

Visual Thinking Tools in Enhancing ESL Students' Writing Ability

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Writing is a difficult skill for many people, both for children and adult alike and generally most people find it difficult to write down their thoughts effectively. Numerous studies have revealed that teachers find it frustrating to teach writing and many failed to help ESL students develop their writing ability. The theoretical emphasis on process oriented writing instruction has, in general brought about positive changes in the way writing is taught and has become widely accepted in the teaching of English as a second or foreign language (ESL/EFL). Although the interpretation and implementation of the process approach varies considerably from instructor to instructor, nevertheless, the emphasis on process writing has brought about significant and beneficial changes in teachers' orientations to writing. Despite the theoretical recognition of writing as a recursive process, many ESL/EFL classrooms continue to teach writing as a linear sequence of planning, pre-writing, writing, revising and editing and has not enhanced ESL/EFL students writing ability to the desired level. There appears to be a missing link in helping students to crystallize their thoughts before writing. Studies have shown that incorporating visual thinking tools into the process approach of ESL writing can enhance students' ability to write. This paper reports the findings of an exploratory study on the effects of using visual thinking tools in enhancing ESL students writing.

[ESL writing/visual tool]

I. INTRODUCTION

The teaching of writing has been part of formal education in most countries for many years. Yet teachers still ask, “Why can’t my students write?” although they have been taught how to pre-write, write, rewrite, edit and then turn in the final piece. In short, they have undergone the process approach to writing. This situation could be attributed to any factors and one of which could be because many teachers realized that they know very little about the act of writing and even less about how they could assist their students to improve their writing.

Many ESL/EFL students around the world find it difficult to write down their thoughts effectively. This is because for many of them writing is a difficult skill to master. In addition, many ESL/EFL teachers around the world have found that the needs, backgrounds, learning styles and writing strategies of most ESL/EFL students differ dramatically (Reid, 1993). Such differences lead to differences in the ability to write.

It is not surprising that many students dislike writing since it is a difficult skill to master. This can be seen from the fact that composition or essay writing has at times been regarded as one of the least popular activities in a language classroom.

In a traditional classroom, the normal practice is to give students a topic and then ask them to start writing on their own. At the end of the lesson, the teacher collects the products, marks them and returns the essay to the students with or without feedback. Such a writing context serves as a testing purpose rather than a teaching one. The roles of the teacher and the students are stereotyped. In this context, the teacher is the examiner and the students are the examinees. Writing activities turns out to be purposeless chore for the students. It is therefore not surprising that the students find writing to be a daunting task. In order to make writing lessons more purposeful, enjoyable and meaningful, it is important that teachers reconsider not only the place of writing in a language classroom but also the approaches used to encourage competency in writing in the ESL/EFL classroom.

The purpose of this paper is to give ESL teachers an insight into the use of visual thinking strategies or approaches. It discusses the outcome of an exploratory study involving the incorporation of visual thinking strategies in the teaching of writing in an ESL context and the impact it had on students writing ability.

II. LITERATURE REVIEW

1. The Writing Process

The most important principle of the process approach to writing is that writing is the result of a very complex process and that individuals differ in the way they write.

The process approach to writing emphasized the idea of writing with a focus on thinking and the process. The process writing approach has, in its own ways, taken learning and teaching of writing into a new territory. It seeks to empower student writers by making their writing more relevant and meaningful. It involves five main stages known as prewriting, drafting, revising, editing and proofreading. They can be further grouped into early and later stages.

These stages involve the pre-writing or brainstorming stage followed by the completion of several complete drafts. This is known as the early stage. Revising, editing and proofreading are the later stages. During these stages, the writing is clarified and fine-tuned to make it ready for submission (Flower and Hayes, 1981, Morais, 2000).

This approach helps students to give attention to the development of ideas first and not focusing on the grammatical aspects, which can be clarified as they write, and rewrite. The process approach to writing has been shown to be successful in many ESL/EFL classrooms for both teachers and students (Flower & Hayes, 1981; Zamel, 1983; Harowitz, 1986; Archibald & Jeffrey, 2000). However, in spite of its many-reported success, the process approach to writing has not been able to be completely helpful to students with varying language competency in many other ESL/EFL

contexts. One of the problems has been that despite the theoretical recognition of writing as recursive process, it is still the case that in many classroom writing continues to be presented as a linear sequence of planning, pre-writing, writing, revising and proofreading. This has not increased or enhanced ESL students writing ability as writing also involves the ability to think, develop, expand and organize ideas. What seems to be missing is a method or technique that can be incorporated into the prewriting stage of the process approach to writing to help students develop better ability in writing.

2. Writing and Thinking

Writing is linked to the ability to think and is a complex cognitive process. If students were trained to think creatively and critically and at the same time use specific tools in the process of writing, they would be able to learn to develop, expand and organize ideas in a systematic way. Research findings by composition researchers and teachers have shown that the composing process can be taught as an intellectual and cognitive activity to generate ideas about a topic (Berthoff, 1978; Tiedt, 1989; Fisher, 1990; Buzan & Buzan, 2000; Burgess, 1994; Rafik-Galea & Jasvir Kaur, 2005a, 2005b). Good thinking demands clear writing and often results in concise clear prose. However, this does not mean that a lot of practice in writing will develop strong thinking skills.

According to Manzo and Manzo (1995), writing activates the reader's background knowledge before reading and thinking. It also raises the reader's level of intellectual activity; helps students to better formulate their worldview, and allow students to examine their perspectives on key issues. Finally, writing develops meta-cognitive as well as cognitive abilities because writing forces deeper levels of introspection, analysis, and synthesis.

Thus, when students learn to write they learn to activate their thinking skills to communicate their thoughts. When students learn to communicate their thoughts in writing constructively, they learn to associate ideas and to visualize their thoughts in some constructive form that is, through the use of different types of graphic organizers and drawings. This form will enable them to show the manner in which

they are thinking during the process of writing as well as the gaps in their flow of ideas or thinking. In order to connect thinking and writing students may be trained to use visual thinking tools. These tools are known to be effective means for teaching students to learn to connect thinking and writing where the visual tools provide a means for students to verbalize their thoughts through their written work.

In order to think creatively in the writing classroom, students need to read extensively for ideas and to reflect on those ideas. They need to learn to observe and search the environment for additional ideas or input (Rafik-Galea & Jasvir Kaur, 2005b). In addition, students need to learn to imagine, think and visualize the ideas that emerged in their minds. From here they can begin to recreate their visualized ideas through the process of introspection, analysis, reflection and thinking about how their ideas can be linked as a creative whole in the process of transforming their ideas into a good piece of writing (Rafik-Galea & Jasvir Kaur, 2005b).

3. Visual Tools for Thinking and Writing

I have discovered through my teaching experience that visual thinking tools allow students to visualize their thoughts clearly on paper and to frame their patterns of thinking systematically. The tools help students to validate their thoughts, identify gaps in their thinking, knowledge and furthermore the tools allow them to explore the subject matter in greater depth. Visuals thinking tools encourage students to explore and use their imagination besides motivating the students to think creatively without inhibition. Thus, such tools provide a context for the representation of different patterns of thought processes. Unconsciously students will be seen to use higher order thinking skills such as analyzing and associating information. At the same time they develop better metacognitive skills. In writing, the main source of information and knowledge comes from the learners' thoughts and imagination. Giving students the freedom of using visual tools such as mind maps, graphic organizers and images to develop ideas, will indirectly provide the foundation for the development of critical and creative thinking in writing. In addition, it helps students to have better control at development of ideas during the prewriting stage.

According to Hyerle (1996, p.9), "visual tools are now becoming key teaching, learning, and assessing tools in many classrooms". It is widely used within the context of a constructivist-cognitive paradigm. In addition, visual thinking tools play a very

important role in student-centered learning particularly where interactivity is the norm. He adds, “The depiction of ideas through visual forms has always been an elemental dimension of human culture (p. 9).” The forms Hyerle (1996, p. 9) refers to range from cave drawings, to doodling, cartography, diagramming of molecular structures and today computer-generated flowcharting. These forms provide a window to students’ way of generating and associating ideas. It provides for an understanding of the ways in which we are thinking and for building new insights. Thus, the use of visual tools in the teaching of writing in the ESL context helps the ESL learner to make and represent connections among ideas and concepts, provide a bird’s-eye view of patterns, interrelationships, and interdependencies of ideas. These visual tools act as strategies for developing and enhancing writing ability. In addition, they help to develop both sequential and lateral thinking (Barlex & Carre, 1985, p. 6-7).

4. Types of Visual Thinking Tools (VTT)

Visual thinking tools (VTT) are used to generate ideas in new interactive, reflective and innovative ways. It is best used at the pre-writing stage. There are many types of visual thinking tools/strategies. Some of the VTT used in writing are discussed below:

1) Concept and Semantic Mapping

According to Johnson and Pearson (1994), semantic maps or graphic maps are graphic representation, which takes the form of a flowchart. This flowchart reveals concept and relationship and they have good instructional values. In semantic mapping, a key word is chosen from the material that the students will read or write, and written on the blackboard. Students are asked to suggest word associated with the keyword and the suggested words are established. Like Johnson et al, Stahl and Vancil (1986) suggest that semantic mappings are effective because they enable students to activate prior knowledge and link them to new information. They also involve a lot of discussion, which encourages students to think and participate actively. This in turn promotes learning. Concept mapping is a good means of developing thinking skills. It helps students to see the relationship between things, ideas or people (White & Gunstone, 1992, p. 15).

2) Flow Charts, Grids and Tree Diagrams

Mohan (1986, p.58) defines a flow chart as a 'device which shows choices and their reasons and which outlines more complex processes in action situations'. It is thus considered to be a very useful method of drawing attention to the structure of a situation. In addition, Hyerle (1996) points out that flowcharting can be used to sort, group and classify ideas.

Burgess (1994, p.309) argues that flow charts, grids and tree diagrams are the best models available of how the mind organizes ideas in information sets. Flow charts embody temporal or casual sequences and encourage critical and flow thinking. Grids, on the other hand, represent "the attribution characteristics to phenomena, thus developing attribution thinking" (Burgess, 1987, 1994).

Tree diagrams, which seem to be popular among teachers, represent highly abstract classification of ideas in hierarchies. According to Burgess (1987, 1994) tree diagrams develop what he calls "hierarchy thinking" and are techniques of relating ideas to each other in order of generality.

3) Brainstorming Webs

Brainstorming webs is a clustering technique that helps learners visualize and organize information. It has been found to be extremely useful in helping students plan their writing (Rico, 1983). The main ideas or topic is included in the centre of the web. Supporting ideas come out from the main circle on spokes with circles at the end. Brainstorming sketches can be fast, building many ideas, one upon the other. Brainstorming sketches/webs can only be conducted successfully if teachers do not criticize or alter students' ideas during this process; otherwise they risk stifling student contributions. The students, through brainstorming, can construct very imaginative "biography" organizers. In writing, it refers the writer's awareness in presenting material of interest to an audience and in organizing it to appeal to that interest (Troyka, 1993).

The visuals presented here are by no means exhaustive. There are many more and the ESL writing teacher has to learn to identify what works best for their students.

III. METHODOLOGY

1. Purpose and Research Questions

The purpose of this small-scale quasi- experimental exploratory study is to gather initial data on the viability of carrying out such a study on a larger scale and further develop instruments for assessing the effects of different types of visual thinking tools /graphic organizers on ESL students writing development. In this study, the researcher is interested to see whether visual tools/graphics can help develop ESL students writing ability and to measure to what extent the visual tools have an effect on students writing development/ability. This study therefore sought to investigate whether the process writing instruction and the use of visual thinking tools as a technique incorporated into the prewriting stage of the process writing approach accounted for differences in learners' achievements as measured by their pre-test and post test scores.

2. Subjects

The subjects of the study were 20 university undergraduates enrolled in an English for academic purpose (EAP) course of a selected university. They were first year students and were selected at random from a total number of 38 students in an intact group in the EAP course to participate in this study. They had undergone formal education in English taught to them as a second language when they were in primary and secondary schools. The respondents comprise Malays, Chinese and Indian aged between 18-21 years and come from different backgrounds. There were 16 females and 4 males. All of them were enrolled in the bachelor of English program and have not been previously exposed to visual tools in writing.

The subjects for the study were selected based on their Malaysia University English Language Test (MUET) results. They had obtained similar results, that is MUET band 3 (Modest User). Thus, they were of approximately similar level in their English proficiency. Since the subjects have been exposed to process writing instruction in a previous writing class during the first semester, the pretest was administered early in

the second semester (third week). The treatment in using the VTT was carried out a week after the pretest was administered.

3. Research Design, Data Collection and Analysis

The research design for this study was that of a pre and post quasi-experimental intact group design. According to Hatch and Lazaraton (1991, p. 86) "intact designs are often the only practical way of carrying out research which will help find answers to questions". In addition, they add that the pre and posttest quasi-experimental study is appropriate for exploratory purposes but care must be taken when making causal statements about the findings.

The intact group (N=20) that had been randomly selected from a purposive sample population of 38 students (intact group) was both the control and experimental group in this exploratory study. The study was carried out in the writing class of a selected university. As mentioned earlier, the subjects were selected based on their MUET scores before moving on to the university. The subjects' MUET results show similarities in the level of performance by all the subjects in the study.

Data collection and analysis were carried in two phases using both a pre and posttest. In the first phase (pretest), the subjects had to write an essay based on a topic provided. The subjects were given a choice of two topics to choose from. The topics were (a) The impact of television violence on children and (b) Imagine that you and your close friend get into a discussion about population control and the potential lack of food on our planet (see appendix A for writing prompt). The students were given a total of 1 hour and 15 minutes to write their essay during the pretest.

At the pretest stage the subjects had no guidance and were not asked to focus on any one particular strategy. They were free to write using the normal process writing approach taught to them by their writing instructor. The EAP course instructor conducted the pre-test.

The instruction in using VTT (post-test and second phase) was conducted a week after administration of the pretest by the researcher's colleague who has vast experience in the use of VTT in the teaching of writing. The researcher was present as

an observer throughout the period. In order to see the effects of using visual tools/graphics on the subjects writing development, the subjects were trained for 5 hours per week over a four-week period (total of 20 hours) during the second phase to use a variety of visual tools/ graphics to plan and develop their ideas and content (see appendix B). They had a lot of practice in using the different types of visual tools. At the end of the four-week period students were asked to write a 150 word essay based on the same topic given at the pretest stage, using the visual tools taught for the posttest. They were given 1 hour and 15 minutes to complete their essay.

Both the pre and posttest essays were collected and marked by two independent raters. This is to ensure that evaluation would be more objective. The independent raters are qualified ESL writing instructors with 12 years of teaching experience and they were familiar with the scoring criteria. This method of evaluation prevents any bias or subjectivity on the part of the researcher. In this way, results obtained from the analysis would be more valid and reliable. The essays collected were evaluated using a holistic scoring device. They were evaluated for content, organization and language using a holistic scoring device (see appendix C) adapted from Jacobs, Zingraf, Wormuth, Hartfiel and Hughey (1981) and Beaven (1977). To assess the reliability of the raters' scores, an inter-rater reliability test using Pearson correlation was conducted using SPSS version 11 to determine the correlation matrix of the scores. The analysis revealed that the reliability index was .873 and that the relationship was significant at the 0.01 level (2-tailed).

IV. FINDINGS AND DISCUSSION

Data was analyzed using descriptive statistics and t -test. In discussing the findings, the analysis of the pre and posttest scores of the essay are first presented including the average scores. This is followed by the results and discussion of the paired sample t-test for content, organization and language. A one-sample (intact group) t-test is then presented to further reinforce the findings and finally an overall analysis of the students' performance using the t-test is provided.

The results of the study indicate that the use of visual thinking tools/strategies as a technique for developing ESL learners' writing ability did help the learners to think and organize ideas systematically. It did help them to write better although they still committed grammatical errors.

Table 1 shows the students' scores before the use of VTTS and after the use of VTTS. The analysis reveals that the VTTS technique did help the students to write better.

TABLE 1
Analysis of Pre-test and Posttest of Essay Writing

Holistic Scoring Guidelines for Essay Writing								
LOW		MEDIUM			HIGH			
1	2	3	4	6	7	8	9	10
Subjects(S)			Before VTT			After VTT		
N=20								
	Content	Org.	Lang.	Content	Org.	Lang.		
S1	3	2	2	6	6	5		
S2	3	2	4	6	6	7		
S3	6	4	8	8	8	9		
S4	6	8	8	8	8	9		
S5	5	4	6	7	7	8		
S6	10	8	8	10	10	9		
S7	8	6	8	9	9	9		
S8	6	6	6	8	8	8		
S9	8	6	6	10	10	9		
S10	7	6	4	8	8	7		
S11	5	2	3	6	6	5		
S12	3	2	2	6	6	6		
S13	4	2	2	6	6	6		
S14	6	3	3	8	8	7		
S15	6	3	3	9	9	8		
S16	6	4	3	8	8	6		
S17	5	3	3	8	8	8		

S18	3	3	2	7	6	6
S19	3	3	2	7	6	6
S20	3	3	2	6	5	5
Total	106	80	85	151	148	143
Average						
Score	5.3	4	4.25	7.55	7.4	7.15

In terms of means, the analysis shows that before the treatment students attained a mean of 5.3 for content. However, after the treatment the mean for content rose to 7.55. The mean for organization before the treatment is 4. Nevertheless, after the treatment this became 7.4. There was also an improvement in terms of language use. This turn out to be a bit of a surprise as students were still expected to have problems with language. The mean before the treatment was 4.25 and after the treatment, the mean was 7.15. The only explanation for this is that perhaps with the use of the VTT students could see or plan how to organize their writing in terms of tenses, expressions and appropriate language.

Based on the findings in table 1, there was a 2.25 percent increase in content, a 3.4 percent increase in organization and a 2.9 percent increase in language. Thus, overall the analysis revealed that students improved tremendously after treatment and that the VTT appears to be a positive way to motivate them to write better. It should be noted that similar studies by Rico (1983), Rafik Khan, (1997), Jasvir Kaur (2004), Beckett and Gonzalez's (2004) showed that VTT helped students to generate and expand their ideas thus increasing the ability to develop more content as the VTT is used for developing and generating content before finally drafting an essay. This may be a possible explanation as to why there was a 2.25 percent increase in content.

The Pearson correlation (significant at two tailed) test showed a positive and high relationship between the pre and posttest and showed a significant correlation at 0.01 level .

The findings as illustrated in table 1, were further validated using a paired sample t-test, which showed similar significant findings as illustrated in tables 2 and 3.

TABLE 2
Paired Sample t-test for Content, Organization and Language

Paired Sample t-test	Mean Difference	Standard Deviation	t	p (2-tailed)
Content (n=20) Pretest & Posttest	2.250	1.020	9.869	.000
Organization (n=20) Pretest & Posttest	3.400	1.353	11.235	.000
Language (n=20) Pretest & Posttest	2.850	1.268	10.052	.000

Table 2 provides the results of the paired sample t-test for content, language and organization. The results as shown in table 2 above illustrates the students writing performances during the pre and posttests. Based on content evaluation, the results shows $t = 2.250$, $p < .05$ in the pre and posttests. Therefore, the findings show that there is a significant difference in the mean scores between the pretest and posttest scores at .05 level of significance. This shows that there was an improvement in generating content in the students' writing after the intervention.

In terms of organization, the results shows $t = 3.400$, $p < .05$ in the pre and posttests. There is also a significant difference in the mean scores between the pretest and posttest. Thus, the analysis clearly indicates that there is an improvement in the students' ability to organize information in their writing.

Finally, in terms of language use, the results show $t = 11.40$, $p < .05$ in the pre- and post tests. Once again, the analysis shows that there is also a significant difference in the students' language use and that the students showed an improvement in the use of language in their writing after the intervention.

TABLE 3
One Sample (Intact group) t-test

One Sample t-test	Mean Difference	Standard Deviation	t	p
Students (Intact group) N=20	8.50	3.00	12.671	.000

The data as shown in the analysis of the one sample t-test in table 3 shows that $t = 12.671$, $p < .05$. The one sample t-test was carried out in order to further reinforce the outcome of the findings. The results as can be seen are exactly the same as that of the paired sample t-test. Thus it can be concluded that there is a significant difference in the students' performance in the writing task after treatment. This shows that the VTT helped improve the students' performance in the posttest. This is further illustrated in the overall analysis in table 4.

TABLE 4
Overall Analysis

Paired Sample	Mean Difference	Standard Deviation	t	p	(2-tailed)
Pre	13.60	5.789	12.671	.000	
Post	22.10	4.051			
N=20					

Table 4 provides the overall analysis based on the overall scores by each student where the content, organization and language scores were added together as a total score for both the pre and posttest. The results shows that $t = 12.671$, $p < .000$ indicating a significant difference in the students' overall writing performance after the treatment.

The analysis verified that the use of VTT/graphics as a strategy/technique to some extent did have an effect on the students' writing performance. The students had only spent four weeks (20 hours) understanding and practicing the techniques involved in the used of the VTT/graphics. Yet, they were able to demonstrate better mastery of organizing their thoughts although grammatical errors were still evident. The study

did not include instruction on grammar but focused on the use of VTT/graphics in developing writing ability.

Based on these results, it can be concluded that improvement is evident in the students' writing ability. Although the results are based on a small group of students in an exploratory study, nevertheless the improvements in quantity and quality showed that the use of VTT/graphics as a technique/strategy during the prewriting stage was effective in the writing classroom. Hence, by extension, clearly indicates that it does aid L2 writing development. The students appear to be positively engaged in the writing process, were motivated and their writing showed signs of improvement in sentence construction (language), organization, and content. This study has shown that students appear to have been positively reinforced in terms of their L2 writing development when they used VTT.

The findings of this study is consistent with that of a study by Rafik-Galea and Jasvir Kaur (2005a), Jasvir Kaur, 2004, and Rico (1983) which studied the effects of using mind mapping techniques and graphic organizers on students L2 writing development/ability. Their study showed that students made significant improvements in their writing after learning to use mind mapping techniques and graphic organizers at the prewriting stage. A study by Beckett and Gonzalez's (2004), showed that an understanding of the use of graphic organizers in content-based ESL writing helped students to write better and that it empowered students to visualize information clearly before writing.

The findings also suggest that the learners were motivated to use the VTT because they enjoyed the intellectual challenges involved in articulating and generating their ideas visually. They were able to see the gaps and problems in their development of ideas, make relevant connections and associations and resolve organizational problems by applying the visual thinking tools.

V. CONCLUSION

Previous studies on ESL writing have not focused on the use of VTT or graphic organizers in the development of writing ability. This study explored the use of VTT in the development of ESL students writing ability. In addition, it also provides an

alternative strategy for teaching writing in the ESL classroom and fills the gap in looking at other techniques for teaching and enhancing ESL writing.

Using VTT/graphics as a technique to assist the development of writing skills in particular groups of learners (those who are less motivated, highly anxious, suffering writer's block) may have more impact than other instructional approaches especially at the prewriting stage. This is because when students develop visuals/graphics in generating ideas for content development they are also learning to strategize information, making connections/association and learning to think about how their ideas should be presented and organized. Ultimately their visual/graphics becomes a work of art.

The findings of this exploratory study suggest that VTT and or graphic organizers are effective tools for helping ESL students to develop their writing ability. It also suggests that students might be more motivated to use VTT for developing content, planning and organizing their writing as it involves some form of creativity to select and organize information using different types of visual thinking tools/strategies. Finally, the positive findings clearly show that there is a need to change the way we teach students to organize and generate their thoughts/ideas in planning for writing and that further research in the use of VTT and or graphic organizers in the teaching of writing should be carried out.

REFERENCES

- Archibald, A., & Jeffrey, G. C. (2000). Second language acquisition and writing: A multidisciplinary approach. *Learning and Instruction, 10*, 1-11.
- Barlex, D., & Carre, C. (1985). *Visual communication in science*. Cambridge: Cambridge University Press.
- Beaven, M. (1977). Individualized goal setting, self- evaluation, and peer evaluation. In C. Cooper & L. Odell (Eds.), *Evaluating writing: Describing, measuring, judging* (pp. 135-156). Urbana. IL: National Council of Teachers of English.

- Beckett, G. H., & Gonzalez, V. (2004). Content-based ESL writing curriculum: A language socialization model. *NABE Journal of Research and Practice*, 2(1), 161-175.
- Berthoff, A. E. (1978). *Forming, thinking and writing: The composing imagination*. New Jersey: Hayden Book Co, Inc.
- Burgess, J. (1987). *Preparing overseas students for the oral contents of further education courses* Unpublished M.Phil Thesis. Department of Education. University of Manchester.
- Burgess, J. (1994). Ideational frameworks in integrated language learning. *System* 22(3), 309-318.
- Buzan, T., & Buzan, B. (2000). *The mind map book*. London: BBC Worldwide Limited.
- Fisher, R. (1990). *Teaching children to think*. London: Blackwell.
- Flower, L., & Hayes, J. (1981). A cognitive process theory of writing. *College Composition and Communication*, 32, 365-387.
- Hatch, E., & Lazaraton, A. (1991). *The research manual: Design and statistics for applied linguistics*. New York: Newbury House.
- Harowitz, D. (1986). What professors actually require: Academic tasks for the ESL classroom. *TESOL Quarterly*, 20, 445-462.
- Hyerle, D. (1996). *Visual tools for constructing knowledge*. Virginia: Association for Supervision and Curriculum Development.
- Jacobs, H. L., Zingraf, S. A., Wormuth, D. R., Hartfiel, V. F., & Hughey, J. B. (1891). *Testing ESL composition: A practical approach*. Rowley: Newbury House Publishers Inc.
- Jasvir Kaur, K. A. S. (2004). *The effects of mind mapping strategies on the development of writing skills of selected form three students*. Unpublished MSc. Thesis. Faculty of Educational Studies. University Putra Malaysia.

- Johnson, D. D., & Pearson, P. D. (1994). *Teaching reading vocabulary*. New York: Reinhart & Winston.
- Manzo, A., & Manzo, U. (1995) *Teaching children to be literate: A reflective approach*. Boston: Wadsworth.
- Mohan, B. (1986). *Language and content*. Reading: Addison-Wesley.
- Morais, E. (2000). *Reading, thinking and writing in an ESL context: Explorations of the mind*. Kuala Lumpur: Beacon Press Sdn. Bhd.
- Rafik-Galea, S., & Jasvir Kaur, K. A. S. (2005a). Graphic Organizers in the Development of Second Language Writing Ability. In Wong Bee Eng (Ed.), *Second language acquisition: Selected readings* (pp 113-139). Kuala Lumpur: Sasbadi Sdn. Bhd.
- Rafik-Galea, S., & Jasvir Kaur, K. A. S. (2005b). (Forthcoming) Bridging Thinking and Writing via Mind Maps. In Ambigapathy Pandian, Gitu Chakravathi & Samuel Leong (Eds.), *Forthcoming. Literacy challenges: Issues in research and practice in Asia Pacific* (pp.120-129). International Development in Asia Committee (IDAC) and USM International Literacy Unit: Universiti Sains Malaysia. 120-129.
- Rafik-Khan, S. (1997). *The development of a materials training framework for English for academic purposes*. Unpublished PhD. Thesis. Department of Education, University of Leicester.
- Reid, J. M. (1993). *Teaching ESL writing*. New York: Prentice Hall.
- Rico, G. L. (1983). *Writing the natural way*. Los Angeles: J. P. Tarcher Inc.
- Stahl, S. A., & Vancil, S. J. (1986). Discussion is what makes semantic maps work in vocabulary instruction. *The Reading Teacher*, 40, 62-67.
- Tiedt, I. M. (1989). *Writing from topic to evaluation*. Boston: Allyn and Bacon.
- Troyka, L. Q. (1993). *Handbook for writers*. New Jersey: Prentice Hall.
- White, R., & Gunstone, R. (1992). *Probing understanding*. London: Falmer.

Zamel, V. (1983). The composing process of advanced ESL students: Six case studies. *TESOL Quarterly*, 17, 165-187.

APPENDIX A

Writing Prompt for Pre and Posttest

Essay Writing Test

Time: 1 hour 15 Minutes

(You will be given an additional 5 minutes to read the task).

This test requires you to write an essay by selecting any one of the topics provided below.

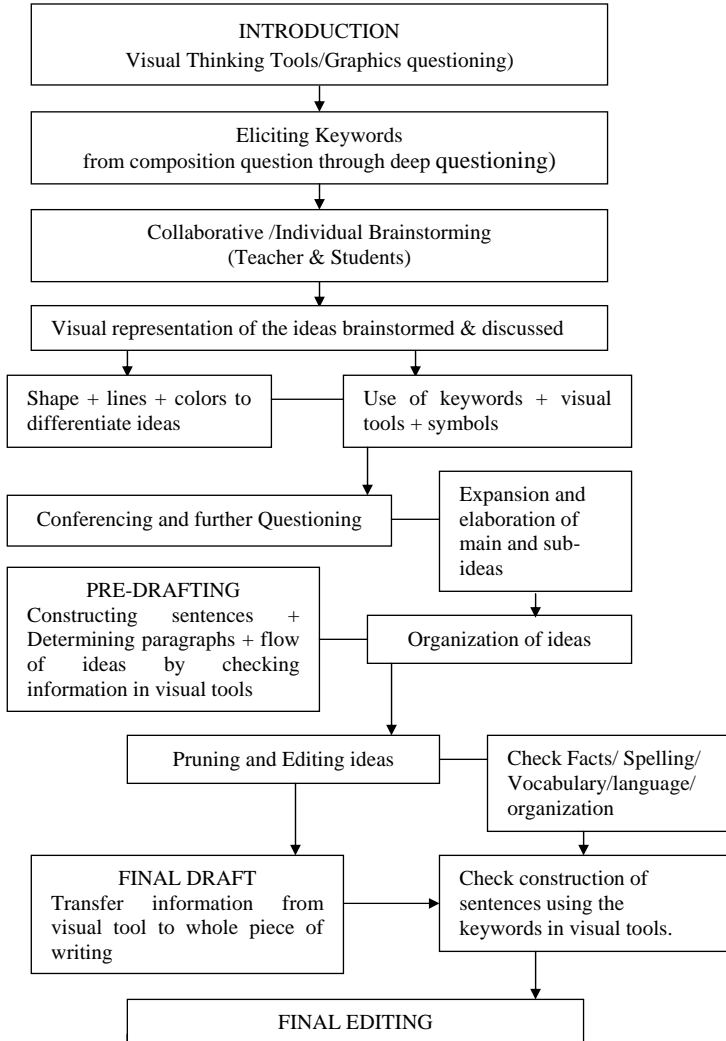
1. The impact of television violence on children.
2. Imagine that you and your close friend get into a discussion about population control, deforestation and the potential lack of food on our planet. Discuss what you think may happen.

NOTE:

Use the writing booklet provided for your planning. Please turn in all your planning drafts etcetera together with your final essay. Write your essay in the booklet provided.

APPENDIX B

The Stages of VTT Instruction -ESL Writing Development



APPENDIX C

Holistic Scoring Criteria

Score	Level	Criteria
Content	7-10	HIGH (EXCELLENT TO VERY GOOD) : knowledgeable * substantive * thorough development of thesis * relevant to assigned topic.
4-6		MEDIUM (GOOD TO AVERAGE): some knowledge of subject * adequate range * limited development of thesis * mostly relevant to topic, but lacks detail.
1-3		LOW (FAIR TO POOR): limited knowledge of subject * little substance * inadequate development of topic/ does not show knowledge of subject * non-substantive * not pertinent * OR not enough to evaluate.

Organization	7-10	HIGH (EXCELLENT TO VERY GOOD): fluent expression * ideas clearly stated/supported * succinct * well-organized * logical sequencing * cohesive.
4-6		MEDIUM (GOOD TO AVERAGE): somewhat choppy * loosely organized but main ideas stand out * limited support * logical but incomplete sequencing.
1-3		LOW(FAIR TO POOR) : non-fluent * ideas confused or disconnected * lacks logical sequencing and development/ does not communicate * no organization * OR not enough to evaluate.

Language Use	7-10	<p>HIGH (EXCELLENT TO VERY GOOD): effective complex constructions * few errors of agreement, tense, number, word order/function, article, pronouns, prepositions. Sophisticated range of vocabulary* effective word/idiom choice and usage * word form mastery * appropriate register. Demonstrates mastery of conventions * few errors of spelling, punctuation, capitalization, paragraphing.</p>
4-6	MEDIUM (GOOD TO AVERAGE):	<p>effective but simple constructions * minor problems in complex constructions * several errors of agreement, tense, number, word order/function, articles, pronouns, prepositions but meaning seldom obscured.</p> <p>Adequate range of vocabulary* occasional errors of word/idiom form, choice, usage but meaning not obscured. Occasional errors of spelling, punctuation, capitalization, paragraphing but meaning not obscured.</p>
1-3	LOW (FAIR TO POOR):	<p>major problem in simple/complex constructions * frequent errors of negation, agreement, tense, number, word order/function, articles, pronouns, prepositions and/or fragments, run-ons, deletions * meaning confused or obscured/ virtually no mastery of sentence construction rules * dominated by errors * does not communicate * OR not enough to evaluate. Limited range of vocabulary* frequent errors of word/idiom form, choice, usage * meaning confused or obscured/</p>

essentially translation little knowledge of
English vocabulary, idioms, word form *
OR not enough to evaluate. Frequent errors
of spelling, punctuation, capitalization,
paragraphing * poor handwriting * meaning
confused or obscured no mastery of
conventions. *

Examples in:English

Applicable Languages: English

Applicable Levels: College

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