

**"The Effect of Visual Thinking on Developing
The Adult Learners' English Language Fluency."**

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Abstract

The study aimed to design a program based on the visual thinking to develop the adult learners' English Language Fluency. This study started with the review of the literature and previous studies related to visual thinking, visual literacy, writing ability and writing fluency. The researcher designed the research program, the instruments of measuring the trainees' progress including the writing fluency components, the pre and posttest, the rubric, and the participants' questionnaire. The participants were 14 adult learners (N= 14), with Arabic as their first language; enrolled at the upper intermediate level, Telecom Egypt Institute. They received a five-week intensive English session, two sessions a week, for five weeks, which the researcher was required to boost the learners' Writing Fluency where the researcher was the instructor. The trainees' scores on the pre and posttest were statistically analyzed using T-test and effect size factor. In addition, a qualitative analysis of the trainees' progress was conducted and analyzed. Both quantitative and qualitative analysis revealed the effectiveness of using the visual thinking on developing the adult learners' English language fluency and specifically the adult learners' English writing fluency.

مستخلص البحث

هدفت الدراسة الي قياس فاعلية التفكير البصري في تنمية الطلاقة اللغوية للمتعلمين البالغين للغة الانجليزية. بدأت هذه الدراسة بمراجعة الأدبيات والدراسات السابقة المتعلقة بالتفكير البصري ، وطلاقة اللغة وقدرة الكتابة وطلاقة الكتابة. وقد قام الباحث بتصميم البرنامج البحثي، وأدوات قياس تقدم المتدربين بما في ذلك مكونات طلاقة الكتابة، في الاختبار القبلي و البعدي، ومعايير التقييم ، واستبيان المشاركين. وكان عدد المشاركون 14 من المتعلمين الكبار، و كانت اللغة العربية لغتهم الاولي. وقد التحق بالمستوي فوق المتوسط في معهد التدريب الملحق بالشركة المصرية للاتصالات. وقد تلقوا دورة مكثفة في اللغة الإنجليزية لمدة خمسة أسابيع ، بمعدل محاضرتين في الأسبوع ، والتي كان الباحث مطالباً فيها بتعزيز طلاقة الكتابة لدى المتعلمين حيث كان الباحث هو المدرب. تم تحليل نتائج المتدربين في الاختبار القبلي و البعدي. بالإضافة إلى ذلك، تم إجراء تحليل كمي لتقدم المتدربين. وكشف التحليل الكمي و الكيفي عن مدى فعالية استخدام التفكير البصري في تطوير طلاقة اللغة الإنجليزية لدى المتعلمين الكبار ، وتحديدًا طلاقة الكتابة باللغة الإنجليزية لدى متعلمي الكبار.

1- Introduction

Due to the rapid progress happens in all knowledge fields, we, as instructors should be equipped with it. For this reason, we had to find alternative strategies to upgrade and modernize the old fashioned strategies. The problem of this study is that some adult English learners lack the efficiency to write fluently, expand, create, or support their ideas and that was noted in the sample of the pilot study on the first chapter. That was probably due to the powerless teaching strategies followed during the educational learning stages, as well as the lack or the misapplication of the teaching aids which affected negatively their writing fluency.

Obtaining Language fluency is considered one of the most complex activities for adult learners. It embeds the development of a design idea, the capture of mental representations of knowledge, and of previous experience with subjects. "Underlying these component skills are more complicated cognitive functioning capabilities such as translating ideas into written language as well as executive functioning skills that include conscious attention, planning, reviewing, revising, and strategies for self-regulation."(Berninger&Amtmann, 2003; Berninger et al., 2006).

Brand and Brand (2006) address fluency mainly in terms of automaticity. According to them, fluency can be defined as "The learners' ability to carry out activities or tasks in an automatic, quick, and accurate manner". While a writer is considered fluent when s/he is able not only to put words on paper without exerting excessive effort, but is also able to establish relationships between ideas.

1. Literature Review

One of the crucial fields that needs to be enhanced is writing fluency. "Writing allows adult learners to both express themselves as well as display their knowledge in all content areas." (Baker and Lundstrom, 2009). "Writing and increasing student motivation and engagement toward writing is an important component in literacy, although it is not viewed as a current hot topic." (Cassidy, Montalvo-Valadez, Garrett & Barrera, 2010). In the EFL teaching and learning context, writing fluency is a primary requirement for learners' literacy development. Writing fluency is an essential key component of the foreign language acquisition of the EFL learners. The researcher tackles this component to enhance it. Various pedagogical experts have pointed to the generation gap that currently exists between thinking processes of learners due to their greater exposure to visual stimuli and the language fluency that depend on linearity of thought. The implication is that writing instructors will need to consider expanding the scope of the curriculum beyond the teaching and focusing only on grammar and genre to include meta-concepts related to aesthetic composition in visual and printed texts. This would give learners the opportunity to consider how to utilize techniques of visual design in the creation and organization of their writing fluency. The primary goal of such an approach is to provide creative spaces in the writing classroom that would empower adult learners to become not just writers but also composers of texts.

Seeing comes before words. It is seeing which establishes our places in the surrounding world; we explain that world with words...." John berger, author ways of seeing. Visual Thinking Strategies—VTS—

is a curriculum and a teaching method that fosters the development of aesthetic and language literacy and critical thinking skills. (VTS) is a very simple activity designed to build learners' background knowledge and develop thinking skills that use detail to enhance understanding. Many educators have used this strategy as a precursor to working on a literary passage because the thinking skills used to analyze artwork can be transferred to literature as well. (VTS) was created by Abigail Housen, a cognitive psychologist in the Harvard Graduate School of Education. VTS is targeted at developing creativity and thinking skills VTS offers a set of contemplative practices that reveal the central importance of multiple perspectives to understanding complex issues—the first step toward innovation, successful problem solving, and effective collaboration

VTS is a Constructivist teaching method grounded in the extensive research of cognitive psychologist Abigail Housen and her collaboration with veteran museum educator Philip Yenawine. It is a learner centered, interactive, interpretive strategy that requires energetic participation. Learners create knowledge as they build from and on their personal and social backgrounds. The facilitated VTS discussion's "efficiency relates to its structure: it activates and builds on existing skills and interests, is developmentally based, engages peer interaction, and gradually escalates challenges" (Yenawine& Miller, 2014, p. 2). VTS employs strategically selected and sequenced art images that develop learners' abilities to notice deeply, think critically, and reason with evidence as they articulate personal interpretations and build upon the ideas of others within a collaborative group setting (Housen,2002). Effectively teach each other,

bringing new observations to light, offering opposing views, and ever widening the discussion (Housen, 2007, p. 7). Evidence-based reasoning supports critical thinking and problem solving, and learners who are college- and career-ready apply it proficiently when speaking and writing. These learners also anticipate evidence-supported arguments in the discourse of others and, when presented with them, are discerning about their quality (NGA Center, 2010). Evidential reasoning is a hallmark of VTS and solicited explicitly by the second question of the questioning sequence: “What do you see that makes you say that?” (Housen, 2001; VUE Staff, 2001). As learners respond to this question with concrete visual evidence from featured images, they not only justify their reasoning, but also routinely counter the diverse interpretations of peers. This feature trains the constructive evaluation of others’ use of evidence and, with repeated VTS practice.

This unique teaching strategy has the potential to develop observational skills and to enhance communication skills of the learners. It may also provide a unique way for learners to engage with other colleagues in meaningful ways to learn how to participate in groups similar to how they might face at work during their careers. The researcher proposes that applying the VTS activities may enhance and improve the language fluency through visual regulations, grading the visuals, visual reasoning, critical outlook, discriminating the visuals, regenerating visuals, visual precision, reconstructing the meaning etc. The researcher thinks visual thinking is important for two reasons in today’s education system. First; the researchers insistently argue that learning through visual thinking is important. And the second; visual literacy

argues that learners shall be prepared to think critical about mass communication of today's society.

The importance of Visuals in the learning field

The principle question here is how teachers and designers can organize and utilize visuals to help learners learn and retain information in order to be recalled later for a meaningful use. Visual is a form of communication that is not verbal. It can be a picture or another form of illustration that appeals to the sense of sight. Figure 6 illustrates how the visual appeals to the sense of sight. In general, visuals can include but are not limited to: pictures, symbols, signs, maps, charts, graphs, diagrams, photographs, videos and models. Braden (1996) identifies five categories of visuals that have been studied by educational researchers. According to Barden, these visual categories are: (1) semiotics and film-video conventions, (2) signs, (3) symbols and icons, images and illustrations, (4) multi-images, and (5) graphic presentations (Braden, 1996 as cited in Lohr, 2008, p.13). Riad S. Aisami / Procedia - Social and Behavioral Sciences 176 (2015) 538 – 545

An in-depth look at the writing process through adopting the VTS:

Several educators offer methods for combining visual arts with literacy instruction in the classroom. Cowan and Albers (2006) describe a process they developed for fourth and fifth grade learners that uses art making to explore meanings of specific words. For example, one learner created a papier-mâché mask to depict what “enthusiasm” looks like and followed this exercise by writing a poem also titled “enthusiasm” (Cowan and Albers, 2006). The authors contend that the process of creating

allows adult learners to become invested in the emotion they choose to depict. Thus when later writing about this emotion, adult learners used the visual they created to remember specifics about their own thinking during the creating process. The adult learners utilize this heightened awareness of their own thinking to create poetry that is more detailed and emotive than previous writing products not including an element of visual art (Cowan and Albers, 2006).

3- Participants:

The main aim of this study was to design a program that enables the adult learners to know how to write fluently, by expanding and organizing the ideas, through using the application of visual thinking activities designed by the researcher. The program was conducted on fourteen adult learners working at Telecom Egypt. The participants were selected randomly with different English levels. The program was ten sessions and the duration of the program was about thirty five hours. The instruments of the study included pre/post writing fluency test, the program book of the writing fluency, and the participants' satisfaction questionnaire.

4- Questions and Procedures of the study

The study was guided by the following questions:

- 1- **Research question one** "What is the current writing fluency level of the adult English learners?" This question was answered through holding some open discussions with a sample of adult English learners working in Telecom Egypt as well as a pilot study on the same sample of the adult English learners. That was also answered through holding

a pre writing fluency test on the one group sample to assess their level in writing fluency.

2- Research question two "What are the suggested visual thinking activities that can be used to improve writing fluency level for the adult English learners?" In the light of the literature review, and further readings, the researcher designed ten activities that cover the writing fluency components. The first two lectures of the program was theoretical to brief and illustrate the strategy to the learners. The researcher also embedded the rubric as an assessment tool.

3- Research question three "What are the components of the writing fluency program based on the visual thinking strategy?" The components of the proposed program were illustrated in chapter two in the literature review and the previous studies. Furthermore, the study instruments were also based on the program's components.

4- Research questions four and five "What are the benefits observed from visual thinking's application transfer to new writing fluency level?" "What differences appear in the learners' writing confidence after applying VTS program?" By the end of the application of the program, the researcher conducted a post writing fluency test to measure the adult learners' writing fluency progress.

The instructor assigned the learners to work collaboratively, share their ideas derived from their previous experience and culture. The learners learned how to generate, organize, and expand their ideas using a brainstorming program such as x-mind program. The researcher elicited the statistical data, through the rubric, to monitor the progress of the learners. The researcher also conducted qualitative data of the students'

performance. Both quantitative and qualitative results, and findings are presented in Chapter Four.

5- Results and Discussion of the Study

The results of the current study were elicited from both quantitative and qualitative results. The quantitative section was statistical comparisons of the participants' mean scores in the pre-test and their mean scores in the post-test. The comparison in the quantitative section was based on the statistical results of the participants' writing fluency according to the conducted pre and posttest. The qualitative section was the participants' writing samples and the participants' questionnaire.

5.1.The quantitative section

1- The first hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test administrations with regard to the development of their "overall writing fluency" favoring the post test scores" as illustrated in table 1.

Table 1T-test results of differences between the learners' Mean scores on the pre and the post writing fluency administration test as a whole

Overall writing fluency	N	M	S.D	D.F	Tc value	T tab	Probability value	Effect size
Pre application	14	30.00	5.76	13	31.68	1.77	.000	91%
Post application		70.50	7.71					high

2- The second hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test administrations with regard to the development of their reflection favoring the post test scores" as illustrated in table 2.

3- **Table 2:** T-test results of differences for paired samples between the learners' Mean scores on the pre and the post writing fluency administration test with regard to their "Reflection"

Reflection	N	M	S.D	D.F	T.c value	T tab	Probability value	Effectsize
Pre application	14	7.79	2.19	13	17.11	1.77	.000	65%
Post application		13.86	2.47					high

4- The third hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test administrations with regard to the development of their "fluency" favoring the post test scores" as illustrated in table (3).

Table 3T-test results of differences for paired samples between the learners' Mean scores on the pre and the post writing fluency administration test with regard to their "fluency"

fluency	N	M	S.D	D.F	Tc value	T tab	Probability value	Effect size
Pre application	14	7.57	1.60	13	15.33	1.77	.000	80%
Post application		15.21	2.32					high

5-The fourth hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test administrations with regard to the development of their "visualizing and giving interpretation" favoring the post test scores" as illustrated in table (4).

Table 4T-test results of differences for paired samples between the learners' Mean scores on the pre and the post writing fluency administration test with regard to their " Visualizing and giving interpretation"

Visualizing and giving interpretation	N	M	S.D	D.F	Tc value	T tab	Probability value	Effect size
Pre application	14	1.93	.82	13	24.20	1.77	.000	94%
Post application		14.14	2.17					

6-The fifth hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test

administrations with regard to the development of their "focus and relevance" favoring the post test scores" as illustrated I table (6).

7- **Table 6**T-test results of differences for paired samples between the learners' Mean scores on the pre and the post writing fluency administration test with regard to their "Focus and Relevance"

Focus and Relevance	N	M	S.D	D.F	Tc value	T tab	Probability value	Effect size
Pre application	14	7.923	1.54	13	14.27	1.77	.000	69%
Post application		14.00	2.60					

8-The sixth hypothesis states that "There is a statistically significant difference at the significance level of 0.05 between the mean scores of the study participants on the pre and post writing fluency test administrations with regard to the development of their "mechanics" favoring the post test scores" as illustrated in table (7).

Table 7T-test results of differences for paired samples between the learners' Mean scores on the pre and the post writing fluency administration test with regard to their "mechanics"

Mechanics	N	M	S.D	D.F	Tc value	T tab	Probability value	Effect size
Pre application	14	4.79	1.36	13	17.80	1.77	.000	90%
Post application		13.29	1.54					

5.2 The qualitative section

The researcher selected some writing essays' samples which reflect the learners' acquisition of the visual thinking strategy. The selected writing samples reflect the learners' progress in organizing their ideas, working collaboratively, providing evidence on the posed writing essays, and visualizing the scene. The tangible progress helps in expanding the participants' ideas, deepening visualization and thinking abilities, and then writing fluently. The effect of the instructor's feedback was noticed in the learners' writing essays. The instructor taught the learners new vocabulary and grammar rules implicitly through paraphrasing their ideas and the effect of this strategy was noted in their writing essays. The questionnaire reflects the learners' deep appreciation towards the strategy's application and their noted progress in their writing fluency.

6- Conclusion

The research study aimed at investigating the effectiveness of using visual thinking strategy on developing the adult learners' English language fluency in general and on developing the adult learners' writing fluency in particular. Based on the previous chapters, the summary is:

6.4.1. The visual thinking program proved to be effective on enhancing the participants' writing fluency.

6.4.2. The visual thinking program was also effective on developing the participants' awareness of the basic writing fluency concepts.

6.4.3. The program shed the light on the visual thinking strategy theoretically on the program book and the instructor illustrated this section during the sessions.

6.4.4. VTS outlined by Housen, the instructor held open discussions among the adult learners in ways that improved their observation skills, allowed for detailed group discussions which led to enhancement of the learners' writing fluency.

6.4.5. The program approved its effectiveness on developing the participants' collaborative work through sharing their previous experience which derived from their cultural exposure.

6.4.6. The used activities served to deepen the adult learners' understanding, and helped them make connections to the tackled topics.

6.4.7. The learners were taught how to write five or more paragraph essays which have an introduction, a body of three or more paragraphs, and a conclusion. Moreover, the construction of a paragraph which includes topic sentence, supporting sentence, and concluding sentence in addition to the construction of the essay and the paragraph. The instructor also taught general writing process including brainstorming through x-mind or mind map programs, outlining, writing first drafts, giving peer and group feedback, and editing for a final draft.

6.4.8VTS was flexible enough to be adapted to meet specific lesson objectives and analyze complex visual texts in teaching English.

6.4.9. VTS offers instructors rich knowledge through which they could facilitate these types of learning processes for all of their adult learners.

6.4.10. The participants reflected their deep appreciation towards the effectiveness of the instructional program, as they expressed in their satisfaction questionnaires.

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