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An Exploration of Motivational Strategies Used by Library Media Specialists During Library and Information Skills Instruction

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For example, she describes the “exploration stage” of research as the most difficult for students because they encounter information that is “inconsistent and incompatible and does not match what they already know” (p. 13). Yet, others (e.g., Keller 1987; Brophy 1987) suggest that uncertainty and incongruity are useful for stimulating curiosity and interest. Techniques that reduce the level of anxiety students often experience during the research process may motivate ongoing positive feelings toward that process.

This study focuses on the LMS’s use of motivational teaching strategies during information skills instruction and resulting behaviors exhibited by students. Strategies are categorized using a well-known motivation model, Keller’s ARCS Model (1983).

The ARCS Model of Motivational Design

Although Kuhlthau (1989) and others have recommended a number of motivating instructional strategies for information skills lessons, there has been no systematic, comprehensive approach to studying the motivational aspects of library and information skills instruction. A general approach to motivation in instruction, however, has been developed by Keller (e.g., 1983, 1987). Building on the various concepts and theories that emerged from research on motivation in the workplace, Keller has designed a comprehensive model for designing motivating instruction, the ARCS Model of Motivational Design. The ARCS Model consists of four requisite components to motivating instruction: (1) gaining and sustaining [A]ttention to the instruction by stimulating curiosity and interest, (2) providing the [R]elevance (importance, value) of the learning, (3) [M]otivation through [C]onsequences, and (4) [S]atisfaction through [R]eward.

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LMS about the type of school, number of students, type of community, and information about

Pre-Observation Interviews

The pre-observation interviews provided demographic data about the research sites. Nine LMSs at eight schools were observed for a total of eighty-six completed observations. The schools represented a cross-section of schools by type, grade level, location, and size. Seven schools were public schools while one school was a nonresidential, secular private school. Four of the schools were elementary schools, three were middle schools, and one was a K–12 school. Two schools were located within an urban school district (one mid-size city, one small city), four in suburban districts, and two in rural districts. Student populations ranged from 270 to 890, with an average of 620 students per school.

The years of professional service of the LMSs observed ranged from three to twenty-one, with an average of ten years. Three of the LMSs indicated they had flexible scheduling, while six indicated they used a combination flexible-fixed scheduled program. None had totally fixed scheduled classes. When asked how often they met with teachers to plan instruction, three indicated an average of one to three times per week while six revealed meeting with teachers four or more times a week.

A total of eighty-six narratives were completed. Two narratives were eliminated from analysis because their content (e.g., a storytelling session) or grade level (grade 2) were not appropriate.

Grades ranged from third to eighth, including some combination classes (two grades together). The greatest number of observations occurred at the fourth and seventh grade levels (see table 2). There were forty observations at the elementary level and forty-four at the middle school level on a wide range of lesson topics. Examples of lesson topics (titles were assigned by observer) included “Researching Indian Tribes,” “Information Sources for Health Research Projects,” “Using the Online Catalog to Locate Books,” “Searching the Web,” “Overview of The Big Six Study Skills,” “Keyword Searching,” “Listening/ Presentation Skills,” and “Resources for a First Aid Project.”

Table 2. Number of Observations per Grade Level

Grade Level	No. of Observations
2/3	3
3	1
3/4	6
4	18
4/5	4
5	7
5/6	1
6	13
7	19
7/8	1
8	11

By reviewing the eighty-four sets of observation notes, the researcher identified all strategies that could be categorized as motivational. This yielded a total of 2,026 motivation strategies, averaging 225 strategies per site and 24 strategies per lesson. Two independent raters were trained to classify each strategy according to ARCS categories and subcategories (see appendix V). Interrater reliability was calculated at .98. Data comparisons were conducted using descriptive statistics and ANOVA (for repeated measures).

Research Question 1: What types of motivators (as categorized by ARCS, intrinsic versus extrinsic, and controlling versus informational) are used most and least by library media specialists?

Of the 2,026 motivational strategies implemented overall, LMSs used attention strategies more than three times as often as relevance, confidence, and satisfaction strategies (see table 3). A comparison of means by strategy type indicates there were significantly more attention-focusing strategies than all other types ($F=26.53$; $df=3.35$; $p < .0001$). There were no differences in the number of relevance, confidence, and satisfaction strategies used overall.

Table 3. Total, Mean and Percentage of Motivation Strategies by ARCS Category

Strategy Type	No. of Strategies	% of Strategies	Mean
Attention	1,136	56	142.00
Relevance	331	16	41.38
Confidence	299	15	37.38

Middle	16.11	4.61	4.45	2.84	28.01
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Because four of the LMSs (#2, 5, 6, 7) had taken graduate courses in which the ARCS Model was presented with the primary researcher, a comparison of means was conducted to determine bias. Analysis revealed slightly more motivation strategies used b,-2(e)4(d4)JTJ 2.1 (a)4(t)-u.67L 0 -ecause

Inquiry Arousal	64	53	12	57
Variability	25	21	4	19

Again, results parallel the overall percentage of strategies for the attention subcomponents reflected in table 6. Of the attention strategies, inquiry-arousal strategies seemed to produce the highest percentage (more than 50 percent) of both on-task and off-task behaviors, with perceptual arousal and variability fairly evenly dividing the remaining behaviors.

It may be more useful to examine the causes of the off-task behaviors than the on-task ones when determining the circumstances under which potentially positive strategies might produce relatively negative effects. An examination of the strategies preceding the off-task behaviors in this study revealed that these negative effects often occurred when (1) there was some type of unstructured break in the lesson, such as moving from the library to the computer cluster, stopping the lesson to hand out worksheets, or focusing attention on one student's task while the others watched; (2) overusing a particular motivation strategy, such as asking multiple questions in a row or giving too many similar examples; or (3) using an appropriate strategy in an

- “Every student has a different learning style and you have to discover that to find out how they learn best.” (LMS #2)
- “There are a variety of learning styles and teaching styles. Both students and teachers share the responsibility of being open to more than one style.” (LMS #3A)
- “Try to individualize as much as possible for each student so they can achieve to their own potential. “ (LMS #5)
- “If you can’t make it relevant to the kids you’re teaching, they won’t learn.” (LMS #6)
- “We teach students, not curriculum. We have to match the curriculum to the needs of students.” (LMS #7)

Confidence

- “Our students are capable of far more than most adults in their life expect of them. The uncarved block in all of them simply needs to be coaxed into a shape that best suits their goals in life.” (LMS #3)

LMSs were asked to describe their library and information skills programs. Middle school programs tended to be well defined and heavily focused on research skills. LMS #1 expressed frustration that, because of the high number of students in her school, it was difficult to guarantee that every student spend sufficient time in the media center. LMS #2 looks at general long-range goals, identifying certain skills and resources student should learn before high school and using flexible scheduling to teach them when they are needed. LMS #3 stated “I am highly reference oriented. I focus on the research skills manual developed with our English and Technology Departments . . . I am sure that we spend too much time on location and use and not enough time on higher level skills. I would love to find that happy medium between books and technology, fun and fact, as well as productivity and motivation.” LMS #3A described her information skills

and decrease in the number of

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Location: LMC Grade: 6th # students 25
Beginning Time: 1:40pm Ending Time: 2:10pm

Library Media Specialist Behaviors

“Please sit in your groups at the tables. We’re going to spend some reviewing the research process you learned earlier this year.”

Turns off lights and waits until all is quiet in room. Begins lesson with a description of an “information problem” on an overhead projector. “Please read the information problem on the screen to yourselves. We’re going to discuss it.”

“Now, everyone write down in your notebooks what you think the task is.”

Walks around room to be sure students are writing. Nods head and makes quiet comments to students, such as:

“Great, Tara. You know exactly what the task is.”

“Read a little more carefully so you will find the answer, Joe.”

After a couple of minutes, “Now, who would like to share what they think is the information problem here?” Looks around room and points to student.

LMS says “Good answer. Now Mr. Littlefield has given you an assignment to do group astronomy projects. What do you know about the requirements of this task?” Calls on various students and writes responses on the blackboard.

Says to class, “Good. I think you have a good idea of what the requirements of the task are. Now I want you to think about what information seeking strategies you might use to begin this assignment? Since we worked on this recently, I know you all know what information seeking strategies are. But just in case some of you may have forgotten, here is a reminder.”

Puts overhead up with definition. “After you have written information seeking strategies in your notebooks, I’ll call on some of you for answers.”

“Jared and Tommy might do better if they pay attention.”

Student Behaviors

Students, chatting among themselves, sit at various tables around room.

Students attentive.

Copying down list into notebooks. Nodding heads, some talking. Some students raise hand to answer question.

Some boys in back are giggling and talking.

Appendix III

Pre-Observation Questionnaire

LMS #: _____

Type of school:

____ public elementary ____ public middle ____ private K-12
____ public K-8 ____ other (please specify) _____

Total student population of school: _____

Type of community: (check one)

____ urban
____ suburban
____ rural
____ other (please specify) _____

How would you generally describe the types of students in your school? (e.g. low-middle class, large number of Vietnamese immigrants, mostly farming families, etc.)

Approximate average # of students visiting library each week: _____

years of experience of lms: _____

years classroom teaching experience of lms: _____

Year received MLS: _____

How would you describe the way you schedule students visits to the library? (check one)

____ scheduled classes
____ flexible scheduling
____ combination scheduled/flexible scheduling
____ other (please specify) _____

On average, how many times per week do you meet with teachers to plan instruction?

____ 0 ____ 1-3 ____ 4 or more

Appendix V

Directions to Coders

Thank you for agreeing to be coders for my research study. You will be analyzing observations of approximately 90 library/information skills lessons. Each lesson has been segmented and only those statements which are motivational in nature will be analyzed. As a result, many of the observation details have been removed so as you read through the lesson, it may not flow smoothly. The sections that you will analyze are those in boldface type, although other information has been included to provide some context.

First, look at each statement and decide whether it belongs in the Attention, Relevance, Confidence, or Satisfaction category. Then decide in which of the three subcategories the statement best fits. Under that subcategory, choose the specific motivational strategy the statement best reflects. All categories, subcategories, and strategies are described in detail on the following pages.

Go through a lesson, marking those statements that seem obvious for a particular category and subcategory. Write the strategy number for each statement on the line next to the statement and under the appropriate letter. In addition, for all statements classified as Satisfaction strategies, decide if the strategy is an intrinsic or extrinsic motivator and put a check mark (✓) on the appropriate line.

Examples:

	A	R	C	S	INT	EXT
LMS cites examples from her own experience.		—	F-1	—	—	—

LMS praises student for outstanding performance on oral research report.		—	—	—	R-4	—	—
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Then go back and work on those statements more difficult to categorize. If you cannot decide between two or more categories, subcategories, and/o

MOTIVATIONAL CATEGORIES AND STRATEGIES

ATTENTION-GETTING STRATEGIES (A) : Strategies that capture the interest of learners; stimulating the curiosity to learn.

Perceptual Arousal: a sudden or unexpected change in the environment.

PA-1. demonstration

PA-2. humor

PA-3. novelty

PA-4. incongruity

PA-5. puzzle

PA-6. mystery

PA-7. contradiction, conflict or unusual point of view.

PA-8. surprise

PA-9. enthusiasm

PA-10. mnemonics

PA.11. requires students to use imagination

PA-12. example or nonexample

PA-13. emphasizes important information.

PA-14. emphasis through body language (e.g. voice, gesture).

GO-5. instruction tied to curriculum/class assignments/activities

GO-6. role models

GO-7. testimonials

Motive Matching: matching instructional methods to students' learning styles, needs, and personal interests.

MM-1. cooperative group work

MM-2. leadership opportunities

MM-3. competition or contest

MM-4. independent study

MM-5. opportunity for choice

MM-6. opportunity to learn more about topics of interest/satisfy curiosity

MM-7. use of learner's name and other appropriate personal information

Familiarity: connects learning to students' existing knowledge and experience.

F-1. familiar or personal examples, anecdotes, or situations

F-2. analogies or metaphors

F-3. use of concrete examples of abstract concepts

F-4. related to or builds on previous learning

F-5. reminds students of past learning

CONFIDENCE-BUILDING STRATEGIES (C) : Strategies that help learners believe/feel they will succeed; effect a positive attitude.

Learning Requirements: letting students know what is expected of them.

LR-1. provides criteria for successful achievement

LR-2. specifies learning requirement(s)

Success Opportunities: techniques that encourage students and provide successful learning experiences.

SO-1. provides opportunity for successful performance or learning

SO-2. adjusts difficulty level to student ability/achievement level

SO-3. rephrases student responses

SO-4. practice opportunities

SO-5. chunking of content

SO-6. individual guidance/help

SO-8. periodic review/summary

Personal Control: providing opportunities for students to have some control over their own learning.

PC-1. shared control of learning

PC-2. attributional feedback that helps students connect success to personal effort

SATISFACTION-GENERATING STRATEGIES (S) : Strategies that reinforce accomplishment.

Reinforcement: use of reinforcement and/or reward.

- R-1. informative/corrective feedback
- R-2. motivational feedback/encouragement
- R-3. unexpected tangible reward
- R-4. verbal praise
- R-5. anticipated tangible reward
- R-6. student work displayed
- R-7. threats or surveillance

Equity: connecting achievement to personal effort and ability.

- E-1. exercise or activity consistent with instructional presentation
- E-2. opportunity to reach personal learning goals

INTRINSIC MOTIVATORS are those that are internal to the learner. Pleasure is inherent in a specific behavior or activity. They are intrinsically-motivated behaviors which learners engage in in order to feel competent and self-determining.

EXTRINSIC MOTIVATORS are those that are external to a specific behavior or activity, arising from an expectation of reward or punishment. They provide satisfaction that is independent of the actual activity itself and is controlled by someone other than the learner.

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