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ABSTRACT
        Self-regulation refers to the degree that individuals become
metacognitively, motivationally, and behaviorally active in their own
learning processes. One potentially helpful means of examining students'
self-regulation is to analyze their internal representations, or scripts, for
recurring academic tasks. For this study, researchers analyzed the script
elements, the primary script norms, the elements of self-regulation
incorporated into students' scripts, and the effects of gender on basic
script elements in 61 students in grade 11. The scripts related to three
common high school learning situations: writing a term paper, studying for a
final examination, and preparing an oral presentation. The incidence and
nature of self-regulation revealed in the students' written protocols were
also examined. Results show that in the 3 learning situations, there were
1224 script elements, which included 624 elements of self-regulation. Primary
norm scripts, basic script elements, and elements of self-regulation in 15
categories of self-regulated learning processes varied according to learning
situations. There was no gender effect found on script elements or elements
of self-regulation. Findings indicate that scripts can be useful sources for
investigating self-regulation in high school students. Contains approximately
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Elements of Self-Regulation in

Students' Scripts Related to Particular Learning Situations

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Abstract

We examined eleventh grade students' scripts related to three common high school learning situations: writing a term paper, studying for a final examination and preparing an oral presentation. In addition we examined the incidence and nature of self-regulation revealed in the students' written protocols. Thirty one females and 30 males in a public high school participated in the study. In the three learning situations there were 1224 script elements which included 624 elements of self-regulation. Primary norm scripts, basic script elements and elements of self-regulation in 15 categories of self-regulated learning processes varied according to learning situations. There was no gender effect found on script elements or elements of self-regulation.

Elements of Self-Regulation in

Students' Scripts Related to Particular Learning Situations

Self-regulation refers to the degree that individuals become metacognitively, motivationally, and behaviorally active participants in their own learning processes (Zimmerman, 1986). Effective learners, through self-regulation, become aware of functional relations between their pattern of thought and action and social and environmental outcomes (Zimmerman & Martinez-Pons, 1988). Self-motivated learners, approach educational tasks with confidence, diligence, and resourcefulness. They seek out information when needed and take the necessary steps to master skills and knowledge. Learners who resort to methods of self-regulation of their learning experiences consider acquisition of learning as a systematic and controllable process, and they accept greater responsibility for their achievement (Zimmerman & Martinez-Pons, 1986; Zimmerman, 1990, 1994). Current educational researchers posit that self-regulation of learning enables students to achieve higher levels of learning outcomes (Henderson, 1986; Wang & Peverly, 1986; Zimmerman & Martinez-Pons, 1986, 1990; Zimmerman & Schunk, 1989; Zimmerman, 1994).

Several self-regulated learning strategies which involve diverse elements of self-regulation have been proposed by researchers during the last two decades (Bandura & Cervone, 1983, 1986; Bandura & Schunk, 1981; Corno & Mandinach, 1983; Mace & Kratochwill, 1988; McCombs, 1984; Paris, Newman, & Jacobs, 1984;

Spates & Kanfer, 1977; Thorensen & Mahoney 1974; Wang, 1983;

Zimmerman, 1981, 1994). Zimmerman and Martinez-Pons (1986)

identified 14 such strategies: self-evaluation, organization and

transformation, goal setting and planning, information seeking,

record keeping, self-monitoring, environmental structuring,

giving self-consequences, rehearsing and memorizing, seeking

social assistance (peers, teacher, or other adults) and reviewing

(notes, books, or tests). Each of these self-regulated learning

strategies contains one or more elements of self-regulation.

One potentially helpful means of examining students'

self-regulation is to analyze their internal representations

(scripts) for recurring academic tasks. Internal representations

of what children perceive of episodes, events, objects, places,

and people of the external world form knowledge structures

(Mandler, 1979; Minsky, 1975; Nelson, 1986; Schank & Abelson,

1977). Knowledge structures may also be considered as scripts or

as schemata (Abelson, 1981; Bjorklund, 1989; Fivush, 1984; Furman

& Walden, 1990; Mandler, 1983; Rumelhart, 1976; Schank & Abelson,

1977; Slackman, Hudson, & Fivush, 1986; Tomkins, 1979, 1991;

Yacci, 1990). Since children's scripts come from their own

experiences in the real world (Katz, 1991; Nelson & Gruendel,

1986; Nelson et al., 1983; Ross & Berg, 1990; Schank & Abelson,

1977), they give meaning to children's experiences; According to

Flavell, Miller, and Miller (1993) scripts form general mental

images that tell the child how things are supposed to happen in

familiar routines.

A script is organized in terms of temporal and causal relations between its component acts based on a definite goal (Bjorklund, 1989; Flavell, Miller, & Miller, 1993 Foti & Lord, 1987; Furman & Walden, 1990; Lucariello, 1983; Schank & Abelson, 1977; Tomkins, 1979, 1991, 1992). Scripts consist of episodic or event actions and slots or fillers. Slots or fillers provide additional information functioning in a gap-filling or optional manner. The two components--event actions and slots--are sometimes called typical and atypical actions (Graesser, Woll, Kowalski, & Smith, 1980). They may also be further explained as involving primary and secondary script elements. Demorest and Alexander (1992) studied whether person spcific scripts can be reliably identified from individuals' narratives, and whether those identified scripts help to organize individuals' understandings of different situations. They found that in many cases general sequences were shared scross individuals and the particular nature of the elements within sequences was person-specific. They point out that scripts are individuals' experiences organized in the form of ideo-affective understandings.

As many researchers have found, learners' scripts are related to academic learning experiences they undergo in their school and out-of-school activities. Katz (1991) explained that children acquire scripts in a number of ways: by identifying with people whom they try to emulate, by extracting rules from their own experiences, by extracting from direct teaching as rules, and

by extracting from their own habitual acts. Scripts become useful for learning and comprehending written and spoken language (Constable, 1986; Lucariello, Kyratzis, & Engel, 1986; Ross & Berg, 1990; Schank & Abelson, 1977), understanding other people's behavior, and guiding one's own behavior (Schank & Abelson, 1977). The organization of scripts enhances formal and informal assessments of language that involve describing routine events (Nelson, 1981, 1986), communicative activities in daily living (Hammill, 1985), making inferences about particular events, (Wiig & Secord, 1985), and remembering script-related stories (Semel, Wiig, & Secord, 1987).

Learners' experiences often involve diverse elements of self-regulation. Scripts provide children (a) with greater stimulation for motivation and personal involvement (Lucariello & Nelson, 1985) in their learning experiences; (b) with opportunity for understanding the structure and function of their world, how it develops and how it affects their cognitive processing (Nelson, Fivush, Hudson & Lucariello, 1983); and (c) a foundation of shared social information necessary for successful social interactions (Flavell, Miller, & Miller, 1993) in their classroom and out-of-school environments.

In the present study, we examined the quantitative and qualitative nature of (a) script elements, (b) primary script norms, and (c) elements of self-regulation incorporated into students' scripts, and (d) effects of gender on basic script elements and self-regulation elements in students' scripts as

represented by their written descriptions related to particular learning situations.

Method

A repeated-measures mixed model factorial design was adopted for this study, three learning situations being the within subjects independent variables and scripts actions and elements of self-regulation being the two dependant variables.

Participants

A mixed group of 30 boys and 31 girls studying in the 11th grade of a public high school in southeastern Alabama formed the sample for this study. All students had some prior experience in the three learning situations about which they were expected to write.

Instrument

The instrument developed for data collection required students to write, based on their experience, what they would do related to three learning situations: (a) preparing a term paper (research paper) for an English class, (b) getting ready for a final examination, and (c) preparing an oral presentation for a class. They were told to write on the topics in distinct action steps stating different stages fully and clearly within a time period of one hour. The instrument was piloted with 40 students in Grade 11 in a high school in an adjacent city. It was found that instructions given in the instrument were clear to students and the time period of one hour was sufficient for them to respond to all three questions.

Procedure

On a specified date and time, two teachers of English in Grade 11 classes administered the instrument to students as a class assignment. Students wrote their responses under the supervision of teachers, observing normal classroom conditions. The researchers collected completed response sheets from the principal of the school.

Coding of data

Data coding was handled by two trained judges who have had over 10 years of experience in the conduct of educational research. Before starting the coding, the two judges had a number of practice sessions making use of response sheets obtained from the pilot test. They coded students' responses in the study along five basic dimensions: (a) basic script elements, (b) action script elements and explanatory script elements (c) primary and secondary script elements, (d) elements of self-regulation in students' scripts, and (e) categories of elements of self-regulation in terms of self-regulated learning processes.

For each learning situation, judges coded data individually on separate sheets for 61 students. What has been written by a participant related to a particular learning situation given in the instrument was considered as a student's script for that particular learning situation. Basic script elements written by participants under the three learning situations were identified and separately listed. A phrase or a clause which gives a distinctly separable meaning is considered a "basic script

element." Each of these script elements was separately identified

as explained by four questions: what, how, when, and why. Basic

script elements as explained by the question "what" were

considered "action script elements" and those explained by how,

when, and why questions were considered "explanatory script

elements."

Judges identified primary script elements for each learning

situation on the basis of frequencies of occurrence of a

particular basic script element and also on a consideration of

what elements made a coherent script for the particular learning

situation. Script elements with fewer frequencies and which also

were considered as of less importance for making coherent scripts

for the three learning situations were identified as secondary

script elements. Judges studied all scripts in three learning

situations and identified elements of self-regulation

incorporated in those scripts. Selected self-regulatory elements

were subsequently categorized under 15 self-regulated learning

processes 13 of which had been identified by researchers from

prior studies (Baird, 1983; Bandura, 1982, 1986; Corno &

Mandinarch, 1983; McCombs, 1984; Paris, Newman, & Jacobs, 1984;

Schunk, 1984; Thoresen & Mahoney, 1974; Wang, 1983; Zimmerman,

1983, Zimmerman & Martinez-Pons, 1986) and two were identified by

the researchers from the present study. All codings done by

individual judges were compared and considered at length before

unanimity of agreement was achieved in the final set of data used

for analysis. For maintaining consistency and accuracy a third

judge with more than 10 years of research background and academic experience checked all data coded for analysis.

In the selection of script elements the two judges agreed on 1198 script elements out of the total number of 1224 script elements which amounted to 97.88% of agreement. The judges agreed on 1182 in the selection of action script elements and explanatory script elements which amounted to an agreement of 96.57%. In selecting elements of self-regulation, the level of agreement between the two judges amounted to 94.63% which in actual numbers were 581 out of 614 elements of self-regulation. The level of agreement between the two judges in the categorization of self-regulatory elements under 15 self-regulated learning processes was 95.28%. There was total agreement between the two judges in the selection of primary script elements for three learning situations.

Analysis of data

The data were analyzed using multivariate tests and univariate tests to examine effects of the three learning situations and participants' gender on basic script elements and elements of self-regulation incorporated in students' scripts. Oneway ANOVA tests were used to examine simple effects of the variables and post-hoc analysis (Tukey tests) was conducted for further comparison of elements of self-regulation in processes of self-regulated learning which were found to be statistically significant in the overall univariate analysis. Qualitative

research analysis procedures were used to explain the nature of
scripts.

<div align="center">Results</div>

Elements in scripts

Scripts written by students related to three learning
situations varied in length. Some scripts contained one action
script element and one explanatory script element (eg. I always
go to the computer and get my work off it), while some scripts
contained as many as 19 basic script elements involving both
action script elements and explanatory script elements. Table 1
provides an example of a lengthy script with 19 basic script
elements.

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Insert Table 1 about here

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Out of 1224 basic script elements in students' scripts
related to three learning situations, 527 was for Learning
Situation 1 (preparing a term paper), 325 was for Learning
Situation 2 (getting ready for the final examination), and 372
was for the Learning Situation 3 (preparing an oral presentation
for the class). As percentages of the total number of script
elements, they were 43.06%, 26.55%, and 30.39% respectively. The
largest number of basic script elements (68.13%) was found to be
action script elements as explained by the question "what,"
18.30% of script elements were explanatory script elements
explained by the question "how," 8.17% of script elements

explained the question "when" and 5.39% was found to be explanatory script elements explained by question "why."

In testing whether the instrument resulted in differential responding by male students and female students, overall F values revealed no statistically significant differences between genders in students' basic script elements, $F(,177) = 2.13$, $p > .05$, or elements of self-regulation, $F(1,177) = 1.07)$, $p > .05$, incorporated in students' scripts related to the three learning situations. There were no interaction effects either, related to gender in basic script elements, $F(2,177) = 0.43$, $p > .05$ or for elements of self-regulation, $F(2,177) = 1.04$, $> .05$ by learning situations. Consequently the instrument was considered to be non-discriminative for two genders and responses were pooled for further analysis.

Results of multivariate analysis of variance (MANOVA) tests revealed statistically significant differences among three learning situations in script elements incorporated in students' scripts, $F(2, 180) = 8.22$, $p < .01$. Univariate F tests showed statistically significant simple effects of basic action script elements explained by the question "what," across the three learning situations, $F(2,180) = 27.62$, $p < .01$. The highest means in basic script elements were recorded for action script elements in all three learning situations (see table 2). The lowest mean frequencies were recorded for explanatory script elements as explained by the question "why". Tukey tests indicated statistically significant contrasts between preparing a term

paper and getting ready for a final examination and preparing a
term paper and preparing an oral presentation on action script
elements.

Insert Table 2 about here

Primary script elements and secondary script elements were
identified from these basic script elements. Primary script
elements and secondary script elements basically mean required
and less-required script elements to make meaningful and coherent
scripts related to the three learning situations. Primary scripts
for the three learning situations with the number of students who
stated a particular primary script element in their scripts are
provided in Table 3.

Insert Table 3 about here

The script identified for preparing a term paper was the
longest with seven primary script elements. Out of 61
participants, 56 included the primary script element of "write
the final draft," and only 24 participants said "research in a
library." Another primary script element indicated by 53
participants was "gathering information on the topic from
different sources." Four individual scripts related to preparing
a term paper contained all seven primary script elements in the
given order. Of the rest, 12 participants included 6 of the

primary script elements; 16 included 5; and 17 included 4 primary script elements in their scripts. Most of the scripts presented almost the same basic story whether in a few script elements or in a large number of script elements.

The learning situation of getting ready for a final examination contained 4 primary script elements. Fifty-seven students agreed on the script element of "study all material that the test would cover." The least frequent primary script element ("answering a practice test") occurred 11 times. Many other participants in the study included script elements about answering or reviewing past tests, although they did not use the term "practice test." Only seven students had all four identified primary script elements in their scripts for getting ready for the final examination, while 14 had included 3 primary script elements and 23 students had included 2 primary script elements.

Five primary script elements were identified for preparing an oral presentation. Only 12 students wrote specifically about deciding on a topic. Many started their scripts with "gathering information on the topic." Three students included all five primary script elements in their scripts. Seven students included 4 primary script elements in their scripts, while 21 students included 3 primary script elements.

Self-regulation elements in scripts

Altogether we found 614 elements of self-regulation incorporated in students' scripts related to the three learning situations. The highest number of elements of self-regulation

(265) occurred in scripts for writing a term paper, 156 for

preparing for the final examination; and 193 for preparing an

oral presentation. The number of elements of self-regulation in

each script varied from 1 to 9.

Elements of self-regulation identified in students' scripts

in the three learning situations were categorized under the 15

self-regulatory learning processes. The highest number of

elements of self-regulation in the learning situation of

preparing a term paper was found for the category of organization

and transformation with a mean of 1.39 ($\underline{SD}$ = 0.69) (see Table 4).

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Insert Table 4 about here

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Most of the other elements of self-regulation were in

self-regulated learning processes of seeking information

($\underline{M}$ = 1.05, $\underline{SD}$ = 0.56), goal-setting and planning ($\underline{M}$ = 0.62,

$\underline{SD}$ = 0.69), and keeping records and monitoring ($\underline{M}$ = 0.46,

$\underline{SD}$ = 0.62).

In the learning situation of getting ready for the final

examination, the self-regulated learning process of reviewing

records-notes had a mean frequency of 0.61 ($\underline{SD}$ = 0.56) and a

percentage of 26.8% of total elements of self-regulation

belonging to the particular learning situation. Other highly

ranked self-regulated learning processes with high frequencies of

elements of self-regulation were seeking information ($\underline{M}$ = 0.34

SD = 0.48), goal setting and planning (M = 0.31, SD = 0.53),

rehearsing and memorizing (M = 0.25, SD = 0.43), and

self-evaluation (M = 0.21, SD = 0.45).

The learning situation of preparing an oral presentation had

most of its self-regulation elements related to seeking

information (M = 0.62, SD = 0.52,   organization and

transformation (M = 0.61, SD = 0.67), rehearsing and memorizing

(M = 0.56, SD = 0.67), goal setting and planning (M = 0.46,

SD = 0.65), and controlling emotions (M = 0.23, SD = 0.50).

Considering all three learning situations, the highest

number of elements of self-regulation was found in the

self-regulated learning process of organization and

transformation (21.3%). Seeking information (20.0%), goal setting

and planning (13.8%), self-evaluation (8.5%), keeping records and

monitoring (8.5%), rehearsing and memorizing (8.0%), and

reviewing notes (7.3%) were the other self-regulated learning

processes which had high frequencies of elements of self-

regulation.

MANOVA overall F value indicates statistically significant

differences in frequencies of elements of self-regulation under

15 self-regulated learning processes in students' scripts related

to three learning situations, $F(2, 180) = 10.32$, $p < .01$.

Univariate F values show statistically significant differences in

frequencies of elements of self-regulation in 11 self-regulated

learning processes (see Table 5).

Insert Table 5 about here

Elements of self-regulation in these 11 processes of self-regulated learning were further analyzed employing one-way ANOVA with Tukey tests to examine further contrasts. Oneway ANOVA statistics and Tukey test results indicated statistically significant between-groups differences for all three comparisons of the three learning situations related to organization and transformation, $F(2, 182) = 65.27$, $p < .01$; seeking information, $F(2, 182) = 28.27$, $p < .01$; and rehearsing and memorizing, $F(2, 182) = 22.33$, $p < .01$. Although self-regulated learning processes of seeking teacher-assistance, $F(2,182) = 3.10$, $p < 05$ and reviewing texts, $F(2, 182) = 3.10$, $p < .05$ had statistically significant between groups differences in oneway ANOVA F values, they did not show statistically significant group differences in Tukey tests results.

Discussion

Results from this study indicate that students' scripts related to school tasks are well developed in terms of primary and secondary elements and that these scripts, can be useful sources for investigating self-regulation in high school students. They represent elements of numerous strategies of self-management of learning or modes of conduct that high school students apply on their own to conditions of problem solving in different learning situations. Students' scripts reflect their

underlying cognitive structures (Nelson & Gruendel, 1986).
Elements of self-regulation represented in students' scripts are
generated from students' cognitive structures related to
different learning experiences.

It is not surprising that students create relatively lengthy
scripts for writing a term paper in comparison with studying for
a final examination and preparing an oral presentation. Out of
the three learning situations investigated in this study, writing
a term paper involves the coordination of several important
activities and multiple phases in the production of a successful
paper. Thus the highest number of action script elements, of
explanatory script elements, and of elements of self-regulation
appear in students' protocols related to preparing a term paper.

In addition to required basic script actions, students
appear concerned with writing explanatory script elements. These
secondary script elements explain how, when, or why particular
script actions are to be carried out. These are considered in
script theory as fillers, or atypical script actions that
elaborate the basic episode, event, penomenon, or the story
explained by means of the basic primary script actions.
Incorporating explanatory script actions in scripts is a common
occurrance consistent with much research findings (Bower, Black,
& Turner, 1979; Fivush & Mandler, 1985; Hudson, 1988; Levy &
Fivush, 1993; Nelson, 1986; Nelson & Gruendel, 1981; Nelson &
Seidman, 1984; Schank & Abelson, 1977; Tomkins, 1987).

In the three learning situations students' scripts contain
an impressive number of elements of self-regulated learning
processes. That the largest number of elements of self-regulation
are found in the learning situation of preparing for a term paper
may be due to the term paper's involving the most activities in
the way of preparation. Most of the elements of self-regulation
for this learning situation are associated with self-evaluation,
organization and transformation, goal-setting and planning,
seeking information, and keeping records and monitoring. These
findings are consistent with findings of Zimmerman and
Martinez-Pons (1986) that students in high school often use
self-regulated learning strategies including planning and
goal-setting, organization and transformation, seeking
information, rehearsing and memorizing, keeping records and
monitoring, and reviewing notes. Reflective thinking, which is
more a metacognitive process than others, appears only in
protocols related to preparing a term paper, an activity which
often requires more reading, thinking, and analyzing than the
other learning situations.

Indications of emotional control as a self-regulating
process do not appear in writing a term paper, whereas emotional
control appears to be needed when getting ready for a final
examination and preparing for an oral presentation both of which
involve certain amount of anxiety. Oral presentations contain
emotionally stressful aspects such as standing before an
audience, making eye-contacts with those in the audience, trying

to recollect things to say, forming the presentation from memory, controlling the voice in a suitable manner, etc. Preparing for an examination becomes stressful when one is not sure about particular questions that would come for the examination, what to know and how much to know before the examination, what to write and how to write from memory at the examination, etc. It may be because of the high levels of stress associated with the aspects unknown in each situation that a considerable number of students include script elements related to controlling emotions in their depictions of preparing an oral presentation and getting ready for a final examination.

Self-regulated learning processes of memorizing and reviewing notes appear more conspicuous for getting ready for the final examination. This is a strategy many examination-takers adopt when preparing for their examinations. This finding is congruent with the findings of Zimmerman and Martinez-Pons (1986, 1988). In a similar manner (a) rehearsing and memorizing and (b) seeking adult assistance appear to be two conspicuous self-regulated learning processes for preparing for the oral presentation. Elements in self-regulated learning processes of goal-setting and planning and seeking information appear somewhat equally important for all three learning exercises. Zimmerman and Martinez-Pons (1986, 1988) found these two self-regulated learning processes as being used frequently by high school students related to their learning situations.

A script contains a sequence of actions that defines a well-known situation (Schank & Abelson, 1977). The fact that students incorporate a large number of elements of self-regulation into their script actions related to different learning contexts suggests that they use these self-regulation elements when actually carrying out their learning tasks. Students scripts do actually predict students' actions. They are always wriiten from one particular role's point of view (Schank & Abelson, 1977). Also one's emotions (Demorest & Alexander, 1992), perspectives, conceptualizations, and experiences (Schank & Abelson, 1977) may be included in one's script actions related to a certain situation or an event.

A cognitive perspective suggests that self-regulation can be nurtured by helping individuals to develop, practice, and discover schemata and by helping them to plan, monitor, and evaluate scripts (Meichenbaum, 1990). Encouraging students to think of learning experiences in terms of script actions may initiate and promote the use of self-regulated learning processes in their learning tasks. While the use of self-regulated learning processes in learning tasks contributes to academic success (Butler & Winne, 1995; Corno, 1993; Howard-Rose & Winne, 1993; Zimmerman, 1990) it has been recorded in research that the major cause of under-achievement is the inability of students to self-control their learning effectively (Krouse & Krouse, 1981).

As self-regulated learning appears very much influenced by students' goal orientations and their academic interest

conditions it would be interesting to do further studies with samples of high school students of both genders, to examine the quantitative and qualitative nature of basic script elements, and elements of self-regulation incorporated in students' scripts related to particular learning situations under different goal orientations and different academic interest conditions. Such studies may enable us to understand more fully the relationships between general goal orientations (such as mastery or performance goals) and specific types of self-regulatory activities that students exhibit when engaged in academic tasks.

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Table 1

Break Down of Script Elements by Basic Script Elements, Action Script Elements
and Explanatory Script Elements

Basic script elements	Action script elements	Explanatory script elements
Decide on a topic	Decide on a topic	So the topic would
Narrow it down	Narrow it down	not be so broad
So the topic would not be so	Do some research	(why)
broad	Keep up with what	Go to the library
Go to the library	is researched	(how)
Do some research on the topic	Go over the notes	By making note cards
Keep up with what is	cards	(how)
researched	Start my rough	When through with
By making note cards	draft	researching
When through with researching	Proof read it	(when)
Go over the note cards and	Make sure nothing	When finished with
Start my rough draft	is left out that	the rough draft
When finished with the rough	might be	(when)
draft	important	For errors in
Proofread it	Start my final	spelling (how)
For errors in spelling	draft	After proof reading
After proof reading	Proofread once more	(when)
Make sure nothing is left out	Turn it in	When finished with
that might be important		it (final draft)
Then start my final draft		(when)
When finished with it		
Proofread once more		
Then turn it in		

Table 2

Mean Frequencies of Students' Script Elements in the Three Learning Situations

as Explained by Four Basic Questions

Script elements	Preparing a term paper		Getting ready for a final exam		Preparing an oral presentation	
	M	SD	M	SD	M	SD
Action ("What")	6.28	2.43	3.41	1.93	3.98	2.38
Explanatory ("How")	1.49	1.46	0.97	1.08	1.21	1.28
Explanatory ("When")	0.56	1.10	0.62	0.86	0.46	0.85
Explanatory ("Why")	0.31	0.62	0.33	0.57	0.44	0.81

Table 3

Primary Script Elements in Students' Scripts Related to Three Learning Situations

Primary Script Actions		
Preparing a Term Paper	Getting Ready for a Final Examination	Preparing an Oral Presentation
1. Decide upon my topic (25)	1. Gather information needed for exam (38)	1. Decide on a topic (12)
2. Research in a library (24)	2. Work on the study guide (21)	2. Gather information on the topic (40)
3. Gather information on the topic from different sources (53)	3. Study all material that the test would cover (57)	3. Write your presentation (39)
4. Organize information (42)	4. Answer a practice test (11)	4. Memorize most of presentation (22)
5. Write a rough draft (49)		5. Practice my presentation (34)
6. Make corrections (28)		
7. Write the final draft (56)		

Note. Numbers in parenteheses indicate numbers of students out of 61 who included a particular script action.

Table 4

Mean Frequencies of Elements of Self-Regulation Incorporated in Students'
Scripts

| Self-Regulation Elements	Preparing a Term Paper		Getting ready for a Final Exam		Preparing an Oral Presentation	
	M	SD	M	SD	M	SD
Self-evaluation	0.41	0.61	0.21	0.73	0.23	0.59
Organization and transformation	1.39	0.69	0.15	0.44	0.61	0.67
Goal setting and planning	0.62	0.69	0.31	0.53	0.46	0.65
Seeking information	1.05	0.56	0.34	0.48	0.62	0.52
Keeping records and monitoring	0.46	0.62	0.13	0.34	0.26	0.44
Environmental structuring	0.02	0.13	0.07	0.25	0.00	0.00
Rehearsing and memorizing	0.00	0.00	0.25	0.43	0.56	0.67
Seeking social assist. peers	0.05	0.22	0.10	0.30	0.05	0.22
Seeking social assist. teachers	0.00	0.00	0.05	0.22	0.00	0.00
Seeking social assist. adults	0.10	0.30	0.03	0.18	0.08	0.28
Reviewing records-tests	0.00	0.00	0.12	0.32	0.00	0.00
Reviewing records-notes	0.07	0.25	0.61	0.56	0.07	0.25
Reviewing records-texts	0.00	0.00	0.05	0.22	0.00	0.00
Reflective thinking	0.18	0.39	0.00	0.00	0.00	0.00
Controlling emotions	0.00	0.00	0.15	0.40	0.23	0.50

Table 5

Univariate F Tests Associated With Frequency of Elements of

Self-Regulation in Students' Scripts Related to the Three Learning Situations

Variable	SS	MS	F
Self-evaluation	1.45	0.73	2.35
Organization and transformation	48.44	24.22	65.27**
Goal setting and planning	2.96	1.48	3.78*
Seeking information	15.38	7.69	28.27**
Keeping records and monitoring	3.32	1.66	7.14**
Environmental structuring	0.14	0.07	2.71
Rehearsing and memorizing	9.52	4.76	22.33**
Seeking social assist. parents	0.10	0.05	0.80
Seeking social assist. teachers	0.10	0.05	3.10*
Seeking social assist. adults	0.14	0.07	1.07
Reviewing records-tests	0.54	0.27	7.78**
Reviewing records-notes	11.90	5.95	41.15**
Reviewing records-texts	0.10	0.50	3.10**
Reflective thinking	1.32	0.66	13.20**
Controlling emotions	1.65	0.83	6.07**

*p < .05. **p < .01.

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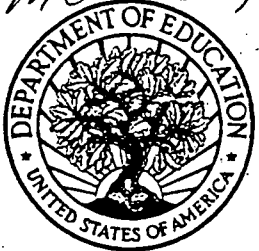
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