

The Use of the Computer in Written Language

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Abstract

Current changes in the written language curriculum have led to emphasis being placed on the process involved in writing rather than the product. Writing is being viewed as a means of exploration, with text being manipulated in revision until a clear message is conveyed.

This study focuses on the use of the computer in written language, as a tool to facilitate learning, increase interaction and alter children's attitudes. Some children from a local primary school participated in a project which gave them access to a computer and guidance during the process of revision.

Evaluation of this study showed a two-fold effect. Firstly the writing behaviors of the children developed with their increased involvement in the process. For example, the children began to read what they had written thereby independently evaluating the content. Secondly, arising from this, as a sense of control over their writing was gained the children's attitudes towards writing became more positive.

Keywords : interaction, writing tool, use of computer, English composition

1. Introduction

Word processors assist writers through composing, editing and publishing. The programmes are set in the language format, and enable the writer to manipulate text with ease removing the physical limitations of writing by hand.

Researchers are designing programmes that consider the whole spectrum of the writing process. Rubin and Newmans have designed Quill, a set of interrelated programmes that guide students through writing. The system contains six programmes that, focus on planning, integrating reading and writing with peers and revising. Such programmes although still in the experimental stage could have real impact on the written language programmes of the future.

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2. Review of Literature

2.1 The Purpose of Writing

Writing is a means of communicating and expressing ideas and thoughts. For children in particular, it provides a means for recording what they know and can be a vehicle for discovery.

(1) Writing - a definition

The very act of trying to put things in words can help the student to discover what's on their minds, and ultimately help them to sharpen their thoughts and order their intelligence.

Rice (1984) applied the process approach to writing in a one to one situation. She

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discovered that both teacher and child changed their behaviour as writers and heightened their understanding of the writing process when writing rather than skills was the central focus.

(2) Writing

Writing is for ideas, action, reflection and experience. It is not for having your ignorance exposed, your sensitivity destroyed, or your ability assessed.

Teachers need to provide an environment that allows children to hold on to that belief and encourages them to remain in control of their writing thereby making their learning more meaningful.

2.2 Enter the Computer

It must first be stated that the computer is not able to provide good writing instruction alone - it relies heavily on well developed programmes and teacher skill. However, the computer has advantages that fascinate and stimulate the writer to participate more actively in the writing process and is therefore a valuable tool can improve language experiences for children.

Interactive computer programmes are being developed to lead children through the writing process, from prewriting to publishing. Prewriting programmes assist the student to generate ideas and to develop supporting details for their ideas. At this early stage in the process the teacher and other students are able to provide an audience for the writer, as preliminary ideas and structure are discussed.

(3) Prewriting Programmes

The logical flow of narrative, the role of examples in an explanation, and the communication of characters plans in a story.

Another attribute of the computer is that as it does not require such a 'complex combination of psychomotor function' it is simpler and more 'rewarding' than writing by hand.

2.3 Pilot programme

In an article entitled Word Processing in the Grade one Classroom, Phenix and Hannan (1984) describe the observable changes a pilot programme using a word processor had on the children writing.

(4) The effect of a word processor

- a. The children began to reread their previous days work. They saw writing as an on going process.
- b. The children would more often choose to continue or revise their writing.
- c. The children spent a much longer period of time at the task of writing.

Phenix and Hannan considered that the children's new understanding of the writing process was attributable to the computer.

2.4 Hypothesis

The writer proposes over a six week period to demonstrate that the computer has the ability to alter children attitudes to and understanding of the writing process.

(5) First draft

When I was asleep I woke up. What else did I find then snow. When I went out I found that there was snow on our driveway really, lots of snow. Really, I saw snow in every driveway.

The focus will be on attempting to increase the children awareness of the need to evaluate their work as they strive to achieve clarity of thought. It is anticipated that the computer will encourage them to play with text and

assist them to understand that they do not have accept their initial thoughts as final. The computer, by decreasing the physical skills involved in writing and by producing visually attractive and readable text, is expected to encourage the children to revise and share their work.

3. Research method and procedure

The school in which the project was run was selected on grounds of location and availability of an Apple computer. The location was important as the project involved the writers participation at each session over the six weeks.

The subjects involved in the project were selected from a standard four class containing twenty nine children. The teacher commented on the spread of ability amongst these children and what he termed as a lack of a middle range.

3.1 Subjects

It was important that the children on the programme had no hands on computer experience, other selection criteria related to their attitude and ability. These criteria were seen as providing the best experimental conditions. The preferred attitude to written language was a negative one caused by lack of interest, confidence or the child perceived poor performance.

At the initial interview session a group of six children were given a questionnaire and asked to submit a ten minute writing sample. Using the stated selection criteria two male students were chosen. The information gained from their questionnaires illustrates their attitudes and expectations. These included :

- (6) The information gained from

questionnaires

- a. Interaction or discussion are not part of the writing time.
- b. What they write should be correct first time.
- c. Deciding when text might need revising was unknown.

3.2 Computer and procedure

Twenty one sessions were taken over a six period. They initially ran for half an hour, 9:0-9:30, however this amount of time was regarded as unsatisfactory by all involved in the project and the earlier time of 8:45 was agreed upon.

The subjects were also introduced during this session to Master type, a game which enables the operator to develop keyboard skills. Master type was used to assist the subjects to become familiar with some of the letter placements and to generally gain confidence in handling the computer. During subsequent sessions Master type was available for the first fifteen minutes, with each writer then having fifteen minutes at the computer for composing or editing.

During the six weeks the boys will be exposed to two different types of writing experience. The first is the more familiar individual writing time where the writer expresses personal thoughts or ideas, constructing and revising independently where possible. A second writing experience to be included, was group writing, in this situation the story is composed collaboratively with ideas being discussed, selected and rejected in a supportive writing environment. The screen clearly visible text makes the computer an excellent media for this type of public writing.

4. Results of the case studies

Current research into written language

shows that competence in this area of language requires an understanding of a process during which the writer refines the text until it ultimately conveys the message intended. During the six weeks it was expected that the computer would facilitate this desire to manipulate text increasing the need to reread and revise. It was anticipated that the clarity of the print-outs and the interaction engendered by writing with a computer would heighten each writers desire to share their work.

Two types of writing were to be included during the six weeks, individual and group writing.

The results of the project will look at three areas in which the computer was expected to facilitate change :

- (7) The results of the project
- a. The use of the computer in the revision process.
 - b. The computer as a catalyst for interaction.
 - c. The computers effect on attitudinal change.

Both subjects brought different skills to the task and it was anticipated that through increased understanding of the writing process they would build on this knowledge. As the computer was not being used to teach skills but rather to facilitate learning, text was not expected to be free of errors. The computers role was to encourage the children to independently view revision as an integral part of the writing process.

4.1 The Computer in the Revision Process

The computer was used as a means of assisting children to develop greater control over the revision process. It was conveyed to the subjects that it is during revision that

clarity of thought is achieved and that revision can take place at anytime. The computer engendered in both subjects a desire to revise with the previous days print-out being read and alternations discussed. Revisions were initially made in consultation with the tutor, the emphasis being on the more mechanical aspects of writing such as, spelling and punctuation.

By session 8 both subjects had included additions and alternations to their revision repertoire. The degree of independence each subject exhibited during revision increased as their command of basic skills improved. Subject B had become semi-independent by session 7 and independent by session 20.

Subject A showed some independence in session 9 but did not become semi-independent until session 15.

(8) Summary of session contents (Subjects A)

Session 1. Introduction	6. Comp 2 R/T E
2. Comp 1 C	7. Grp comp E C
3. Comp 2 C	8. Comp 3 C
4. Comp 1 R/T E	9. Comp 3 RI/CT E
5. Comp 2 C	

Revisions were made primarily on the print-outs while they waited for the computer but began to occur while they were composing or editing. This indicates that the subjects were reading and considering their as they wrote checking for clarity of meaning.

4.2 Handwritten sample

Hand writing illustrates the difficulties subject A experienced with written language in a ten minute sample. His text contains a considerable amount of repetition and lacks sentence construction. There is little evidence of a sequence of ideas. The results of his questionnaire indicated he regarded writing as physically difficult and he felt handicapped by

his poor spelling. His attitude, pre-computer, towards writing was very negative and he admitted he had not wanted to participate in the project as he anticipated it would be 'difficult and boring'.

When introduced to the computer he very quickly found his way round the keyboard and mastered the editing commands with ease. He found the Master type game a challenge, his quick reflexes and good memory enabling him to score well.

He tended to work on his compositions for an average of four sessions with his revisions including spelling, punctuation and additions to text. (9) shows the stages during which the initial idea of his second composition was shaped and developed.

(9) Second composition

On the ousers holaday on monday me and my fathe and my mother are going to. my carsen in ameracar on the ousers holaday on Monday and my carsen caem. is kersar in ameracar. On the first Monday of the August holiday my father and my mother and I are going to my cousins in America. My cousins name is Kersar.

This example clearly shows the child conscious consideration of his story line during the editing process. He was not merely copying from his revised print-out in order to achieve an error-free draft, to make that addition while editing he had to be reading his text and deciding on content.

4.3 Subject B

This subject had a good many skills but perceived himself as being a poor writer with few ideas and difficulty with spelling. This ten minute sample of handwritten sample shows sequence of ideas, has few spelling errors and is a relatively clear expression of his thoughts.

Although he used the Master type game his

lack of confidence affected his performance. The game requires good co-ordination and memory as what the eye sees on the screen must be translated into a correct finger movement on the keyboard. He correspondingly found writing with the computer slower than by hand but the editing facilities and the print-outs kept him at the keyboard. He had difficulty at first, remembering the editing command keys but this created a chance for sharing between the boys. Subject A had quickly grasped the computer skills and he readily assisted subject B, who in turn having realized his spelling was of a reasonable standard offered his expertise to subject A.

On average he spent 2.5 days on each composition, his revisions including punctuation, additions to text and spelling corrections. He began to make independent revisions in session 7 but liked to consult with the tutor over punctuations. During session 20 it became apparent that he had developed an understanding of sentence structure. (10) shows his text before and after revision with the new text successfully reorganized into sentences.

(10) The new text reorganized

Mum and Dad came to school, with me to see how I used the computer. the teacher explained how it worked. Mum and Dad were very interested. Dad wants to get one for home Dad says he wants to get a computer that dosent play games but I want one that dose both we have got a empty room for it down the back of the house soon Im going to get posters

The development of his last composition during the last four sessions indicates the control he was beginning to exercise over his writing. This displays his increased control over the process, all revising and editing he

conducted independently, his content is well developed and conveys a clear message.

(11) The development of subject B's last composition

This morning Mum and Dad came to school, with me to see how I used the computer. The teacher explained how it worked. Mum and Dad were very interested.

This was the first composition to be constructed by subject B over a four day period and the indications were that had there been a further session he would have constructed with it.

5. The Computer as Catalyst for Interaction

While using the computer both writers readily accepted the importance of revision in the writing process. They opted to work through compositions until they were satisfied their text conveyed a clear message.

The interaction possibilities during each session were three fold:- between the tutor and the subjects, the subjects themselves, and the subjects and the computer. The success of the children interaction with computer was indicated by the print-outs. The interaction between the subjects was observed to be of a co-operative nature with the boys sharing their skills and their compositions as they worked on the computer. The revision process provided opportunities for interaction but this was primarily between the tutor and each subject. This interaction was computer based in that the computer provided the print-out from which revision possibilities were discussed.

The computer can be used through the whole gambit of writing; in planning, composing, editing, and publishing. At each

phase while the student interacts with the computer the uniform clear text on the screen and print-outs encourages opportunities for sharing.

Measurement of attitudinal change was based on observed behaviour changes and comments from the children, parents and their class teacher. The computer was viewed as the catalyst for change in that it encouraged involvement which resulted in success and this led to enhanced self esteem. By removing the punitive aspects of revision the computer allowed the subjects to develop an understanding of the importance of revision in the writing process. The subjects began writing to explore their thoughts continuing with a composition until it clearly conveyed the intended message.

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