely performance on the reading section of paper-based TOEFL and the critical thinking ability of test takers has a value of 0.8 which is significant at 0.01 level ($r=0.8$, $P \leq 0.01$). This value by a wide margin exceeds zero. Therefore, the null hypothesis is rejected since the two variables are significantly positively correlated with each other. Figure 3 represents this correlation mapping PBT reading scores on WGCTA scores.

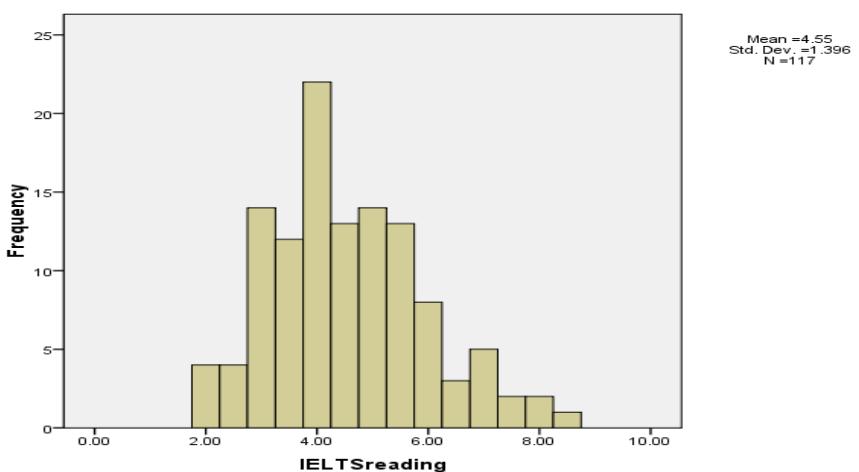


Figure 2 IELTS reading scores' distribution

TABLE 1
PEARSON PRODUCT MOMENT COEFFICIENT

	PBT reading scores	WGCTA scores
PBT reading scores	1	.807
Pearson Correlation		.000
Sig. (2-tailed)	83	83
N		
WGCTA scores	.807**	1
Pearson Correlation	.000	
Sig. (2-tailed)	83	83

** Correlation is significant at the 0.01 level (2 – tailed)

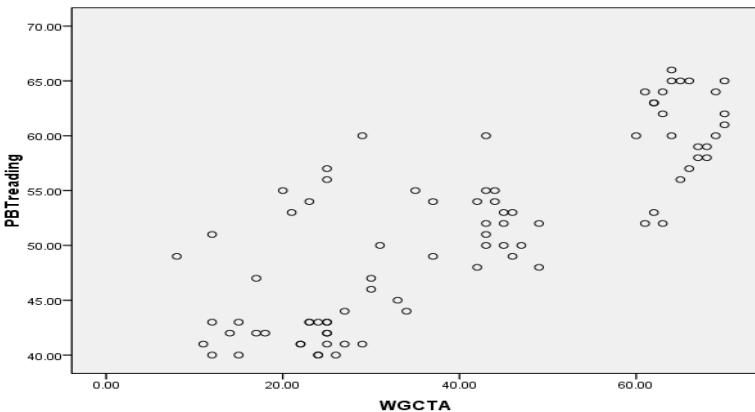


Figure 3: Scattergram of the correlation of PBT reading scores and WGCTA scores

IV. DISCUSSION

Paper-based TOEFL (PBT) and more recently Computer-based TOEFL (CBT) and Internet-based TOEFL (IBT)

have always functioned as one of the most demanding gate keepers to a myriad of workplaces and academic institutions in the majority of English-speaking and even non-English speaking countries. Their growing significance calls for an investigation into the way such tests and their different sections are allied with cognitive notions of current interest in psychology and in language pedagogy. One such notion is the ability to think critically. The present study substantiated a significant positive correlation between performance on the reading section of PBT and the ability to think critically. With the five components of critical thinking as defined by Watson and Glaser (1980), the observed outcome of the statistical analysis would have been expected.

Generally, there are three types of question in the reading section of PBT: vocabulary, cohesion, and reading comprehension items including factual questions and questions about the main idea of individual paragraphs and the whole passage (Matthiesen, 1999). The ability to answer all these three item types can be in some way linked to the ability to think critically. Meanings of the vocabulary items and cohesive links are heavily contingent upon the context in which they occur and working them out is a cognitively demanding task. Critical thinking seems to be even more significant for answering reading comprehension questions, especially those related to main ideas. Having substantiated a close link between critical thinking and performance on the reading section of PBT does not, however, imply a cause-effect relationship between the two variables, and heed needs to be taken not to get trapped in the ever present threat to correlational studies, namely *post hoc fallacy*. For sure, performance on the subtest at issue is influenced by multitudinous other factors which have been investigated or are in need of investigation.

V. CONCLUSION

The present study was carried out to find out if there was a statistically significant correlation between the critical thinking ability of test takers and their performance on the reading section of PBT (paper-based TOEFL). The relatively high positive correlation observed between the two variables at issue has some important implications as far as English reading instruction is concerned. First and foremost, it invokes upon L2 reading instructors to try to develop in learners the ability to read critically if they are to enhance the efficiency of their courses. This can border on

8. Evaluating an argument in terms of its logic, credibility and emotional impact:

a. Recognizing every assertion as an argument to be evaluated;

b. Discriminating between claims and their supporting reasons and evidence;

9. Comparing and contrasting related readings

The list is by no means exhaustive. It is upon the teachers to base their use of these and other strategies which they deem as promising in enhancing their students' critical thinking ability on a an analysis of the idiosyncratic features of their teaching context. The results of the present study also have some implications regarding MDI (Measurement-Driven Instruction) reading courses which are now widely exploited to provide learners with some handy strategies to boost their performance on high stakes language proficiency tests. Among such tests, TOEFL and IELTS stand out. The negative washback of such high stakes tests on the teaching and learning leading up to them is most evident in such strategy training. However, the results of this study can, to some extent, alleviate the situation since if teachers focus on critical reading strategies, the aim of MDI courses would be two-fold:

1. Preparing learners for the reading section of PBT;

2. Enhancing in learners the ability to think critically;

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