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Introduction and Procedures

This investigation sought to evaluate the claim by art educators that cumulative general experiences in art develop specific visual skills. The primary objective was to assess the influence of an individual's amount of experience in art upon the two selected visual skills of visual perception and picture memory. The secondary objective included the assessment of the relationship between these skills as well as the relationship of age and gender to picture memory. Evaluation of the relationship of age and gender upon visual perception ability was not a major concern of this study since this relationship has been amply demonstrated by Witkin (et. al., 1971) and others.

Both the educational philosophies and teaching practices of art educators have revealed the widespread belief that general training methods, especially when accumulated, develop all visual skills as a whole. Though this belief is dominant many writers and researchers have disagreed and argued that specific training methods are more effective. Thorndike and Woodworth (1901, A and B) identified this kind of learning condition as a transfer of training relationship. They stated that learning best occurs when direct similarities exist between an already acquired skill and one to be learned. Broudy (1979) applied this to art education by concluding that transfer of training from general work in art to perceptual development would require a very tight relationship to be effective.

In four independent experimental studies Salome (1965), Dorethy (1972), Doornek (1978), and Dunn (1978) demonstrated that visual perception can be enhanced through specific training methods of relatively short time duration. The problem of concern in this investigation however, involved the evaluation of the effects of learning accumulated over long time spans, usually years. Evaluations of such long time periods necessitated an ex-post-facto correlational design of study. This design allowed the evaluation of the relationship between an individual's amount of experience in art and visual perception and picture memory abilities. As Piaget (1954), Gibson (1969), and Travers (1982) have pointed out these abilities are closely associated. They are also of particular interest to art educators.

Three instruments were identified or developed for this investigation. The Art Experience Form (AEF) helped determine a subject's amount of experience in art while the Group Embedded Figures Test (GEFT) measured visual perception ability and Wiley's Unique Visual Imagery Test (WUVIT) evaluated picture memory. The results from these instruments provided scores which were then correlated to assess the influence of amount of art experience upon the two selected visual skills.

All of the subjects used in the final treatment were assembled from three unequal source groups. Seventeen students were undergraduate non-art majors, twenty-three were undergraduate art majors, and ten were graduate art majors. These three groups provided the anticipated wide range of amounts of art experience. Each subject from each group attended Ball State University, Muncie, Indiana during the Spring Quarter of 1983. Random subject selection was accomplished by university placement into existing classes which yielded a variety of racial, ethnic and socioeconomic backgrounds.

All fifty subjects received similar tasks during two sessions separated by seventy days. In the first session the subject completed the AEF to arrive at a numerical value which represented that individual's total amount of experience in art. Then each subject's visual perceptual style was interpreted as field dependent or field independent through the GEFT. The first session concluded with the completion of WUVIT Part I which required each subject to visually analyze, describe and classify pictures as either unique or ordinary. Each unique picture, a picture with possible but improbable subject matter relationships, was identified with a check. Ordinary pictures were left unmarked. At no time during the first session, during WUVIT Part I was any mention made of picture memorization or recall.

The second session required the fifty subjects to recall all eighteen pictures of WUVIT Part I from within the seventy-two randomly distributed pictures of WUVIT Part II. Each subject identified each recalled WUVIT Part I picture with a check. If the picture recalled was unique the check was circled. In this way memory for unique pictures was contrasted with memory for ordinary pictures.

Pearson Product-Moment Coefficients of Correlation were used to assess the relationships between amount of experience in art, visual perceptual style, the various picture tasks, age, and gender. The confidence level for testing the null form of the seventeen Directional Hypotheses was set at an alpha level of .05 or lower.

Summary of Findings

This ex-post-facto correlational investigation tested seventeen null hypotheses at the .05 level of confidence.

Of the seventeen hypotheses tested significant relationships were disclosed only for Directional Hypotheses I, IV, and V. The Pearson Coefficients and levels of confidence for these three hypotheses were at or below the acceptable .05 level. Therefore, Directional Hypotheses I, IV, and V were retained.

Directional Hypothesis I correctly predicted a significant relationship between an individual's amount of general learning experience in art and her or his visual perception ability. The results for this hypothesis indicated that as amount of art experience increases, visual perceptual style tends toward field independence. Conversely, the results also indicated that as art experience decreases, visual perceptual style tends toward field dependence.

Directional Hypothesis IV correctly predicted a significant relationship between amount of experience in art and the ability to recall pictures with ordinary subject matter relationships. The finding revealed that as experience in art increased, so did the ability to remember ordinary pictures. The opposite was also true; as experience decreased, so did recall performance for ordinary pictures.

Directional Hypothesis V also proved correct. This hypothesis predicted a significant relationship between art experience and the ability to recall all eighteen pictures from WUVIT Part I from within the seventy-two of WUVIT Part II. But, as noted in Chapter IV, this result was strongly influenced by the strong memory performance for the fifteen ordinary pictures as demonstrated through Directional Hypothesis IV.

When testing failed to support Directional Hypotheses II and III, their null forms were accepted. The results indicated no significant relationships between art experience and the ability to either disembed (Directional Hypothesis II) or recall (Directional Hypothesis III) the three pictures with unique subject matter relationships. The means and standard deviations for these tasks revealed a very high performance level by all subjects for the tasks involving unique pictures (Table I). Amount of experience in art had no influence on the results.

Testing also failed to reject the null forms of Directional Hypotheses VI through XVII. Visual perception ability did not relate significantly to disembedding of the three unique pictures (Directional Hypothesis VI), recall of the three unique pictures (Directional Hypothesis VII), recall of the fifteen ordinary pictures (Directional Hypothesis VIII) or recall for all eighteen pictures (Directional Hypothesis IX). On tasks involving unique pictures all subjects performed well (Table 1) thus overriding the influence of visual perception ability. The same was true for the tasks involving unique pictures and the variables of age (Directional Hypotheses X and XI) and gender (Directional Hypotheses XIV and XV).

In this study whenever unique pictures were a part of a task, all subjects performed nearly flawlessly. These findings are generally consistant with results from studies by Mackworth and Morandi (1967), Mackworth and Bruner (1970) and Hock, Romanski, Galie, and Williams (1978). These investigations also incorporated unique pictures. They did not however, contrast performance involving unique pictures with the variables of amount of experience in art, visual perception ability, age or gender.

Frinally, Directional Hypothesis XII was rejected and the null form accepted when no significant relationship was found between age and memory for the fifteen ordinary pictures. When age and memory for all eighteen pictures was tested (Directional Hypothesis XIII) no sigifnicant relationship was indicated and the null was accepted. And last, when gender was correlated with these same picture memory tasks, the null forms of both Directional Hypotheses XVI and XVII were accepted.

Conclusions

The data collected from correlations of the variables suggest several conclusions relevant to art education and the fine and advertising arts. The findings suggest that art educators can continue to claim that increased general experience in art enhances certain visual skills. In addition, the findings indicate that certain pictures have characteristics which can impact the long term memory of viewers regardless of the characteristics of the viewers themselves. This latter finding may indicate some useful visual strategies to fine and advertising arts.

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