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Thesis Title   : An Experimental Study in the Use of Overlay
                  Transparencies, Build-up Transparent and Opaque Models
                  in Teaching "Mechanical Drawing 1".

Major Feld   : Technical Education Technology.

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Abstract

     The purpose of this experimental study was to compare the learning
achievement, retention, and preference in which overlay transparencies,
build-up transparent plastic models, and opaque models were used in teaching
"Mechanical Drawing 1". One hundred and forty-one samples were randomly
selected from the third year students in the Department of Engines, Siam
Technology School. They were assigned into three experimental groups.
Each group was comprised forty-seven students. The first experimental
group studied with overlay transparencies. The second experimental group
studied with overlay transparencies and build-up transparent plastic models.
The third experimental group studied with overlay transparencies and
build-up opaque models. The research instruments were an achievement
test, retention test, and preference response forms developed by the
researcher. Data were analyzed by percentage, arithmetic mean, standard
deviation, t-test, one-way analysis of variance (ANOVA) and Newman-Keuls'
test. The results of the research revealed that learning achievement
mean score of the group studied with overlay transparencies and build-up
opaque models was higher than the mean score of the group that studied
with overlay transparencies and build-up transparent plastic models at
the level of .01. The mean score of the group that studied with overlay
transparencies and build-up opaque models was higher than the mean score
of the group that studied with overlay transparencies at the level of .01.

     There was no significant difference on retention of the three groups
at the level of .01. The students prefered studying with overlay
transparencies and build-up transparent plastic models more than studying
with only overlay transparencies at the level of .01. The students
prefered studying with build-up transparent plastic models more than
studying with overlay tranparencies also build-up opaque models
respectively at the level of .01.