The level of visual literacy in post-secondary students

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WESTERN AUSTRALIAN COLLEGE OF
ADVANCED EDUCATION

THE LEVEL OF VISUAL LITERACY
IN POST-SECONDARY STUDENTS

A DISSERTATION
SUBMITTED TO THE SCHOOL OF EDUCATION
IN CANDIDACY FOR THE DEGREE OF
BACHELOR OF EDUCATION
WITH HONOURS

BY

JULIE RUSSELL
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ABSTRACT

In art education, the term visual literacy refers to the ability of a student to interpret or decode various forms of representation. A person who is literate is able to read and write text, while a visually literate person is able to decode visual art images, and to a lesser extent use these skills in the creation of artworks. Art syllabuses in Western Australia clearly state desired outcomes in the area of visual literacy, yet little is known about how effective these guide-lines have been in producing school leavers who are visually literate. The effectiveness of secondary art teaching strategies in the implementation of syllabus guide-lines, and the ability of students to apply visual literacy skills, forms part of the conceptual basis of this study.

This introductory pilot study investigated the performance of a group of first year tertiary students on tests of visual literacy, and the extent to which previous secondary school art experience and art vocabulary are related to the ability to decode images. A test of visual literacy was used, in the form of interviews, which involved a comparison between a representational and non-representational image. A test of art vocabulary in the form of an objective test, was also administered to all students. The methodology of this pilot study sought to determine the extent to which the subjects were able to apply existing knowledge to the interpretations of artworks. The relationship between artistic ability and visual literacy has not been considered in this study.

It was found that there was a range of visual literacy scores, and that the level of visual literacy possessed by this group of first year tertiary students was related to secondary school art experience but no conclusive relationship was formed between visual literacy
and art vocabulary. In light of this, a number of recommendations for further study have been made, with a primary focus on determining the extent to which art education does influence visual literacy; developing art courses which will maximise this effect; and investigating the relationship of visual literacy to artistic ability.
DECLARATION

I certify that this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any institution of higher education: and that to the best of my knowledge and belief it does not contain any material previously published or written by another person except where due reference is made in the text.

Julie A. Russell
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INTRODUCTION

In the early 1980's it was argued that if the subject art were to survive as part of the general curriculum then art educators would need to review the underlying principles and the nature of art practice in schools. Of all the rationales proposed, Visual Artistic Literacy was identified as the most powerful, contemporary argument for Australian art education. The questions arise as to how many art educators understand what visual literacy entails and, if it is understood, is it being effectively taught in Western Australian schools? Findings on the level of visual literacy in post-secondary students elsewhere in Australia have indicated that there is an alarming lack of basic knowledge about the visual arts. In light of this, visual literacy in the secondary curriculum should not be considered an option but a necessity. There is a need for local research which investigates not only the levels of visual literacy in the secondary school population, but the effectiveness of visual literacy education.

In 1981 the superintendent of Art/Craft for the Education Department of Western Australia, Mr Ray Sampson, applied a similar approach to discussion in the local context. In an examination of the value of studio art practice in developing aesthetic appreciation and visual literacy in secondary students, Sampson (1981, p.148) advocated a "balance of making and responding to art", which he believed would promote understanding of the visual arts. These ideas had some influence on later developments in curriculum content and structure. In 1987 as part of the Unit Curriculum, the Practical and Creative Arts syllabus was produced, which formally acknowledged visual literacy and 'art awareness' as significant art components. This new lower-secondary curriculum framework reflects a discipline-based approach to art
education through the dimensions of: visual literacy, visual inquiry, art criticism, art history and studio practice. The Unit Curriculum (1987, p.3) emphasises the importance of literacy within the subject discipline, and defines visual literacy as "the ability to draw on a wide range of experience with visual language in order to meet the expressive needs of occasions for using visual language to communicate."

The concern for visual literacy is also evident in the upper secondary art syllabuses. The "Year 12 T.E.E Syllabus: Art" (1989) places emphasis on the student's knowledge and understanding of contextual and cultural issues within the visual arts. The T.E.E Art syllabus (p.63) rationale states that art is a means of communication "passing on values of the past and present", and emphasises that "a knowledge and understanding of the visual arts will enable students to participate more effectively in and contribute to the diverse aspects of Australian cultural life". Students are required to demonstrate a level of visual literacy, and at all levels of the secondary art syllabus this component is considered in the assessment of attitude and involvement in the visual arts.

Both the lower-secondary and the T.E.E art syllabuses aim to produce visually literate students. The questions arise as to the success of this approach in creating visually literate students in Western Australian schools. Are students leaving secondary school with a real understanding of visual images? Have they acquired the skills necessary to decode meaning from visual images - to make use of those skills in talking about visual images? Have they developed competence in visual literacy?

The present study is an introductory, pilot study which attempts to examine work in this field. It considers the performance of a group of first year tertiary students on a test of visual literacy, and the extent to which previous secondary school art experience and art vocabulary is related to visual literacy. The relationship of artistic ability and visual literacy is not considered in this study.
The broad purpose of this study is to determine whether students who enrol in a primary teacher education course will have a range of visual literacy. A more specific purpose is to determine whether on a test of visual literacy and art vocabulary, those students who have completed Year 11 and 12 T.E.E. Art will score higher than those who have not. This is based on the assumption that the teaching of art should influence and increase art vocabulary and visual literacy skills.

A 'Glossary of Terms' is included on page 44.
CHAPTER 1

LITERATURE REVIEW

It was argued in the early 1980's that for art education to survive in the general
curriculum a major "review of its principles and practices" would be necessary
(Boughton 1983, p.1). In establishing a rationale for art in the general curriculum,
Boughton asserted that "visual, artistic literacy is the most powerful contemporary
argument for art education". The term visual literacy emerged in the 1970's, and
according to Boughton was essentially derived from research into the psychology of
perception. Since then the term has become increasingly fashionable in art education,
although as Boughton (p.8) states it remains "a variety of related and somewhat tangled
conceptions." Visual literacy can be said to be concerned with the 'reading' of visual
images. The current literature in art education emphasises that there exists a standard of
visual literacy which allows one to function effectively and fully in society (Eisner
1987), and that "the visual arts contain within some knowledge that is absolute"

The emergence of visual literacy as a concern in art education in the 1970's presented a
new justification for the inclusion of art in the curriculum. As the concept was
developed through research, it became evident that 'art learning' must be structured for
it to be effective and of benefit to students (and in turn, society). To answer the need
for structure "Discipline-based Art Education" (DBAE) was developed at the Getty
Institute (U.S.A) and promoted in schools throughout the United States of America.
DBAE recognised 'art as language', and a structured, disciplined approach to art was
not only accepted and applauded by American art educators, but also by Australian art
educators. (See page 14).

4
Many current art syllabuses incorporate learning in visual literacy with the goal of providing a balanced visual education. However, success of the implementation of visual literacy in secondary art education, and the ability of students to apply this effectively through their own art experiences has not been widely documented in Australian literature. This review aims to outline briefly some rationales for art in the general curriculum and the justification for visual literacy itself. The authors cited attempt to define visual literacy and discuss some of the implications of visual literacy for students of art in education.

1. Visual Literacy

Visual literacy was essentially derived from the study of the 'psychology of perception' (Boughton p.8). It is a visual language approach to understanding and communicating in the visual world with the emphasis on 'reading' visual images. Visual literacy assists in the creation of artworks, but it is more important in the process of obtaining meaning from them. (Fielding 1981). Three types of visual literacy have been identified, and these are discussed in turn. (See also page 13).

Visual Artistic Literacy implies literacy in the 'decoding' and 'encoding' sense; "a student who is literate in the encoding sense will know about the various processes involved in manipulating art media, the visual elements and the principles of design and the nature of imagery appropriate to specific art forms." (Boughton 1983,p.10) This is contrasted to Boughton's definition of visual literacy in the 'decoding' sense: "He [the student] would have the ability to derive meaning from art forms as a consequence of the application of strategies of art criticism, and knowledge of art history." (p.10)

In visual 'artistic' literacy the complexity and richness of visual art images are valued for their own sake. The key concepts of this approach to visual literacy reflect the intellectual tradition of phenomenology (Boughton 1986,p.136). The visual artistic
literacy conception is aimed at creating educated consumers of art; "participants in art not just practitioners". In defining visual artistic literacy, problems arise as to the definition of the term 'art'. Boughton (p.136) categorizes art under the following headings: Fine Arts - painting, sculpture, architecture; Applied Arts - craft, drawing, product and graphic design; Folk or Tribal Arts; Popular or Vernacular Arts. Boughton advocated that exposure to a variety of 'levels' of art is necessary to develop true artistic literacy.

**Visual Aesthetic Literacy** is closely aligned to visual 'artistic' literacy, however there is a greater emphasis on the 'decoding' of images through various theories of aesthetics and art criticism (Boughton 1986, p.137). Lanier (in Boughton p.137) defines aesthetic literacy as focusing "primary attention on how we respond to works of art or other evocative stimuli, rather than on the character and quality of the objects themselves." This idea was supported (in Boughton p.10) by Zimmerman (1978), and Parrot (1982, 1984). The essential aim of the aesthetic literacy approach is for the student to adopt a variety of 'intellectual stances' in order to 'read' artworks. Boughton (1983, p.9) stated that "a student who is aesthetically literate is able to adopt a variety of stances in order to consider the visual objects with which he is confronted and is also able to understand how and why we place aesthetic value on things we see."

Lanier (1981) presented a system for conceptualising a work of art through a number of 'screens': what other people will say about the work; the setting; how we learned to see; knowledge of elements of design; what the artwork reminds us of; how much we know about the history of the work; what relationship the work has to our own life. Eisner (1982, p.49) discussed what he termed 'forms of representation', "the vehicles through which concepts ... are given public status." Eisner (1982, p.51) stated that working within forms of representation "provides the individual with an opportunity not only to perform in the role of maker but in the role of critic as well." Feldman
(1973) also devised a four stage process for aesthetically evaluating artworks: Description, Formal Analysis, Interpretation, Judgement. (See page 8).

One consistent underlying assumption of the 'artistic' and 'aesthetic' conceptions of visual literacy is that "art is a unique language form containing qualitative meaning that cannot possibly be encountered in any other language form" (Boughton 1983,p.10).

The fundamental difference between the artistic and aesthetic forms of literacy lies in the primary focus of study. In the artistic conception the focus is solely on art objects, and in aesthetic literacy objects of any nature (i.e. objects from the natural or constructed environment) may be studied or contemplated.

**Visual Literacy Communication.** This rationale supports the belief that visual and verbal language parallel each other in many ways (Fransecky and Debes in Boughton 1983,p.10), and that both involve the thought processes that precede speech and writing (deep structures) as opposed to surface structures which are the expressed forms of these thought processes. Boughton opposed this belief and stated that there are fundamental differences between the visual (non-discursive) and the verbal (discursive) language forms, and that these differences exist essentially in the qualitative meanings that may be encoded within each form (Boughton p.11). Langer (in Boughton ,p.11) defined these forms more concisely by stating that the discursive mode (verbal and written) is characterised by systematic, rational and propositional schemes; and the non-discursive mode (visual art images and symbols) "present immediately sensuous forms of feeling". Eisner (in Boughton 1986,p.131) referred to the syntax of art language :"The arts...possess what might be called 'qualitative syntax'. Qualitative syntax is the form within which a particular work is created....We call this syntax or codes in the arts 'style'. Each has its own logic ".

The work of the authors cited in this review relates specifically to the artistic and aesthetic conceptions of visual literacy. The authors concurred on the general
conceptions that: art is a basic form of literacy; that art is a distinct language form capable of encoding meanings which cannot be encoded by any other language form; that the visual arts constitute a teachable and learnable language form that is not only capable of encoding objective meaning, but has special significance for the expression of subjective meaning. (Fielding 1981, p.50).

Subjective meaning frequently arises from the interaction of the individual with the environment (Eisner 1982). In his discussion on the communication process Eisner (p.47) stated that "concepts, regardless of the form they take, are personal aspects of human experience", and "it is only when these experiences serve as the content for human expression that communication is possible and that the content of experience is made social." Eisner (p.47) defines the means used for conveying personal experience through communication as 'forms of representation'. Forms of representation are "the expressive medium used to make a conception public", be it visual, tactile or otherwise. (Eisner p.53).

2. Visual Literacy in the Curriculum
Feldman (1977, p.12) presented his views on visual literacy in its embryonic stages noting that artistic and aesthetic values may be learned, developed and aimed towards a 'balanced visual education'. In his discussion Feldman raised issues relevant to visual literacy in the curriculum that are almost taken for granted by many art educators today. Boughton (1986) discussed how the changing social and political conditions such as cultural diversity, economic constraints and unemployment have seen the rise of the visual literacy movement in the last fifteen to twenty years. The ascendency of visual literacy in art education may be seen as a response to the 'back-to-basics' movement.

Further compelling reasons provided by Boughton (1986, p.127) for the concentration on visual literacy relate to the fact that Australian culture is becoming increasingly
dependent upon visual images as a means of communication, and as visual symbols are created to convey messages it is important that students can 'read' the sometimes hidden messages of the mass media. By understanding that visual language is different to verbal language, and that visual communication relies on the innate grammar of images, students will be adequately prepared to deal with an increasingly visual world. In response to the changing political and social conditions in Australia Senator Susan Ryan (1986) asked that to benefit the Australian people, the arts be treated as seriously as physics and mathematics, as they require the same degree of skill and ultimately seek the same educational ends.

Feldman (in Boughton 1986,p.127) re-emphasised the significant contribution visual literacy in art education can make to the basic education of the child, by stating his belief that the child who is unable to read and understand visual images is incompletely educated, and that everyone must have the opportunity to learn to read the language of visual images. Feldman (in Boughton p.127) termed those who are unable to react critically to visual images as "passive viewers unable to choose between alternative responses to visual images." Feldman advocated that the way to teach visual literacy was through the critical examination and evaluation of artworks, (visual artistic literacy).

In summary it was proposed that if children are unable to read the language of art then they cannot experience artworks, or have access to the content these works possess. The curriculum should be aimed at the development of multiple forms of literacy to enable students to become visually literate.

3. Art in the Curriculum

In order to develop a coherent conceptual framework for this research it is necessary to consider some of the justifications for including art in the curriculum. It was noted that there is a close link between these justifications and the promotion of visual literacy in
schools. Feldman (1977, p.10) considered the future role of art students and asked the pertinent question "What is the connection between studying art and living a reasonably decent and satisfying life?" Feldman reported that most art teachers believed that a connection did exist between studying art and living a full life, but he noted that teachers were often unaware of what the connection was. Further to this Feldman (p.10) asked if students actually "derive any benefit from it (art) in terms of their future roles as citizens, parents and workers?", emphasising that we must recognise that "only a small...minority of citizens practice art professionally", but many people may become involved in the art world in one of many roles. Feldman termed these people as 'participants', rather than practitioners because of their contribution to art in one of the many alternative roles. In the discussion Feldman based his argument for art education on his belief that by being exposed to art and making aesthetic judgements on a small scale (through art education), and relating this to the larger scale (in the real world) students will be better prepared to function effectively in society. Feldman (p.12) noted that artistic and aesthetic values can be learned and developed through what he defined as a 'balanced visual education', and argued that there should be purpose and structure in art learning for it to be of true benefit to the student, emphasising the "social dividends of a balanced visual education". In many respects what Feldman proposed was an embryonic case for the inclusion of visual literacy in the school curriculum as a means of preparing people to become participants.

Gardner (1983) drew attention to the 'visual language' of images and symbols and noted that cultural values and knowledge could be transmitted by this visual language to those who were visually literate, and discussed what he termed the 'fictional view' of art as purely affective and inspirational. He noted that artists often dismissed the discipline and training necessary to attain the high standard of artistic accomplishment, and the required development and deployment of skills and abilities, thus promoting the idea that art relies on inspiration. Gardner (p.47) also noted that the mental effort
involved in artistic practice is often ignored or dismissed, however he recognised that these attitudes have changed over the past decade, to the point where art is once again being seen as a matter of the mind, which can be supported by research.

Gardner (1983, p.47) referred to artistic perception and the use of symbols or codes in interpreting visual images, stating his belief that to attain competence in the arts it is necessary to 'gain literacy', to read these symbols or codes. That is for a person to be able to decode meaning from visual images that person must be visually literate. Gardner was concerned with establishing the link between art and cognitive processes as a means of justifying the place of art in the general school curriculum.

Eisner (1987, p.8) was also concerned with this link between art and cognitive process, and in addition stated that "perceptivity - the ability to see what others do not - provides the building blocks for our imaginative life". Further to this Eisner (p.6) asked the question "Is Art Ornamental in Education?" In essence his response was negative as he believed that the role of the school curriculum is to emphasise what is 'basic' for the child to function effectively in his/her society; but what is 'basic' to the child's needs, and does it include art education? (Eisner p.6). He identified the acquisition of language as basic but noted that there were other languages beside those that are written or verbal. Eisner (p.6) stated that there was a language associated with the visual arts which was concerned with the ability to 'read' or unpack visual images. He noted that in the visual arts the use of visual art terms, as well as the arrangement of elements form a coherent structure or syntax. This syntax must be understood or 'read' to derive meaning from the visual image.

In support of art education Eisner (1987, p.4) stated that the school, and art education could contribute by giving students access to the "intellectual and artistic wealth that our culture ... has to offer". Through his discussion Eisner (p.9) stated that art is one of the "most important forms of representation through which humans share what they
have thought, felt or believed". In the discussion Eisner emphasised the necessity of the visual arts, and he warned that schools (or society) cannot afford to neglect this artistic and intellectual wealth. In his endeavour to identify what was 'basic' Eisner (p.10) referred to the role of art education in enhancing "the cultivation of the sensibilities, human imagination and judgement", recognising that "learning to compute and think mathematically draws upon thinking skills that differ from those employed in ... the visual arts." Eisner was concerned with the subject status hierarchy that existed in the school curriculum - perpetuated by school administrators, teachers, parents and students who do not realise that art education is necessary if students are to participate effectively in all aspects of society. Eisner (1987, p.13) discussed the perpetuated myth that "it is futile to teach the arts to that large segment of the population that does not have the genetically determined capacity to understand, experience, or to create it". Calling attention to the fact that one does not assume that "the ability to read or to do arithmetic is an ability one either possesses or does not". He pointed out that art can be learned and understood in much the same way as any other subject discipline.

In reviewing the rationales for art in the curriculum Boughton (1983,p.2) outlined four major rationales for art education that were current or had recently been developed. These were: (a) Art develops creativity; (b) Art develops the visual aesthetic sense; (c) Art improves society; and (d) Art promotes visual literacy. A brief discussion of these rationales may help to clearly establish the claims of visual literacy as a viable and appropriate alternative.

(a) **Art Develops Creativity.** This view was essentially rejected by Boughton (1983, p.1) as "inappropriate for art education today." This rationale was one of the major concerns of art education prior to the mid 1960's, although the issue has remained a concern in Australia well into the 1980's. The belief that "art was not something one
learned to see, to do, or to understand, but something that unlocked the child's creative potential" (Eisner 1987, p.12) resulted in an unstructured approach to art learning. Eisner (in Boughton 1986, p.126) refuted the creativity argument, and reported that by the late 1960's it was evident that there was no supported connection between art study and improvement in 'creativity'.

(b) Art Develops the Visual Aesthetic Sense. This rationale, which shared equal popularity with the creativity argument over the past twenty years, was also rejected by Boughton (1983, p.1 & p.6). A clear and precise definition of 'Visual Aesthetic Sense' has not emerged from the literature, however Lanier (in Boughton 1986, p.6) attempted to define the term: "the art of making or looking at an art object can be a major event in experience, evoking sufficient condition of heightened response ...the response has been to a visual entity...a visual aesthetic experience."

(c) Art Improves Society. This is essentially a social reconstructionist view, and sees art as a tool for achieving increased cultural understanding (Boughton 1983). In the past art education has been viewed as a means of transmitting cultural heritage, cultural and moral refinement, and to improve the ability of society to find creative solutions to important problems. (Boughton 1983, p.12). Fielding (1981,p.16) supported the social reconstructionist value of art and emphasised the benefits of the visual arts to both the individual and society, in creating a wider conceptual development and a unique, powerful means for transmitting culture.

(d) Art Promotes Visual Literacy. In this, the most recent rationale for art education, Boughton (1983,p.8) identified three general categories of visual literacy: Visual 'Artistic' literacy; Visual 'Aesthetic' literacy; and Visual literacy Communication. Within this rationale for art education Boughton (p.9) identified five "common assumptions which underpin each of these conceptions". They are as follows:
i) The images man encounters in his visual world can be 'read'.

ii) Particular visual configurations can be created by man to convey meaning to others.

iii) Visual language is different to verbal language.

iv) The structure of visual language can be learned in terms of decoding and encoding visual forms.

v) It is important to teach visual literacy in an increasingly visual world.

4. Art as a Discipline

In 1987 Eisner presented a case for Discipline-based Art Education (DBAE) with particular reference to the visual arts programme in United States schools. DBAE aims at developing the skills and abilities of the student to participate effectively in our 'visual' society, encouraging students to develop in areas of: application, discernment, judgement and discrimination of art and the visual world. The 1960's and 70's had seen a media-based approach to art education - the emphasis was on the making of art and not understanding it. DBAE opposes this media-based approach in its aim to produce 'educated consumers of art', endorsing the view that art can be understood in the same way as other subject disciplines (Eisner p.14). Eisner established four main roles central to the mission of DBAE:

- 'Art making' - Practitioner / Artist
- Art criticism - Critic
- Art history - Historian
- Aesthetics / judgement - Aesthetician

Eisner (p.16) described how DBAE "allows children to develop the visual sensitivity to see and describe the subtle and complex qualities of both visual art and the visual environment....to understand the relationship of art to cultural." Eisner advocated
DBAE as an approach to develop not only the appropriate attitudes but the skills needed to experience, describe, analyse, and interpret the expressive qualities of visual forms.

5. Visual Literacy - Implications for Students.

Boughton (1983, p.16) suggested that there was a need to establish a broadened conception of art which de-emphasised studio production and placed emphasis on 'talk about art', which was concerned with visual literacy, appreciation and understanding. Boughton (p.16) called for evidence that art education was "both significant in its context and and responsible in its directions". Of all the manifestations of visual literacy which have been outlined, Boughton (1986, p.139) recommended that visual 'artistic' literacy was not only the most appropriate conception but the one most likely to develop literacy.

Fielding (1981) undertook a study of the level of competence in visual literacy [knowledge, skills, and attitudes towards art] in a group of beginning student teachers at Townsville College of Advanced Education. This study was aimed at establishing, among other things, the effectiveness of the school in creating visually literate students. To determine levels of knowledge about art Fielding administered an objective test and found that the students leaving the system at year twelve level had a "significantly deficient knowledge base in the visual arts" (p.52); this applied especially in the area of the visual arts in Australia. Fielding studied the values and attitudes towards art and artists, and the influences of the home environment in shaping these.

The general picture that emerged from Fielding's study indicated a "passive acceptance of the visual arts by...parents...[indicating] an increased responsibility for the schools to compensate" for the lack of resources and exposure to art (1981, p.53). As might be expected from this lack of exposure to art, Fielding found that students consciously preferred recognisable images (i.e. images represented with a high degree of realism).
To ascertain the level of visual literacy skills Fielding applied Feldman's four stage strategy of analysis, and added a fifth category of 'empathy'. The results indicated an interest only in what Eisner termed 'primary surface', which meant that the subjects were incapable or unaware of "penetrating to the secondary surface, where the real meaning and significance of the painting lies" (Fielding 1981,p.54). Fielding believed this indicated a conditioning to accept primary surface [or primary subject matter] and little beyond. From his research Fielding (1981,p.55) listed the following general conclusions:

i) There was a startling lack of even basic knowledge about the visual arts.
ii) That the students had limited concepts of their cultural roots and were restricted in interaction with their culture.
iii) Students were generally unable to interact meaningfully and sensitively with visual form.
iv) Students were lacking an aesthetic frame of reference and they were conditioned towards an objective assessment of reality.

Fielding (1981) concluded by emphasising the argument presented by Eisner (1987), that there is a standard of visual literacy which allows one to function effectively in society, just as there is such a level of competence required in the use of spoken language. The authors cited are in agreement that the visual arts contain some knowledge which is absolute, and in light of this visual literacy in the curriculum should not be considered an option but a necessity. There is a need for effective practices in visual literacy education to be implemented, maintained and supported in Australian secondary schools.
CHAPTER 2

DESIGN OF THE STUDY

PURPOSE AND RESEARCH QUESTIONS

The purpose of the study was to investigate three basic questions. These were:

a) How widely do students differ in their level of visual literacy on entry to a primary teacher education course?

b) To what extent does the secondary school art/craft experience influence the student's ability to decode meaning and give a verbal account of visual images (visual literacy level)?

c) To what extent does the possession of art language/vocabulary influence the student's ability to decode meaning from visual images (visual literacy level)?

Although not an essential element in the study, another question was also examined. This was:

To what extent does the study and completion of the year 12 T.E.E. Art course influence art vocabulary?

RESEARCH HYPOTHESES

Four research hypotheses were established from the research questions. In each case a statistical test was carried out to test the null hypothesis. When the null hypothesis was rejected it was rejected in favour of the alternative, research hypothesis.
**Research Hypothesis 1:**
Students enrolled in a primary teacher education course differ significantly in their level of visual literacy, as measured on a test of visual literacy. This was the primary hypothesis on which the other three depended, because if there were no differences among students no further analysis could be carried out.

**Research Hypothesis 2:**
Students who have studied the Year 11 and 12 T.E.E Art course achieve significantly higher scores on a test of visual literacy than those who have not.

**Research Hypothesis 3:**
Students who score highly on a test of art vocabulary achieve significantly higher scores on a test of visual literacy, than those who do not.

*(Subsidiary) Research Hypothesis 4:*
Study and completion of the Year 11 and 12 T.E.E. Art course will improve the student's art vocabulary.

**Null Hypothesis**
In each case the null hypothesis being tested is the same as the research hypothesis in the negative form. e.g., Research hypothesis 2, when tested as a null hypothesis reads as:

Students who have studied and completed the (Year 11 and 12) T.E.E. Art course will not achieve significantly higher scores on a test of visual literacy than those who have not.

If the null hypothesis is rejected it does not prove the research hypothesis, but supports its acceptance.
POPULATION OF INTEREST

The population of interest consisted of students undertaking tertiary teacher education studies. However, for convenience and accessibility it was restricted to students who were enrolled in the first year of the Bachelor of Arts, Primary Education course, at the Western Australian College of Advanced Education, Mount Lawley Campus, in 1989. The total number of these students was 163. The results apply only to these students, and not to tertiary students in general.

Students within this group came from Government, Catholic and Independent schools. In order to control factors which might have influenced the results, the group from which the students were selected was restricted to those who were 'school leavers', (i.e. had come directly from secondary school after completing year 12); were aged 17 to 18 years, and were enrolled in the first, introductory unit in Art Education (primary) at WACAE, Mt. Lawley campus.

SAMPLE

Twenty students were selected at random from the 163, and eighteen participated. Teacher bias could have influenced results if a number of students had attended the same secondary school. Information obtained indicated that all students had come from different secondary schools.
INSTRUMENTS

The study involved the use of two measures:

i) A structured interview in two parts - to test visual literacy. The first part involved a representational image, the second part a non-representational image. (see page 23)

ii) An objective test - to test art vocabulary. (see Appendix B)

Both measures were then related to the student's secondary art experience. The 'Art' group consisted of students who had undertaken Years 11 and 12, and completed T.E.E. Art. The 'Non-Art' group consisted of students who had completed art study to Year 10 or less. (The level of art experience always refers to the highest level attempted).

i) Interview

Data on visual literacy, for both images, were obtained by means of a structured interview (see Interview Schedule, p.28), which measured the student's visual literacy level. The structured interview employed Feldman's (1973) four stages of art criticism: Description, Formal Analysis, Interpretation, and Judgement as the basis for the questions. A series of eleven questions, (see 'Interview schedule', page 22) increasing in complexity and sophistication were presented in four stages as follows:

**Stage 1. Description:** contained two questions requiring the students to list and describe what was in the artwork. At this stage students were not required to offer any interpretation of the artwork.
Stage 2. Forma l Analysis: contained three questions requiring the student to 'formally analyse' the technical and compositional components of the artwork, using appropriate art language.

Stage 3. Interpretation: contained three questions requiring the students to employ their art knowledge and understanding to interpret various aspects of the work and its meanings.

Stage 4. Judgement: Contained three questions at the most sophisticated level of Feldman's analysis. The questions required the students to demonstrate their art knowledge and understanding through their interpretive judgement of the artwork, based not on their personal taste, but on their knowledge of art, artists and styles.

The interview questions were applied to two visual images as two complete interviews. The artworks were in the form of poster-size reproductions, one representational and one non-representational abstract:

1. "Spring Frost", 1919, Elioth Gruner (Australian)
   Oil on canvas, 131 x 178.7 cm.

2. "Heavy Red", Wassily Kandinsky (Russian)
   Oil on canvas, 59.5 x 48.5 cm.

All interviews were conducted by the researcher, therefore no between interviewer variation was involved. The details were recorded and transcribed onto an answer sheet, and subsequently scored using a table of questions and four response levels (1, 2, 3, 4). for each item. (See Appendix A). Scoring occurred on three levels: Each item was scored at 1, 2, 3 or 4; the total interview score at level 1, 2, 3, or 4; and the overall average score was a sum of the scores from interview one and interview two.
INTERVIEW SCHEDULE

INTERVIEW

Look at the work carefully. If you do not understand the question please ask me to explain further. Answer each question with what you believe.

STAGE ONE DESCRIPTION

1. What is it? [painting, print, drawing, sculpture etc].
2. Make a list of what you can see. [objects, people, or shapes].

STAGE TWO FORMAL ANALYSIS

3. Is this painting organized in a particular way? [composition etc]
4. What are the strongest compositional features of the work?
5. How does the paint appear to have been applied?

STAGE THREE INTERPRETATION

6. What might the work mean? [i.e. what is it about?]
7. Are there other possible meanings?
8. Do you think the compositional structure reinforces any of the interpretations [or meanings]?

STAGE FOUR JUDGEMENT

9. How does this work compare with other works you know?
10. Based on what you have observed and discussed, what do you think of the work?
11. Does the work evoke any particular emotion/feeling you would like to express?
ii) Objective Test

The objective test was used to determine the student's levels of art/vocabulary. (see Appendix B) The test provided data relating to basic levels of knowledge about art elements; art principles; terminology; and processes of western art and art movements. The test included a cover page comprising three questions relating to the students previous art experience, to provide a context for the interview and test data. The test contained twenty five items in multiple choice form, and students were required to select one item from a possible four.

The format of the test was based on an art vocabulary test written by Professor Allison, for use in the Art Department at the Western Australian College of Advanced Education, however the copy was incomplete and a similar test on a smaller scale was devised. The test did not include any visual images, and required the student to select the most appropriate word to match the given definition. Only one correct response for each question was possible. The number of items correct was the test score, there was no guessing penalty.

PROCEDURE

i) Interview

An important focus of the interview was to ensure that the student followed the sequential stages for analysing the artwork. Each of the four stages contained specific requirements, and it was important for the student to progress through these stages to avoid making judgements on the reproduction based purely on personal preference, and without due consideration of the formal components of the work. To deal with this in the interview situation the student was not exposed to the work prior to the
commencement of questioning. The student was given approximately thirty seconds to
look at the reproduction before being asked to describe what was in the work. After
this brief period the student was permitted to look at the reproduction for as long as
needed to identify aspects of special interest and meaning.

The sequential development of Feldman's strategy for analysing artworks is designed
to lead the viewer (student) through the work from Description through Formal
Analysis to Interpretation and Judgement.

All interviews were conducted within a ten day time period. Interviews for both images
were conducted during the same sitting for each student, allowing a total of fifteen to
twenty minutes with each student. All students finished within the predicted time. The
reproductions were hung on a wall and were covered until the student was seated and
ready to commence the interview(s). Students were asked if they would allow their
interview to be recorded on tape and then told the following:

"Look at the work carefully. If you do not understand the question please ask
me to explain further. Answer each question with what you believe."

The cover over the first, representational artwork was then removed, and questioning
began following the interview format. The representational artwork was always the first
work to be shown. The non-representational artwork the second.

The order of presentation of the images was not alternated, and as such may have
contributed to an order effect. It is not possible to detect if such an effect influenced the
results of the interview, however in future studies measures would be taken to
eliminate this effect.

The time set aside for each student's interview was determined by their availability
during the day. All interviews were conducted between nine a.m and four p.m. The
students were interviewed in random order to counter possible biases related to college
group, gender or previous art experience.

The tape recording of the interview was transcribed, and on the basis of this a first,
subjective score of the student's literacy level was assigned. This was supported by the
further scoring of each individual item (question) on the score sheet. The scores for
each item were then totalled and rounded to give the total interview score. (See
Appendix A).

ii) Objective Test

The multiple-choice objective test was administered to the group under test conditions.
Students were instructed to respond by placing a cross on the correct answer, and told
that they may answer the questions in any order. Sixteen of the eighteen students
undertook the test as a group. They were asked not to discuss or disclose any of the
contents of the test with the two remaining students who were unable to take the test at
this time. These two remaining students took the test at a later date but prior to
commencing interviews. As the results of these two students were within the average
range of marks it did not appear that they were influenced by the students who had
completed the test. All 18 students undertook the test within 7 to 14 days prior to the
interviews.

STATISTICAL TESTS

This project was an exploratory, pilot study on a small sample of eighteen students.
Such a small sample presents problems in selecting suitable statistical tests. Using
results which could only be described as being in the form of categories and ranks
meant that procedures requiring measurement beyond nominal and ordinal were probably not appropriate to this study, which was phenomenological in nature. Therefore the study uses only non-parametric measures.

When testing the first hypothesis, i.e., whether all students could be regarded as having obtained the same visual literacy score, a one-way Chi-square test was used, but because of the small sample size, this was also checked using the Binomial test.

To test the other hypotheses it was necessary to combine categories, resulting in contingency tables no larger than 2 x 2. Chi-square as a test of independence was not appropriate for contingency tables with a sample below 20, so Fisher's Exact Test, which gives an exact probability of occurrence was used. In creating the tables the scores were split as close as possible to the median. For the measure of visual literacy (interview) the scores were split at 1 as 'low' and 2,3,4 as 'high', and for the vocabulary (objective test) the scores were split at 11 - 16 as 'low', and 17 - 21 as 'high'. The level of secondary school art experience was also divided into two subgroups of Art and Non-Art. The Art group refers to students with art experience to Year 11 and 12 T.E.E. Art level. The Non-Art group refers to those students with art experience up to Year 10 level. The year level always refers to the maximum level of secondary school art studied.

The alpha risk was set after considering whether a Type I or a Type II error would be more serious. In a pilot study it is more important to ensure that information that may be promising for further studies is not overlooked. Setting an alpha risk of .05 offers reasonable protection against both Type I and Type II errors. Accordingly the alpha risk in this study was set at .05. i.e., a result is considered to be significant if it is likely to occur by chance no more than 5 times in 100 observations.
Limitations

It is acknowledged that there are some limitations to the study. The randomly selected sample was only eighteen students; the group did not have an equal number of Art and Non-Art students; the Art group did complete a minimum of two more years of secondary art study, than the Non-Art group, and these two years were at Year 11 and 12 level, the groups contributing background factors were not known in detail or examined in this study; it has been assumed that both measures were sufficiently accurate for the purposes of this study but the accuracy of the measures and circumstances of testing could be questioned. Suitable statistical procedures for such a small sample, and for the nominal and ordinal levels of measurement used, presented problems.

As a new and specialized field, the literature on visual literacy is confined to relatively few authors. The lack of local research in the area indicates the necessity for a study such as this, and the need for future studies. Although visual literacy can be related to the psychology of perception, it was not appropriate to include such literature in this review.
CHAPTER 3

RESULTS

A. Visual Literacy

i) Range of Visual Literacy

Tables 1 and 2 provide an overview of interview scores for each image across all art experience levels, and show secondary art experience by the interview scores for all 18 students. Table 3 shows the average of these scores from interview one (representational image) and interview two (non-representational image). In this discussion interview one is referred to as the representational image, and interview two as the non-representational image. Level 1 has been determined as 'low', and levels 2, 3, and 4 as 'high', for the reasons previously outlined in Chapter 2.

In both Table 1 and 2 there is a range of scores occurring, from level 1 to 3. Table 1 shows 10 students at level 1, 4 students at level 2, and 4 students at level 3. Table 2 follows a similar pattern of scores with 12 students at level 1, 2 students at level 2, and 4 students at level 3. Table 3 shows the range of the total averaged scores. In averaging the scores half points were used, yet still a similar pattern emerged; 9 students scored at level 1; 4 at level 1.5; 2 at level 2.5; and 3 at level 3.

The null hypothesis concerning the range of visual literacy is that all students will have the same score, and that variations from this can be attributed to chance and/or error of measurement. In Table 1, 10 students scored 1 and 8 scored above 1. The relevant figures for Table 2 are 12 and 6, and for Table 3 they are 9 and 9. Are these chance variations from the true situation, being that they all really scored 1?
The Chi-square value from Table 1 figures, i.e., that the real result is 18/0 and not 10/8, is 12.656, significant at p <.005. The results for the other tables are 7.56 (Table 2), and 16.06 (Table 3), and are both significant. All Binomial tests gave probabilities less than .0005. We may therefore reject with confidence the hypothesis that the students in the sample differ in scores by chance and/or error of measurement, and conclude that there are genuine differences in the visual literacy scores.

ii) Art v Non-Art experience - Overall Average Score

Examination of information in Table 1 representational image, revealed that no student with below Year 10 experience scored above level 1. Of the 7 students with art experience at Year 10 level, 5 scored at level 1 and 2 scored at level 1. In contrast to this, 2 of the 6 students with T.E.E. Art experience scored at level 2, and 4 students scored at level 3.

The information in Table 2, non-representational image, shows a similar pattern. In the scores of students with less than Year 10 art experience, no student scored above level one. Students with Year 10 art experience performed with similar scores, with 6 out of 7 students in this group scoring at level 1, and 1 student scoring at level 2. A difference was noted in the scores of the students with Year 12 experience, with 1 student scoring at level 1, 1 scoring at level 2, and 4 scoring at level 3.
Table 1.

EXPERIENCE (year level) BY REPRESENTATIONAL IMAGE (Interview one)

<table>
<thead>
<tr>
<th>EXP</th>
<th>INT. 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 0 0 0 1</td>
</tr>
<tr>
<td>8</td>
<td>3 0 0 0 3</td>
</tr>
<tr>
<td>9</td>
<td>1 0 0 0 1</td>
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<tr>
<td>10</td>
<td>5 2 0 0 7</td>
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<tr>
<td>12</td>
<td>0 2 4 0 6</td>
</tr>
<tr>
<td></td>
<td>10 4 4 0 18</td>
</tr>
</tbody>
</table>

p (2x2) = .0015

Table 2.

EXPERIENCE (year level) BY NON-REPRESENTATIONAL IMAGE (Interview two)

<table>
<thead>
<tr>
<th>EXP</th>
<th>INT 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1 0 0 0 1</td>
</tr>
<tr>
<td>8</td>
<td>3 0 0 0 3</td>
</tr>
<tr>
<td>9</td>
<td>1 0 0 0 1</td>
</tr>
<tr>
<td>10</td>
<td>6 1 0 0 7</td>
</tr>
<tr>
<td>12</td>
<td>1 1 4 0 6</td>
</tr>
<tr>
<td></td>
<td>12 2 4 0 18</td>
</tr>
</tbody>
</table>

p (2x2) = .0039

Tables 1 and 2 illustrate that a greater number of students scored above level 1 on the first, representational image than on the second, non-representational image, yet a still greater number did not score past level 1. A significant difference was found for both.
images in favour of higher scores for those students with T.E.E. Art experience. This was more significant for the representational image (.0015), than for the non-representational image (.0039). Both scores allow to reject the Null hypothesis at the established alpha risk of .05.

When the scores of interview 1 and 2 were averaged by pooling a results the significant difference was also found in the Average Visual Literacy Level (A V L L ) (see Table 3). An exact probability of .0045 was obtained indicating a significant difference in favour of higher scores for the students with art experience.

Table 3.

EXPERIENCE BY AVERAGE VISUAL LITERACY LEVEL

<table>
<thead>
<tr>
<th>Average Visual Literacy Level (A.V.L.L)</th>
<th>EXP.</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
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</thead>
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<td></td>
<td>10</td>
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<td>12</td>
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<td>0</td>
<td>2</td>
<td>6</td>
</tr>
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<td>9</td>
<td>4</td>
<td>0</td>
<td>2</td>
<td>3</td>
<td>18</td>
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</table>

\[ p (2x2) = .0045 \]

Tables 1 to 3 relate to Research Question 2: To what extent does the secondary school art/craft experience influence the student's ability to decode meaning and give a verbal account of visual images (visual literacy level)? The results support the rejection of the
null hypothesis in favour of Research Hypothesis 2 that: Students who have studied the Year 11 and 12 T.E.E. Art course achieve significantly higher scores on a test of visual literacy, than those who have not.

ii) Art v Non-Art Experience - Item x Item.

Table 4 shows the individual item scores for the representational image, in relationship to secondary art experience for the Art and Non-Art groups, and the probabilities (Fisher's Exact Test) for the 2 x 2 comparison of the Art and Non-Art groups for each item.

In Table 4 a range of scores from level 1 to 3 was noted for each item; no student scored at level 4 on the representational image. The majority of the Non-Art group scored at level 1, with fewer responses at level 2, and very few responses at level 3.

The data for the Art group also revealed a range of scores from level 1 to 3. In contrast to the Non-Art group a majority of responses from the Art group scored at level 2 and 3, with fewer responses at level 1. On items 8 to 11 no Art group student scored below level 2, with a majority of students scoring at level 3, indicating that they were operating at a level beyond 'Description' and towards 'Interpretation'. On item 9 all Art group students were operating at the 'Interpretation' (more sophisticated) level.

The results indicate that although for the representational image for items 1 to 7, the Non-Art group students scores were lower than those of the Art group, the differences were not significant. However the differences for items 8 to 11 were significant, indicating that the Non-Art group were not able to deal as effectively with the interview items which required interpretive and analytical discussion of the reproductions, as the Art group students.
Table 4.

INDIVIDUAL ITEM BY EXPERIENCE
REPRESENTATIONAL IMAGE (Interview one)

<table>
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<th>ITEM</th>
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<th>3</th>
<th>4</th>
<th>1</th>
<th>2</th>
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<th>P (2x2)</th>
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<tbody>
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</table>

* NS indicates not significant (probability >.05)

** Note - all significant results are in favour of the Art group

Table 5 shows the individual item scores for the non-representational image, for the Art and the Non-Art groups. In Table 5 a range of scores from level 1 to 3 was noted for the Non-Art group. No student from the Non-Art group scored above level 2 on
any item, with the majority of students scoring at level 1. On item 1, all 12 students
from the Non-Art group scored at level 1.

Table 5.

INDIVIDUAL ITEM BY EXPERIENCE
NON-REPRESENTATIONAL IMAGE (Interview two)

<table>
<thead>
<tr>
<th>ITEM</th>
<th>NON-ART N=12</th>
<th>ART N=6</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>LEVEL OF RESPONSE (score)</td>
<td></td>
</tr>
<tr>
<td>Item</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
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<td>11</td>
<td>9 3</td>
<td>1 1 4</td>
</tr>
</tbody>
</table>

* NS indicates not significant (probability > .05)

** Note - All significant results are in favour of the Art group.
These scores indicate that on the non-representational image the Non-Art students were unable to progress past the 'Formal Analysis' of the work, and in fact most responses were at the 'Descriptive' level.

The data for the the Art group shows a range from level 1 to 4 (however this was only for one student, and on one item). The majority of responses were at level 3, with slightly fewer responses at level 2, and a small number of responses at level 1. The number of students scoring at level 3 was greater on items 6 to 11. On items 8 to 11, only 1 Art group student scored lower than level 2, with a large number of respondents scoring at level 3.

A similar pattern was noted in the data to that of Table 4, the difference being that the Art group also performed significantly higher on items 3 and 4, indicating the Art group's ability to employ visual literacy skills in dealing with the compositional structure of the image more effectively than the Non-Art group. On the last four items, 8 to 10, the Art group was again able to employ their visual literacy skills in dealing with the more sophisticated 'Interpretive' levels of questioning, therefore scoring significantly higher than the Non-Art group on those items for both images. This supports rejection of the null hypothesis in favour of Research Hypothesis 2 that: Students who have studied the Year 11 and 12 T.E.E. Art course achieve significantly higher scores on a test of visual literacy, than those who have not.
B. Vocabulary

i) Vocabulary by Visual Literacy Level

Tables 6 and 7 provide data on the vocabulary test by the interviews (representational image and the non-representational image). The tables were collapsed into a two by two table comprising 'low' and 'high' test scores and 'low' and 'high' interview scores. (See page 26).

Examination of the information in Table 6 revealed that in the 'low' test score bracket were a total of 10 students, 8 of these students also scored 'low' on the representational image, and 2 of these students scored 'high'. In the 'high' test score bracket were 8 students, of whom 2 scored 'low' on the representational image. The remaining 6 from this bracket also scored 'high' in the interview. Analysis of the data produced a significant probability of .0288 in favour of students who scored 'high' on the test also scoring 'high' on the representational image.

Table 7 revealed a similar pattern of score distribution, however they proved to be statistically different. The 'low' test score bracket contained 10 students, with 8 scoring 'low' and 2 scoring 'high' on the non-representational image. In the 'high' test score bracket were 8 students, with 4 scoring 'high' and 4 scoring 'low', on the non-representational image. Analysis of the data did not lead to a significant probability being found in favour of the students who scored 'high' on the test also scoring 'high' on the non-representational image.
In Table 8 the test score was examined in relationship to the Average Visual Literacy Level. From these data a significant probability of .0267 was found, but this was attributed to the significant difference in the representational image, and therefore does not give a true indication of the real significance of the scores. The results from Table 6 would indicate rejecting null hypothesis 3 in favour of the alternative hypothesis, however Table 7 contradicts this result and supports Null Hypothesis 3 that: Students
who score highly on a test of art vocabulary will not score significantly higher on a test of visual literacy, than those who did not.

Therefore from the data it was not possible to establish that the performance on the vocabulary test was related to the performance on both the representational and non-representational style of the images used in the interviews. The overall result will have to be regarded as inconclusive.

Table 8

**VOCABULARY BY AVERAGE VISUAL LITERACY LEVEL**

<table>
<thead>
<tr>
<th>Average Visual Literacy Level</th>
<th>1</th>
<th>1.5</th>
<th>2</th>
<th>2.5</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SCORE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-13</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>14-16</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>17-19</td>
<td>1</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>20-21</td>
<td>1</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>9</td>
<td>5</td>
<td>0</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

\[ p (2 \times 2) = .0267 \]

ii) Vocabulary by Art v Non-Art (experience)

This was not an essential aspect of the study, but has been examined out of interest.

Table 9 shows the art vocabulary score by secondary art experience (Art and Non-Art). In the 'high' test score bracket there were a total of 8 students (less than half). Of these 8 students 3 were from the Non-Art group, and 5 from the Art group. In the 'low' test score bracket were a total of 10 students. In this bracket a strong contrast was noted.
between the scores of the two groups, with 9 students in the 'low' bracket from the Non-Art group, and 1 from the Art group.

Table 9.

VOCABULARY BY ART EXPERIENCE
(Art AND Non-Art)

<table>
<thead>
<tr>
<th>EXP.</th>
<th>11-13</th>
<th>14-16</th>
<th>17-19</th>
<th>20-21</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>7</td>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

P (2x2) = .030

These results produced a probability of .030 in favour of the Art group achieving higher scores. This result enables us to reject the null hypothesis in favour of the Research Hypothesis 4 that: The study and completion of the year 12 T.E.E. Art course will improve the student's art vocabulary.
CHAPTER 4

CONCLUSIONS

This pilot study was initiated to investigate certain aspects of visual literacy. A test of visual literacy was used, in the form of interviews, which involved a comparison between a representational and a non-representational image. A test of art vocabulary in the form of a multiple-choice objective test, was also used. The scores obtained on the tests of visual literacy and art vocabulary were then considered in relation to the three basic questions and a subsidiary question.

The study first examined whether a range of scores was evident. On the basis of the results obtained it was possible to reject the null hypothesis that: the only differences in scores were matters of chance and/or errors of measurement. This was the case for scores on the representational and the non-representational images, and for the average (combined) score.

The second question of whether previous art experience was likely to be related to the visual literacy scores, was then examined. To address this question the previous experience factor of Art and Non-Art students was compared with the 'high' and 'low' scores of the interviews. It was found that the Art students scored significantly higher than the Non-Art students on both the representational and non-representational images; and the combined scores. When an analysis of the individual interview items (questions) was carried out for both images, a significant difference was found in favour of the Art students who discussed more complex, interpretive issues in both images. It was also found that even in the lower level descriptive stage for the non-representational image that the Art students scored significantly higher on two items.
The third question investigated the relationship between art vocabulary and visual literacy scores. It was found that for the overall combined visual literacy score those who had higher art vocabulary scores did have higher visual literacy scores. However, a closer examination showed that this did not hold true for both the representational and the non-representational images. Although a significant difference was found for the representational image, the result for the non-representational image was not significant.

It may be concluded at the alpha risk set for this study, that for the group of students used, there is a range of visual literacy scores on both the representational and the non-representational images, and that secondary school art experience appears to be related to visual literacy level, certainly at the higher levels of questioning, for both the representational and the non-representational images. Art vocabulary only appears to be related to the representational image, and the overall result on this point is inconclusive.

A fourth question, which although not directly related to the primary focus of the study, was also considered because it was of interest and the information was available. This question asked whether art vocabulary was associated with secondary art experience? The results suggested that the two were related.

The finding that students who had studied T.E.E. Art scored higher on a test of visual literacy, can not be attributed solely to the fact that they had studied an extra two years of art. There are three possible conclusions which may be drawn about the relationship between art experience and visual literacy:

i) The extra two years of art study increased the students art knowledge and so they have a higher level of visual literacy.
ii) The students may have elected to undertake T.E.E. Art study because of their interest and high artistic ability, which is associated with a high level of visual literacy. This is analogous to the idea in reading education, that high verbal ability is linked with a high level of literacy, i.e., high artistic ability is linked with a high level of visual literacy.

iii) These two factors could combine to contribute to the students' level of visual literacy, i.e., a high level of visual literacy is the result of high basic artistic ability and further secondary art study.

These three possibilities indicate the necessity for a future study on Year 12 students enrolled in the T.E.E. Art course to measure their artistic ability, and relate this to their visual literacy level. The problem in this case is to find an accurate measure of basic artistic ability.

The results do suggest that it would be worthwhile following-up this type of experiment in future studies. This pilot study suggests that a number of factors relating to the style and format of the study could be modified and developed. (a) The use of other groups of students, i.e., high school students. (b) Developing a more sensitive test of visual literacy. (c) Carrying out a longitudinal study to look at possible changes in visual literacy level over a period of time. (d) Developing a test to measure artistic ability, for comparison with visual literacy level. (e) Determining which elements of the T.E.E. Art course have more influence in developing visual literacy and art vocabulary. If we accept that visual literacy is valuable, then the results of such a study could be used to develop a course which aims specifically at developing the visual literacy level of the individual. (f) Further development in the area of vocabulary might be desirable due to the indecisive nature of the evidence presented.
In Summary:

(i) The results support the hypothesis that students have a range of visual literacy and that the students' levels of visual literacy are related to secondary art experience.

(ii) The results do not support conclusively the hypothesis that students' visual literacy levels are related to their art vocabulary levels.

(iii) The results suggest that secondary art experience and art vocabulary are related.
GLOSSARY OF TERMS

Creativity. "The process of visualization, especially that part involving imagination; is the source of creativity." "The ability to look at things and see another." (Preble 1978, p.13)

Forms of Representation. The means used for conveying personal experience through communication. "The expressive medium used to make a conception public", be it visual, tactile or otherwise. (Eisner 1982, p.53).

Primary Surface. The superficial or literal meaning of the artwork. Description of actual information only. What is 'there'. No interpretation of meaning or significance is applied.

Reading of images. In the context of this study the phrase is not necessarily analogous to reading in written text. The messages, symbols embedded in the artworks are influenced greatly by the viewers perceptions of all the elements that work together to create those messages and symbols. The letters of the alphabet, which one encounters when reading written text are not open to such interpretation.

Secondary Surface. The subjective, as opposed to the literal, meaning in dealing with the interpretation of images, symbols, style and multiple meanings. This is "where the real meaning and significance of the painting lies". (Fielding 1981, p.54).

Visual Images. In this study refers only to two-dimensional artworks or reproductions of artworks, which may include paintings, drawings and prints. When related specifically to the interviews the term refers to poster-size, colour reproductions of two paintings.

Visual Literacy. In this study is understood to mean the ability to decode meaning from visual images. The emphasis is on the decoding or 'reading' of visual images, and the ability to derive and express subjective (as opposed to literal) meaning from the visual images.
BIBLIOGRAPHY


Curriculum Branch, Education Department of Western Australia.

Secondary Education Authority, Western Australia.
## APPENDIX A

### Table for the Analysis of Interviews

<table>
<thead>
<tr>
<th>QUESTION</th>
<th>LEVELS</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STAGE ONE</strong></td>
<td><strong>DESCRIPTION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. What is it? (painting, print, drawing, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Make a list of what you can see.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STAGE TWO</strong></td>
<td><strong>FORMAL ANALYSIS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Is this painting organized in a particular way?</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. What are the strongest compositional features of the work?</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>5. How does the paint appear to have been applied?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STAGE THREE</strong></td>
<td><strong>INTERPRETATION</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. What might the work mean?</td>
<td></td>
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</tr>
<tr>
<td>7. Are there other possible meanings?</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td>8. Do you think the compositional structure reinforces any of the interpretations (meanings)?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>STAGE FOUR</strong></td>
<td><strong>JUDGEMENT</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. How does this compare with other works that you know?</td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>10. Based on what you have observed and discussed, what do you think of the work?</td>
<td></td>
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</tr>
<tr>
<td>11. Does the work evoke any particular emotion / feeling?</td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td><strong>LEVEL</strong>:</td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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APPENDIX B

OBJECTIVE TEST

Subject No. _______

Date / /

Please read all instructions carefully, and answer to the best of your ability.

Please mark your chosen response with a cross (x).

1. SEX: Female Male

2. Highest level of ART studied in Secondary School (year):
   8 9 10 11 12

3. If Year 11 or 12 please indicate which ART unit(s) you have studied:
   Applied Art T.E.E. Art Both

<table>
<thead>
<tr>
<th>Date.</th>
<th>/ /</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subject No.</td>
<td></td>
</tr>
<tr>
<td>Score.</td>
<td></td>
</tr>
</tbody>
</table>
Place a cross (x) on the letter of the most appropriate word to match the definition.

1. The tactile quality of a surface, or the representation of the appearance of such a surface quality.
   a. cold
   b. shiny
   c. tone
   d. texture

2. A two dimensional area defined by line or colour.
   a. volume
   b. perspective
   c. shape
   d. outline

3. Light and dark qualities of a surface or area.
   a. shade
   b. tint
   c. value
   d. form

4. A visual sensation of light caused by stimulating the cones of the retina.
   a. chroma
   b. colour
   c. intensity
   d. shade
5. An abstract invention of man used to describe the contour of a three-dimensional object. Used to delineate; outline; contour; limit.
   a. shape
   b. pattern
   c. line
   d. form

6. The regular or ordered repetition of elements or units within a design.
   a. composition
   b. scale
   c. space
   d. rhythm

7. The combining of parts or elements to form a whole. The structure, organization, of a work of art.
   a. balance
   b. open form
   c. composition
   d. pattern

8. The edge of a mass or shape, or group of masses or shapes.
   a. contour
   b. shape
   c. form
   d. mass

9. A characteristic way of designing form, giving a work its identity as the product of a particular person, period or place.
   a. scale
   b. format
   c. code
   d. style
10. The size relationship of parts to a whole and to one another.
   a. volume
   b. proportion
   c. volume
   d. size

11. A hue with black added.
   a. tint
   b. colour
   c. shade
   d. tone

12. A hue with white added.
   a. tint
   b. colour
   c. shade
   d. tone

13. The use of light and dark areas in two-dimensional works of art to produce the effect of modelling.
   a. impasto
   b. chiarascuro
   c. bas relief
   d. cross-hatching

14. A work made by pasting various materials, such as paper, scraps, photographs, and cloth on a flat surface.
   a. pop art
   b. collage
   c. montage
   d. mural
15. Thick paint applied to a surface having the appearance and consistency of buttery paste.
   a. gesso
   b. impasto
   c. gouache
   d. acrylic

16. Paint composed of water soluble gum and pigment.
   a. aquatint
   b. oil paint
   c. watercolour
   d. translucent

17. The object, idea, or event used as the motivation or focus for a work of art.
   a. form
   b. subject matter
   c. fantasy
   d. elements

18. A thin transparent layer of paint.
   a. pigment
   b. shade
   c. hue
   d. wash

19. Combination of materials or techniques in one composition.
   a. medium
   b. sgraffito
   c. mixed-media
   d. broken colour

20. A large painting executed directly onto a wall.
   a. collagraph
   b. diorama
   c. mural
   d. mosaic
21. The usual form of the object is modified or changed in order to emphasise content not otherwise apparent. Recognisable references to original appearances may be very slight.
   a. Naturalistic
   b. Impressionistic
   c. Abstract
   d. Fresco

22. A form of art which conveys personal emotions, evidenced by intense fervour and the distortion of shapes and colour.
   a. Naturalistic
   b. Impressionistic
   c. Expressionistic
   d. Non-representational

23. A style of painting developed in the early twentieth century, based on the dream, the irrational, and the fantastic.
   a. Fauvism
   b. Distortion
   c. Surrealism
   d. Futurism

24. The flat, two-dimensional surface of the drawing or painting; the imaginary surface between the viewer and the objects in the painting.
   a. proportion
   b. picture plane
   c. tension
   d. figure-ground
25. A style of painting that originated in France about 1870. Paintings of casual subjects were executed outdoors using theories of optical colour mixing to capture light and mood.
a. Abstract Expressionism  
b. Neo-classicism  
c. Fauvism  
d. Impressionism