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DESCRIPTORS   Affective Measures; *Emotional Response; Higher
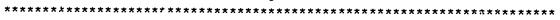   Education; *Imagery; Likert Scales; *Reader Response;
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ABSTRACT
        To explore imagery and emotional involvement in
reading, a study examined readers' imagery and emotional responses
through the use of ratings for each paragraph in a story. Subjects,
40 undergraduate volunteers recruited from education classes, read a
2100-word excerpt from the novel "Buffalo Chief" by Jean and Paul
Annixter. Students read a brief practice story to become familiar
with the computer's presentation of the text, followed by the
experimental passage. For both passages, the text was presented so
that although an entire "page" of text was present on the screen (so
that the reader could get information regarding word and paragraph
lengths), only one line was readable at a time. The reader controlled
hich line of text was legible. After reading the experimental
passage, subjects reported any images or emotional reactions they
experienced while reading the story. Finally, students rated their
imagery and emotional responses. For the rating task, the story was
again presented on the computer, one paragraph at a time. Beneath
each paragraph, rating scales appeared on which readers rated their
imagery and emotional responses to the paragraph on five-point
Likert-type scales of imagery and affect. Findings, directly compared
to those of previous research investigating imagery and emotional
response, suggested that imagery and affect ratings are more reliable
and replicable than some reading researchers have suspected. Findings
demonstrated readers experience both imagery and emotional reactions
that are interrelated and can be reliably studied. One figure is
included. (MM)

Imagery and Emotional Response in Reading

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Running Head: Imagery and Emotional Response

Imagery and Emotional Response in Reading

How shall we describe the encounter between reader
and text? Certainly the reader's eyes scan the text
for visual information in the print. Words are
recognized and their meanings used in comprehension of
the text. Some portions of the text are viewed as more
important, and these important portions are selected
for inclusion in summaries and preserved in recall. A
complete understanding of the reading act, however,
requires that we look beyond word recognition,
comprehension, and recall. We should seek to
understand the richness of the psychological and
aesthetic experience that often characterizes reading,
particularly the reading of literary and popular texts.
The experience of reading an effective story or novel
involves not only word recognition and comprehension,
but also imagery and emotional involvement from the
reader. In the present study, we explored these latter
aspects of reading. Specifically, we examined readers'
imagery and emotional responses through the use of
ratings for each paragraph in a story. Analyses
focused on interrater reliability and on the
relationship between imagery and affect. We then
directly compared findings of the present study to
those of previous research that investigated imagery

and emotional response (Sadoski & Goetz, 1985; Sadoski,
Kangiser, & Goetz, 1986).

In characterizing the interaction of reader and
text, one of the issues of contention has been whether
the reader or text is the primary determinant of the
reading experience. If the text is dominant, then
readers' responses should be consistent and
predictable. This view has had its proponents in
reading theories that stress bottom-up, data-driven
processes (e.g., Carroll, 1969; Gough, 1972; LaBerge &
Samuels, 1974) and in literary theories that stress the
importance of text features in determ'ning literary
response (e.g., Culler, 1975; Iser, 1978; Zholovsky,
1984). If, on the other hand, the reader dominates,
then responses may vary markedly from one reader to the
next. This view has been expressed by reading theories
that stress the constructive nature of the reading
process (e.g., Anderson, Spiro & Mantague, 1977;
Goodman, 1984; Smith, 1982; Spiro, Bruce, & Brewer,
1980) and by literary theories that view literary
interpretation as a personal, subjective experience
(e.g., Barthes, 1976; Fish, 1980; Holland, 1975).
Examination of readers' imagery and emotional response
provides an avenue for examining the issue of whether
the interaction between reader and text is marked by
convergence or divergence of reader response. In the

present study, imagery and affect ratings afforded an examination of convergence vs. divergence in reader response.

Method

Subjects

The participants in this study were 40 undergraduate volunteers recruited from education classes.

Materials

The story used in this study was "First Kill", an excerpt of about 2100 words from the novel Buffalo Chief, by Jean and Paul Annixter (1958). As one the stories in the Reading Miscue Inventory, (Goodman & Burke, 1972), this story has been the subject of previous research. The story of the coming of age of a Sioux Indian youth determined to become a hunter, "First Kill" is full of action and danger, particularly in the climax in which the youth single-handedly kills his first buffalo with his knife while riding on its back in a raging buffalo stampede.

Procedure

Although the present report focuses exclusively on readers' ratings of their imagery and emotional responses, these data were collected as part of a study intended to tap several potentially informative sources of evidence regarding readers' responses. In order to

permit examination of on-line measures of reader

responses (e.g., reading time), the text was presented

via a microcomputer (Commodore 128).

Subjects were tested individually. After initial

instructions, the students read a brief practice story

to become familiar with the computer's presentation of

the text, followed by the experimental passage. For

both passages, the text was presented so that although

an entire "page" of text was present on the screen (so

that the reader could get information regarding word

and paragraph lengths) only one line was readable at a

time. This was accomplished through changing the color

of the line of text to be read from a shade selected to

be illegible against the screen background to one that

stood out clearly. The reader controlled which line of

the text was legible by pressing buttons on the

computer keyboard to move up or down the page. After

reading the experimental passage, subjects were asked

to report any images or emotional reactions they

experienced while reading the story. The order of

imagery and affect reports was counterbalanced across

subjects. Finally, the students rated their imagery

and emotional responses. For the rating task, the

story was once again presented by the computer, but

this time, one paragraph at a time. Beneath each

paragraph (except for 7 of the 35 paragraphs which

consisted of single sentences and were judged too short
to analyze), rating scales appeared on which readers
rated their imagery and emotional responses to the
paragraph. The five-point Likert-type scales of
imagery and affect, adapted from those used by Sadoski
and Goetz (1985), were presented individually, in an
order that matched that of the report tasks. Subjects
indicated their rating by entering the appropriate
number from the computer keyboard.

Results

The degree of agreement among raters' reactions to
the story was examined by calculating alpha reliability
coefficients for the imagery and affect ratings.
Coefficient alpha was found to be .92 for imagery and
.95 for affect ratings, evidencing a high degree of
interrater agreement.

The relationship between imagery and affect was
investigated by correlating the average ratings (i.e.,
averaged across subjects) of the 28 paragraphs rated.
The correlation between imagery and affect ratings was
r=.51, p<.01. The stability of this relationship was
examined by comparing the imagery - affect correlation
of the present study to that in a previously published
study of the same story. Sadoski and Goetz (1985),
using independent groups of 15 students each for
imagery and affect ratings, found a correlation of

r=.43, p<.01, quite comparable to that found in the
present study. Data from the study by Sadoski and
Goetz were then directly compared to data from the
present study to further examine the stability of the
relationship between imagery and affect across the two
studies. Comparisons between the two studies revealed
that the relationship remained remarkably stable:
r=.45, for affect ratings from the present study and
imagery ratings from the previous study, r=.43 for
imagery ratings from the present study and affect
ratings from the previous study. Within modality,
average paragraph ratings from the two studies were
highly correlated: r=.79, p<.0001, for affect; r=.91,
p<.0001, for imagery. The average affect and imagery
ratings of the 28 rated paragraphs for the present
study are displayed in Figure 1.

Insert Figure 1 about here

Discussion

The interrater reliability reported for the
present study may be viewed as surprisingly high, but
it is not unprecedented. Although Sadoski and Goetz
(1985) did not assess interrater agreement, Sadoski et
al. (1986) did. Sadoski, et al. examined imagery and
emotional responses for three short stories with

surprise endings ("A Secret for Two", "Two Were Left",
"The Open Window") taken from a published collection
(Berger, 1958). With 13 students each rating affect
and imagery, alpha coefficients for paragraph ratings
ranged from .92 to .95 for the three stories.

Taken together with the results of the present
study, these findings suggest that imagery and affect
ratings are far more reliable and replicable than some
reading researchers may have suspected. If the paucity
of research on the readers' spontaneous imagery and
emotional reactions while reading stories is due to the
suspected unreliability of such data, these findings
may help to open up this research. The consistent
relationship between imagery and affect found in this
study and that reported by Sadoski and Goetz (1985),
and the very high within modality correlation between
the two studies is especially noteworthy in view of
methodological variations between the two studies.
Specifically: a) Sadoski and Goetz used independent
groups of raters for imagery and affect, while the same
readers rated both in the present study, b) Sadoski and
Goetz used paper and pencil presentations of the text
and the rating scales, while the present study employed
computer presentation, c) in the present study a free-
report task intervened between reading the story and
rating response, while the rating followed immediately

after reading in the study by Sadoski and Goetz. The consistency of findings between these two studies indicates that ratings of imagery and emotional response are quite robust across methodological variations.

With respect to the issue of convergence or divergence of reader response, the present study demonstrates a high degree of convergence. It is, however, important to note two points in this regard. First, when Sadoski et al. (1986) asked readers to describe their images and emotional responses to key story paragraphs, the descriptions did evidence some divergence, particularly in the elaboration of visual detail in imagery reports. Second, the present study and that of Sadoski et.al. employed "real" stories, selected for their interest and literary style. Thus, convergence of readers' responses attests to the skill of the author. Put another way, an effective story is effective precisely because it reliably elicits imagery and emotional response from the reader.

The relationship between imagery and affect must also be interpreted in the context of the story used. Sadoski et al. (1986) found correlations between average paragraph ratings of the three short stories ranging from $r=.58$ to $r=.90$. It may be that the relationship between imagery and affect for these

stories represent the authors' use of all the
techniques at their disposal to elicit responses from
the reader at key points in the story, ratner than any
necessary confounding of these aspects of reader
response. It might be possible to write "stories" that
vary imagery and emotional content independently, but
is problematic whether such artificial texts would be
"real" stories.

When considering readers' spontaneous reactions to
well-written and engaging stories, it appears that they
experience both imagery and emotional reactions that
are interrelated and can be reliably studied. Thus,
readers' spontaneous imagery and emotional reactions
are vital and viable areas that should be addressed in
both theory and research. An account of the reading
process that omits or denies these aspects of reader
response would appear to be inadequate. We hope that
the results of this study will serve as a challenge for
theorists and researchers.

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Figure Caption

Figure 1.   Mean paragraph ratings of imagery and

emotional response.

Subject Ratings

Rating

Paragraph

— Affect

- Imagery