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The Effect of Using Games in the Language Arts Classroom on the Achievement and Motivation of Ninth Graders

Jan Dineen

THE EFFECT OF USING GAMES IN THE LANGUAGE ARTS CLASSROOM ON THE ACHIEVEMENT AND MOTIVATION OF NINTH GRADERS

BY
JAN DINEEN

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Daniel J. Rankin
Faculty Tutor

Education Faculty

Jeanne M. Donovan

TABLE OF CONTENTS

ABSTRACT

The proposed study would be conducted with fifty to sixty rural, male and female students enrolled in ninth grade language arts classes to determine whether the use of games has a greater effect on achievement and motivation, than the use of the traditional techniques of lecture and discussion. A modification of the nonequivalent control group design is intended for use which two intact classrooms to test the two hypotheses. The effects of the treatment would be measured by a twenty item achievement test adapted from two other standardized achievement tests and one criterion-referenced test. It would also be assessed by a twenty item, Likert-type attitude scale adapted for language arts. Results would be obtained by comparing the scores of the test for the experimental and control groups, using an independent T-test, followed by doing the same with the results of the attitude scale.

The research on which the proposed study is based includes a discussion of the theories and recent studies regarding motivation, achievement and the use of games. Theories of adolescent needs, drives, psychological and acquired motives are presented and related to other theories and motivational studies that concern the educational treatment of adolescents. Likewise, the theories and studies are related to additional studies on the use of games, which further indicate (intellectually and motivationally) the potential success of gaming with adolescents. Guidelines and suggestions

are offered by experts concerning game adaptation and design. The basic criteria established by the presentation of these suggestions is followed in the adapted and created games to be used in the proposed study.

CHAPTER I

STATEMENT OF THE PROBLEM

Introduction

Student achievement and motivation have become major areas of concern in the field of education. In spite of the "Back to Basics" movement, test scores across the nation have fallen. According to Harold Shane, "Stanford Achievement Test scores have been falling for fourteen consecutive years...with a drop of forty-nine points on the verbal and thirty-two points on the math side."[1] According to Leo Munday A.C.T. comprehensive scores dropped 1.2 points between 1965 and 1975 alone.[2] This decline may be attributed to societal problems, such as an increase in student leisure time or a change in student perception of the importance of a formal education.

The test scores also indicate that traditional teaching techniques may not be meeting the needs of the students for various reasons. Therefore, it is obvious that a teaching technique or motivating device is needed which will provide for greater motivation and achievement. One such technique is the use of instructional games or gaming activities.

The use of games is an important technique, since it allows a "restructuring of the learning situation" according to Sarane Boocock.[3] Another characteristic of games she presents is that

"they are set apart from, but at the same time a mirror of actual functions and activities." These comments, and others which will follow, reflect the relevance and necessity of games to the field of education.

Justification

The use of games in educational settings of the past has not been as recognized or thoroughly researched by experts as may have been possible. According to one more recent expert, "not until the early 1960's was attention given to games as serious learning tools and integral parts of the academic curriculum."[4] Although research for this method gained impetus in the 60's, the more reliable experimental studies on games do not appear until the mid or late 1970's. One study done by Penman, Christopher and Wood in 1977 found that the use of active and passive games "enhanced the cognitive learning" of the language arts concepts of capitalization and punctuation for a sample of third grade students.[5] The games used in this study required varying degrees of gross motor activity, instead of mental manipulation and their simplicity appeared to be applicable only to the lower grades. Another study done in 1977 by Donna Pinter with third graders showed that the use of spelling games had a greater effect on spelling achievement than an expository workbook approach.[6] Again, because of their simplicity, the games were not adaptable to any of the higher grades for further use.

A third study done by Wayne Theye in 1979 revealed that the use of an instructional game improved communication skills usage for a sample of married couples more significantly than the use

of programmed learning.[7] This study deals with a population that is more mature and goal-oriented than it would be possible to find in the lower high school grades. Another study done by Warner, Miller and Cohen in 1977 attempted to illustrate the effectiveness of using games to reduce disruptive behavior. It appeared to be useful with affective domain tasks rather than cognitive domain tasks,[8] the latter of which is the focus for the proposed study. The earlier studies dealt with the use of games at the elementary level. One study used games with college students. Another study used games that dealt with the affective rather than the cognitive domain. Many of the studies do not show whether or not games may be beneficial in the secondary language arts class.

Statement of the Problem

The purpose of this investigation is to determine if the use of instructional games in the language arts classroom has a greater effect on the achievement and motivation of ninth grade students than the use of "regular" teaching techniques. Before proceeding further, it may be helpful at this point to establish and clarify what is meant by certain terms being used.

Definition of Terms

Achievement

Achievement refers to "accomplishment or proficiency of performance in a given skill or body of knowledge, usually designated by test scores or by marks assigned by teachers or both."[9] In this study achievement will be measured by post-test scores on

an adapted achievement test of specific language skills.

Attitudes

An attitude is defined as "a readiness to react toward or against some situation, person or thing in a particular manner, for example, with love or hate or fear or resentment, to a particular degree of intensity. Attitudes cannot be observed directly but must be inferred from overt behavior.[10] In this study attitudes will be determined by the positive or negative degree of responses on a twenty-item Likert Scale adapted for the subject of Language Arts.

Games

Games are described as "play which is organized according to specific rules, usually competitive and with a definite goal."[11]

Gaming

Gaming is an "educational technique in which the student is presented with a situation involving choice and in which, there are differential risks...the situation changes as influenced by the choices which produce some type of pay-off, such as reward or deprivation, dictated either by chance or by the choice of strategies made by the student."[12] The type of gaming used in the proposed study will be quite similar, although it will involve a greater focus on choices made by the student, which are influenced by strategies or knowledge of skills that change the situation, and less focus on the aspect of chance. Two of the games that will be used are classified as "active", because they make use of fine and gross motor activity. The third game is "Passive" since it emphasizes mental

activity alone, rather than physical and mental manipulation combined.

Motivating Device

A motivating device is "any technique or situation used in teaching for the primary purpose of stimulating interest and augmenting effort on the part of the pupils."[13]

Motivation

Motivation is defined as "the practical art of applying incentives and arousing interest for the purpose of causing a pupil to perform in a desire way; usually designates the act of choosing study materials of such a sort and presenting them in such a way that they appeal to the pupil's interests and cause him to attack the work at hand willingly and to complete it with sustained enthusiasm; also designates the use of various devices such as the offering of rewards or an appeal to the desire to excel."[14]

Extrinsic Motivation

Extrinsic motivation appears to be "motivation which stems from positive or negative reinforcements which are external to the behavior itself, rather than inherent in it."[15]

Intrinsic Motivation

Intrinsic motivation is labeled by John Bates as "the process in which humans appear to perform a task for no reason other than the satisfaction inherent to task participation and completion."[16]

Teaching Technique

Teaching technique refers to a "specific way of presenting

instructional materials or conducting instructional activities."[17] Also referred to as "teaching strategies: in the research, the more "regular" or "traditional" ones include such techniques as lecture or discussion.

Research Hypotheses

The basic hypotheses for this study are that:

1. The use of games for three related units of language skills with one group of ninth graders will result in higher scores on a teacher adapted Achievement Test than a group with which the non-gaming technique of lecture and discussion is used.
2. The use of games for three related units of language skills with one group of ninth graders will result in higher scores on an adapted attitude scale, which is specifically designed to measure attitude toward newly learned skills and subject matter or content, than a group with which the non-gaming technique of lecture and discussion is used.

Limitations

This study, as it is designed, may possess some unavoidable limitations with regard to internal and external validity.

1. Internally, certain variables may affect the group other than the treatment itself. For example, the instructor may display varying degrees of enthusiasm in his or her own behavior from one day to the next. However the treatment will only require a period of two weeks to administer, so this variable could be minimized.

2. Since the groups used will be intact classrooms, the selection of groups may not be as equivalent as the experimenter might achieve if random sampling was performed.
3. Externally, this study can only be generalized to ninth grade rural students in language arts classes.

Footnotes

[1]Harold G. Shane, "The Academic Score Decline: Are Facts the Enemy of Truth?" Phi Delta Kappan 59 (October 1977): 83.

[2]Leo A. Munday, "Changing Test Scores, Especially Since 1970" Phi Delta Kappan 61 (March 1979): 496.

[3]Encyclopedia of Education, 1971 ed., s.v. "Instructional Games," by Sarane Boocock.

[4]Ibid.

[5]Kenneth Penman, John Christopher and Geoffrey Wood, "Using Gross Motor Activity to Improve Language Arts Concepts by Third Grade Students," Research Quarterly 48 (March 1977): 137.

[6]Donna Pinter, "The Effects of an Academic Game on the Spelling Achievement of Third Graders," Dissertation Abstracts International 38-2A (August 1977): AB 710-11.

[7]Wayne A. Theye, "Communication Skill Training for Married Couples through the Use of an Instructional Game," Dissertation Abstracts International 39-8A (Februrary 1979): AB 4741-42.

[8]Steven Warner, Frank Miller and Mark Cohen, "Relative Effectiveness of Teacher Attention and the Good Behavior Game in Modifying Disruptive Classroom Behavior," Journal of Applied Behavior Analysis 10 (Winter 1977): 737.

[9]Carter V. Good, Dictionary of Education, (New York: McGraw-Hill, 1973), p. 7.

[10]Ibid., p. 49.

[11]Benjamin Wolman, Dictionary of Behavioral Sciences, (New York: Van Nostrand Reinhold, 1973), p. 155.

[12]Good, Dictionary of Education, p. 257.

[13]Ibid., p. 375.

[14]Ibid.

[15]Wolman, Dictionary of Behavioral Sciences, p. 243.

[16]John A. Bates, "Extrinsic Reward and Intrinsic Motivation: A Review with Implications for the Classroom," Review of Educational Research 49 (Fall 1979): 557.

[17]Good, Dictionary of Education, p. 590.

CHAPTER II

REVIEW OF RELATED LITERATURE

Theories of Adolescent Development and Implications for Motivation

In all of the studies, which will later be described, the link between motivation and achievement is quite apparent. Before this link can be illustrated, it is first necessary to provide a brief theoretical basis with regard to adolescent development and motivation.

Biological Needs and Drives

Adolescents have common as well as unique biological needs, resulting in typical and less typical drives. Thomas Timmreck describes and illustrates an educational adaptation of Maslow's Heirarchy for Needs or Motivation. On the bottom level of the pyramid he includes the psychological and physical drives that lead to an "integrated wholeness of the organism"; on the second level he lists the "safety or security needs"; on the third level - "love or belonging needs", on the fourth - "esteem needs", and at the top level - "self-actualization needs".[1] The basic differentiation between these levels exists in the evolution from simplest, physical, survival needs to the more complex psychological needs, the latter of which evolves into drives.

Boyd McCandless suggests that drives "may be classified in two categories: biological (physical), including - thirst, air, food and sleep-hunger, comfort-seeking and pain avoidance; and learned (social)..." He goes on to include one particular, emerging adolescent need, frequently ignored by many educators. He explains that "In its simplest sense, sex is a biological drive...[but] sex drive also plays an important social role."[2] Other basic adolescent drives according to McCandless include the five constructs of "frustration, aggression, anxiety, curiosity and dependency." He cites studies that show a relationship between these various drives, such as the fact that "frustration is an important instigation to aggression (Dollard, et al., 1939)", or "the higher a child's anxiety, the lower his curiosity (Fenney and Mendel, 1965)."[3] Drives which meet the various physical and/or psychological needs of the organism do in turn become motives, especially when they give purpose and structure to what was previously random behavior.

Psychological and Acquired Motives

Adolescent needs and drives determine motives which "arouse and direct the organism's behavior toward remedying specific lacks or deficiencies." According to Hugh Perkins, Maslow identifies two types of motivation: "(1) deficiency motivation, which centers on the gratification of lower needs; and (2) growth motivation, which focuses upon the satisfaction of higher needs...[he further explains that] psychologically healthy persons are characteristically aroused by growth motivation, wherein they extend their being through spontaneous exploring, experiencing, choosing and enjoying."[4]

Atkinson also offers a common sense theory of motivation. He explains that "behavior is apetitive and aversive, that is directed toward sources of satisfaction and away from sources of dissatisfaction."[5] Each of these two men maintains that motivation arises from simple, physical needs that younger children possess to the more complex drives and motives that adolescents experience.

An acquired motive is defined by Perkins as "an arousal state within the organism which has been learned." Several theories have been advanced to explain how acquired motives are derived from physiological and psychological motives, especially those described above. One such theory according to Perkins is Freud's explanation of sublimation. "According to Freud, the instincts, impulses, and energies of the id become redirected by the ego away from socially disapproved objects toward socially approved ones by a process called displacement. When the substitute object presents a higher or more socially approved cultural goal, the displacement is called sublimation."[6] The most common educational application of this is through organized extracurricular sports, which attempt to channel adolescent aggression and/or sex drive.

According to Perkins, Allport offers another explanation. He states that "functional autonomy describes the process through which the child's early physiological and social drives, expressed in his dependence on parents, are replaced by self-sustaining contemporary goals, which often bear little relationship to earlier antecedents."[7] Since, as Maslow states, persons are "aroused by growth motivation" in which they meet higher psychological needs by "exploring, experiencing, choosing and enjoying", it

follows that the institution, known as education has the responsibility of fostering this within children. Motivation becomes the basic tool by which students may learn. Without the curiosity or dependency drives expressed by younger students, the teacher would never be able to instill acquired motives in the same children when they reach adolescence.

Theories of Adolescent Learning

At this point it is valid to include a discussion of theories that illustrate the relationship between adolescent intellect, self-concept and achievement. As stated above the needs, drives and motives of adolescents are important instigators to adolescent learning and should be considered when planning instructional programs for the adolescent.

Growth of Intellect, Achievement and Self-Concept

According to McCandless "the rate of intellectual development decreases with increasing age...adolescence brings with it changes in ways of organizing knowledge, but there is no spurt in intellectual growth at adolescence that compares with the physical growth spurt, or that seems to reflect the upsurge of drive at adolescence..."[8] McCandless also provides a good basic definition of learning, which is "a change in behavior as a result of practice."[9]

With regard to this information several theories are suggested by studies that involve the use of praise to inspire achievement and self-concept. Sears (1963) found and stated that "children who score high on creativity have usually received a great deal of personal attention and praise from their teachers."[10]

According to Cogan (1958), "high school students produce a greater number of original poems and artwork for teachers whom they view as warm and considerate than they do for teachers who they perceive as less warm."[11] From these and other studies Perkins and others appear to believe that "the need for achievement motive is learned by the child as a part of his socialization, and the strength of this motive depends on the parents' expectations and values and on the child's identification with parents and teachers...[he includes that] Achievement motivation is also revealed in a person's striving to act in ways consistent with his view of himself [or his self-concept]."[12]

Appealing to Intellect through Motives and Drives

Adults and teachers must be aware of the strength of adolescent drives, motives and intellectual abilities, both separately and in combination. Clifford (1971) developed a theoretical model which predicted that "a teacher's arousal of students' affective (affiliative) motives increases their performance on non-complex task, such as learning vocabulary, whereas the stimulation of students' cognitive motives facilitates their learning a complex task, such as obtaining the volume of a pyramid."[13] According to Perkins "the teacher may arouse cognitive motives in students by using materials or procedures which make the task more understandable, relating new learning to tasks or concepts encountered previously, breaking the task down into component parts, or identifying a sequence of steps needed to solve a problem."[14] This suggestion supports the belief stated by McCandless that intellectual capacity of the adolescent does not increase, but

"changes in ways of organizing knowledge" become predominant. Cognitive and affective motives emerge from the same basic drives as does the motive to achieve competence.

The motive to achieve competence emerges from the basic drives of curiosity and dependency, but may also be shaped by the acquired motives of sublimation or functional autonomy as well. White describes competence as "a process through which animals and human beings actively seek environmental stimulation and that curiosity, exploratory activity, and manipulative behavior all play important roles in the attainment of competence."[15] According to Maw and Maw in a study done with sixth grade children "curiosity level may be more important that IQ for determinining the teaching materials and procedures [i.e. gaming] that should be used with a given classroom group."[16]

Peer group influences, or as Clifford describes them "affective (affiliative) motives", are also characteristic of the adolescent and may be used as a source of motivation. The basic drives and motives discussed here suggest ways to increase adolescent learning. The studies on motivation and games, which follow, illustrate more specific procedures for increasing adolescent learning.

Research Studies on Motivation

A series of studies have been done linking the importance of motivation to school learning and achievement. Since motivation is one of the primary targets of the gaming technique, it is important to discuss the rationale set forth in a few of the many studies done.

Motives and Attitudes

In the Farley and Rosnow (1975) investigation, analyses by students of the "reasons for schooling" and the "factors that would improve school success" were obtained at grades seven and eleven. The most frequent reasons given for schooling were: "to learn...to prepare for later life and the future...and to get a job". Considering factors that would improve school success, there appeared to be from the younger to older students, a significantly increasing emphasis on the importance of "school and teacher (external) variables" as opposed to "self (internal) variables." It was suggested by the results of the questionnaire that efforts toward the "innovative restructuring of schools might profitably be focused" on older students at the high school level. The highest percentage of males and females responded that there was a need for "greater teacher effort, more interesting activities and classes and better study habits", all of which could be fostered by the use of games in the classroom.[17]

Simonson (1977) believes that "attitude toward course content has been identified as an indicator of student achievement." The experiment was designed first, to determine if student attitude toward the content of an instructional activity could be experimentally improved, and second, to observe any resulting changes in student achievement for students who participated in attitude change treatments.[18]

It was hypothesized that "students who possessed favorable attitudes toward the content to be presented in an educational situation would achieve better than students with poorer attitudes."

Subjects were 218 college juniors and seniors (fifty-nine males and 159 females) enrolled in one of fourteen sections of a teacher education course in media methods. Measures used included The Media Education Attitude Scale (with a reliability of .82) which was administered a week before and just after treatment. Also a Media Achievement Test was given on the first day, last day and then two months later to check retention.[19]

The results pointed out that achievement difference "were not significant...but that achievement scores tended to be higher for students who had their attitudes toward course content experimentally improved." It was concluded that the impact of attitude change on achievement behavior was not completely explained and further experimentation was needed.[20] However, the study does bring to light the importance of student attitude toward course content, which will be examined here in the proposed study.

Use of Extrinsic and Intrinsic Rewards

Deci (1971) conducted a series of experiments involving college students to show the difference between intrinsic and extrinsic motivation. The students (placed in experimental and control groups) participated during three separate sessions in "an intrinsically motivating activity (forming configurations using twenty seven one inch cubes and writing headlines for stories appearing in a college newspaper)."

In two of the experiments members of the experimental group were given money in the second session for each configuration or headline completed...In the third experiment they were given verbal praise for each configuration completed. The difference in time spent on the task by experimental groups in the third session and

the second session indicated the influence of external reward on the performance of an intrinsically motivating task. Control groups received no external rewards.

Results of the first two experiments showed that, when money was used as an "external reward" for engaging in an activity which the subjects had found to be "intrinsically motivating", the time spent on this activity decreased when the reward was discontinued. When "verbal reinforcement and positive feedback" were used in the third experiment, the subjects' intrinsic motivation "as indicated by time spent engaged in the activity" seemed to increase compared to the motivation of non-rewarded subjects. From this the author basically concluded that

> "Money may act as a stimulus which leads a person to a cognitive re-evaluation of the activity from one which is intrinsically worthwhile to one which is worthwhile primarily because it is associated with financial reward... His behavior is then motivated by external reward rather than interest. On the other hand rewards such as social approval do not seem to influence a person's self perceptions in the same way. He will continue to be intrinsically motivated because he is less likely to think of affection or verbal approval as a control mechanism."[22]

The views of Deci are reflected in the following review of research as well. Bates cites research on ways that extrinsic rewards may be used to bring about internal forms of motivation. One way according to Kruglanski (1975) that extrinsic rewards may enhance intrinsic motivation is if they are understood to be a part of the task content. Bates suggests that other studies also report of the importance of "social reinforcers", as long as they are related to "task performance".[23]

In general the research on motivation suggests that adolescent motives and attitudes could be influenced by the type of educational treatment offered. It gives evidence of the increasing tendency in adolescence away from intrinsic motivation toward extrinsic motivation, although it also reveals that there are ways to rekindle and foster intrinsic motivation with external rewards such as verbal praise. As a device, gaming is both extrinsic and intrinsically motivating for the adolescent, depending upon the way it is designed and the type of reward structure it possesses. The following studies reflect the power of gaming as an educational treatment to influence motives and attitudes, which may in turn (as some research suggests) also affect achievement.

Related Research Studies on Games

Several research studies were discussed briefly in Chapter I. The majority of these reveal that the use of games effected student achievement more significantly than did other methods that were used. The question then arises, What was done in these studies to obtain the given results?

Active versus Passive Games

The Penman, Christopher and Wood (1977) study used a non-equivalent control group design with a pretest and two posttests. The hypothesis stated that: "enjoyable motor activity, when associated with cognitive learning, produces an increase in the ability of third grade students to acquire language arts skills." Two third grade classes from Pullman Washington School District 267 were taught the language arts skills of capitalization and

punctuation using six "active and passive" games, that had been designed for each concept, which took four weeks.[24]

The third class, which acted as a control group, was taught the same skills in the "traditional manner." The pretests and two posttests utilized Forms A & B of the "Iowa Test of Basic Skills." The means of the pretest and first posttest were compared by an analysis of covariance. Using the Sheffé technique, it was concluded that "the class using the active games had scores significantly better than either the passive games class or the control group. The passive games class scored significantly better only for the passive-punctuation games class."[25] The results indicate that cognitive learning in this experiment was enhanced by the use of games, and that active games were generally more effective than passive games.

The Pinter (1977) investigation attempted to compare the use of an "academic gaming approach" with an "expository workbook approach" on the spelling achievement of ninety-four third grade children from four classes in rural Pennsylvania. The pretest-posttest control group design was complicated by including the variables of sex, IQ and self-concept. Pre and post experiment spelling tests were administered to the four groups, then three weeks after the experiment, the investigator gave a third test to determine the retention of the spelling words.[26]

Five analyses of covariance were computed using Academic Games (AG), Expository Workbook (EW), IQ and sex as the four independent variables. Findings indicated, for this population, that "achievement scores were significantly higher for the (AG) treatment group for both male and female..." and on the retention

test achievement scores "were higher for (AG) lower and average IQ males than for (EW) lower and average IQ males."[27] These results also reveal an improvement in skill achievement by the use of games.

Theye (1979) made use of an instructional game developed by the author to teach specific interpersonal communication skills. The purpose of the study was "to determine if the instructional game was superior to a traditional programmed learning approach and to a no treatment control group in affecting change in participants' levels of communication skill usage, marital communication..." Subjects in this experiment consisted of nine volunteer couples (one spouse each attending New Mexico State University), married from four months to thirteen years, who were randomly assigned to three equivalent groups. The subjects were tested before and after treatment with a Communication Response Inventory, Marital Communication Inventory, Attitude toward Instructional Games Scale and a Relationship Change Scale.[28] An analysis of the gain scores for the three groups showed that the game group experienced a "meaningful" improvement in communication skill usage compared to the programmed learning...and...control group. Improvement in "marital relationships" were found for the game and programmed group, and the game group developed a "meaningfully" more positive attitude toward learning enrichment.[29] Here the results are favorable for the use of games to increase high order process skills.

Warner, Miller and Cohen (1977) attempted to "compare the short term effectiveness of the good behavior game and a teacher

attention procedure in reducing disruptive student behavior." Subjects in the study consisted of two fourth-grade and two fifth-grade teachers and their one-hundred students, who were given posttests only, implying a non-equivalent control group design. Generally, the results showed that the Good Behavior Games (GBG) reduced disruptive behavior significantly better than the Teacher Attention Procedure (TAP) and that all teachers preferred the (GBG).[30] Although the games are intended for use with the affective domain, they can be useful in all of the content areas.

Edwards (1972) investigated student evaluations of a business simulation game as a learning experience. A questionnaire was answered by ninety-nine junior college students, enrolled in introductory business courses, after they played the game as an ongoing activity for the semester. The results supported claims made that "games increase student motivation and understanding in areas related to the games." The author also reported that "increases in business understanding were related to the students course grades and to their understanding of the game."[31] In this case simulation games, which can be substitutes for real life experiences, are applicable to any subject or content area, and their use in the development of problem solving skills is helpful. Since simulation games involve active mental participation and a form of fine or gross motor manipulation, as did several of the other instructional and affective games, they could be considered active games. This leads to the conclusion that in general active games tend to be more effective than passive games.

Competitive versus Cooperative Games

Johnson and Johnson have clearly defined the essential elements of cooperative and competitive environment structures: A competitive structure exists when students perceive that they can obtain their goal if, and only if, the other students with whom they are linked fail to obtain their goal. A cooperative structure exists when students perceive that they can obtain their goal if, and only if, the other students with whom they are linked can obtain their goal."[32] They conclude from a study done that group performance improved when "cooperatively structured" groups competed with other "similarly structured" groups, as opposed to competitive structure within the groups, as with individual against individual.

According to Robert E. Slavin (1977), two instructional techniques, the "team-Games-Tournament" and the "Student Teams-Achievement Division", were tested to determine their effects on "academic performance, mutual attraction and student attitudes, using a two by two factorial design." In the experiment he varied both the "reward structure (teams vs. individual)" and the "comparison group (entire class vs. achievement division)." Participants included 207 seventh graders in eighth grade English classes, who were assigned to four and five member teams, according to their past performance and sex. The author measured four categories of dependent variables: "behavioral observation, academic achievement, attitudes, and sociometric measures."[33]

The results indicated "positive team effects on percent of time-on-task, motivation, liking of others, number of classmates names as friends, peer support for academic performance, and student

feelings that their success did not depend on luck." Slavin, who also studied the use of these gaming techniques with other subjects (i.e. Math), generally concluded that "the team component had more or larger effects on mutual attraction and student attitudes than the comparison among equals or individual competition, however it was not possible to determine the relative importance of these components for increasing academic performance."[34]

Catherine Dami (1975) explored the strategies used in problem-solving, as well as age differences and social interaction between players of "two-person competitive games". In her investigation she used a series of four problems with 138 students ages six to sixteen. Her results indicate several levels of strategy development:

> "At the earliest level six and seven year olds used unsystematic strategies and played independently. At the second level students began to consider their opponents and attempted to correct the opponent's mistakes and anticipate his or her moves. Students nine to eleven years old seemed particularly sensitive to the actions of their opponent. The oldest students were able to use consistent and effective strategies."[35]

She suggests from the results of this study that the older students are more capable of success through their increased ability to "use cognitive strategies" and "compete" with other individuals. The following study also reflects this.

McClintock and Moskowitz (1977) observed variations in "individualistic, cooperative and competitive choice behaviors at two different age levels in seventy two, three and a half to five and a half year olds for three tasks: individual, coordinative and conflictual." Results in this study indicated that "(a) students were primarily own gain oriented, (b) there was no

increment in cooperation in the coordinative task as a function of age, and (c) there was a sharp increment in competition in the competitive task as a function of age."[36] Here again competitive behavior was found to increase as the students got older.

In general the research suggests that gaming does have a greater influence on adolescent motivation and achievement than some traditional techniques. Some of the research has indicated that active games may be better than passive games in terms of the results. Other studies have shown that cooperative games foster greater motivation and mutual attraction, as well as the fact that adolescents are capable of using more successful cognitive strategies in competitive situations. A question to be considered in the following section is: How can one determine which games are most appropriate for increasing motivation and achievement?

Criteria for Game Selection and Design

Before proceeding with any programmed use of gaming in the classroom, both commercial and home made games should be carefully examined in some way to be sure that the type, content, procedure and purpose match the classroom situation. The games should also meet the specific, motivational requirements of adolescents by providing for appropriate levels of competition and cooperation, as well as by providing cognitive challenges. Therefore, persons considering the use of games in an educational situation should develop a system that enables them to find the necessary items in existing games or to devise games which contain them.

Adaptation of Games

Based on the research of Van Etten and Watson these are some

guidelines that fit adolescent needs with existing games. They advise caution when selecting games of any kind for educational programming. They state that there are:

> "two major factors to be considered...first - is determining when the game should be used; most are effective and appropriate when used to practice skills as opposed to teach initial acquisition of new behaviors. Second - is checking the general game format used and the procedure for playing the game."[37]

According to the research of Karen Steiner many popular games can be adapted to reinforce reading and language skills. She states that:

> "By using games that are already part of children's repertoire's or games that have innate appeal, the teacher can readily tap an established source of student motivation." In adapting commercial games, she quotes from another source that "teachers should construct few if any gameboards...and games which incorporate an element of surprise are valuable. The time element must also be considered; too much time waiting for a turn can minimize instructional benefits."[38]

She suggests that the games should appeal to curiosity and tap other sources of motivation, which in the case of adolescence may be achievement or competence motives.

In research done by Wright and Alin many expensive commercial games are said to be adaptable in basic design. The following list of steps aid in this process:

> "First-determine what skills need developing, second-decide what situation will provide practice for those skills, then-specify the roles the participants will fulfill, conditions under which they are to act and the limitations and rules which will guide the game. If constructed properly, it can serve as a good review for learning."[39]

An instructional pinball game was successfully tried at an elementary school by Daniel Decker. Included with the elaborate

discussion of how the game works are recommendations to continue refinement in its design and develop its adaptability to other subject areas. The only apparent limitations in accomplishing this would be factors of time, cost and mechanical skills of the builder.[40] Again although the success of this adaptable pin ball game has been researched only with elementary students, its potential success with adolescents is conceivable, because of inherent factors of competition and achievement, both of which are characteristic forms of motivation with adolescents.

Creation of Games

Wright and Alin also offer some sound suggestions for games that can be created by students, which "may be a part of every review or a culminating activity after reading in class." Materials for the first model that is prescribed consist of "a game board, plain note cards, markers and dice or die." In this model the students "are to draw the path of blank squares, fill in the directions, make up questions to put on the cards and decide what piles the cards go in, or when moves take place." The second model utilizes "card games, which are particularly adaptable to syntax building exercises...Gin Rummy could be used to create sentences" and so forth.[41]

Pearson and Marfuggi describe some helpful guidelines from their research for the teacher attempting to create games for the classroom. The list follows:

> "(1) Options: Structure. What degree of uncertainty exists within the total structure of the game? decision making choices?
> (2)Content:Format. To what extent is the learning content of the game reflected in the format and outcome of the game?

(3)Competitive Satisfactions:Outcomes. To what extent does competition in the game offer gratification to all players?
(4)Skill:Outcomes. How much does skill rather than chance have to do with the final outcome of the game?
(5)Liveliness:Structure. To what extent does the game offer players opportunities for varied behaviors? rules too comprehensive?
(6)Game:Reality. How does the game relate to the real world? [6 is more applicable to simulation-type games rather than instructional games.][42]

The guidelines and suggestions presented here provide a system for identifying or devising games that meet adolescent cognitive and affiliative needs.

Summary

This chapter has attempted to provide a clearer background of theories and recent research regarding motivation, achievement and the use of games. Following a brief description of Maslow's Hierarchy of needs adapted for education by Timmreck, a list of common adolescent drives, classified by McCandless as biological and learned was presented. Acquired motives and other theories of adolescent motivation, as explained by Perkins, was provided. Emerging theories of adolescent intellectual and motivational capacity were reflected through several studies, especially in terms of the educational needs they create.

The importance of motives, attitudes and intrinsic motivation was expressed by the research studies presented on the related topics. Other research studies reported that active games, involving the use of fine and gross motor activity, were usually more effective than passive games, which depend less on manipulatory participation.

Additional studies communicated that while cooperative games provide greater motivation among peer group individuals, the ability to use strategy and compete among adolescents is also more frequent and successful, than it is with younger children.

Finally, a variety of suggestions and recommendations for more beneficial game adaptations and designs were offered by experts and discussed. Having established a better understanding of adolescent development, learning and motivation through the theories and research presented, these suggestions and recommendations will be useful and applicable to the study at hand. In the following chapter, the criteria established for game evaluation, adaptation and design will be utilized.

Footnotes

[1]Thomas Timmreck, "Motivation-Hygiene Theory Adapted for Education," High School Journal 61 (December 1977): 109.

[2]Boyd R. McCandless, Adolescents: Behavior and Development (Hillsdale, Ill.: Dryden Press, Inc., 1970), p. 15.

[3]Ibid., p. 17-20.

[4]Hugh V. Perkins, Human Development and Learning (Belmont, California: Wadsworth Publishing Co., 1974), p. 58-60.

[5]J. W. Atkinson, An Introduction to Motivation, (Princeton, N.J.: Van Nostrand Co. Inc., 1964), p. 11.

[6]Perkins, p. 60.

[7]Ibid., p. 61.

[8]McCandless, p. 220.

[9]Ibid., p. 8.

[10]Perkins, p. 68.

[11]Ibid.

[12]Ibid., p. 70.

[13]Ibid., p. 69.

[14]Ibid.

[15]Robert White, "Motivation Reconsidered: The Concept of Competence," Psychological Review 66 (September 1959): 297-333.

[16]Perkins, p. 64.

[17]Frank H. Farley and Jan M. Rosnow, "Student Analyses of Motivation and School Learning," Journal of Experimental Education 43 (Spring 1975): 51-54.

[18]Michael R. Simonson, "Attitude Change and Achievement: Dissonance Theory in Education," Journal of Educational Research 70 (Jan./Feb. 1977): 163.

[19]Ibid., p. 164.

[20]Ibid., p. 165.

[21]Edward L. Deci, "The Effects of Externally Mediated Rewards on Intrinsic Motivation." Journal of Personality and Social Psychology 18 (1971): 105-115.

[22]Ibid.

[23]John A. Bates, "Extrinsic Reward and Intrinsic Motivational Review with Implications for the Classroom." Review of Educational Research 49 (Fall, 1979): 557-572.

[24]Penman, Christopher and Wood, Research Quarterly, 48: 135.

[25]Ibid., p. 136.

[26]Pinter, Dissertation Abstracts International, 38-2A: 710-711.

[27]Ibid.

[28]Theye, Dissertation Abstracts International, 39-2A: 4741-42.

[29]Ibid.

[30]Warner, Miller and Cohen, Journal of Applied Behavior Analysis, 10: 737-740.

[31]Keith Edwards, "Evaluations of a Simulation Game as a Learning Experience," (Washington, D.C.: Office of Education - DHEW, April 1972): EDO 58142.

[32]D. W. Johnson and R. Johnson, "Instructional Structure: Cooperative, Competitive or Individualistic," Review of Educational Research 44 (1974): 213-240.

[33]Robert E. Slavin, "Student Teams and Achievement Divisions: Effects on Academic Performance, Mutual Attraction and Attitudes," (Washington, D.C.: Office of Education - DHEW, August 1977): No. 233.

[34]Ibid.

[35]Catherine Dami, "Cognitive Strategies in Two-Person Competitive Games: A Developmental Study of the Relationship Between Strategies Used and the Social Interaction Between Opponents," Archives de Psychologie Mono 2 (September 1975): 1-164.

[36]Charles McClintock and Joel Moskowitz, "Variations in Preferences for Individualistic, Competitive and Cooperative Outcomes as a Function of Age, Game Class, and Task," Child Development 48 (September, 1977): 1080-1085.

[37]Carlene Van Etten and Bill Watson, ed., "Programs, Materials and Techniques," Journal of Learning Disabilities 9 (November 1976): 541.

[38]Karen Steiner, "Child's Play: Games to Teach Reading," Reading Teacher 31 (January 1978): 475-76.

[39]Keith Wright and Roy Alin, "Student Created Games," English Journal 65 (May 1976): 70.

[40]Daniel S. Decker, "Motivation for Mastery - An Instructional Pin Ball Game," Audio Visual Instruction (Learning Resources Supplement) 19 (January 1974): 7-9.

[41]Wright and Alin, English Journal, 65: 71.

[42]C. Pearson and J. Marfuggi, Creating and Using Learning Games, (Palo Alto, California: Learning Handbooks, 1975), p. 3.

CHAPTER III

METHODS AND PROCEDURES

Sample Used

The population in this investigation will consist of 50 to 60 rural, male and female students enrolled in ninth grade Language Arts classes. The experimental and control groups will be two intact classrooms, in which the students are reasonaly equivalent in terms of age (14-14½), academic background, social interests and attitudes. Prior to the experiment the two equated classes of students will be selected from among four to six classes. Equivalency for the classes will be based on verbal S.A.T. scores of 350 to 400 from the previous year. Equivalency will also be based on a structured discussion, which presents questions on attitudes and social interests that are unobtrusively embedded among content related questions. These questions could revolve around a story (previously read in a literature unit), that concerns adolescents in an educational setting. Some examples of these questions are: What did the main character in this story do? Do you feel as the main character does about school? Why do you feel the way that you do? ...

Instrument and Materials

Three games will be developed, observing the adaptation and creation suggestions mentioned in Chapter Two. One of the games constructed will be a card game adapted from a book of ideas[1]

to fit the grammar unit concept: correct usage of the parts of speech (see Appendix A). Then, one gameboard and one fine motor activity game will be constructed for the grammatical concept of building complete sentences (see Appendices B & C). Lecture and discussion notes will be prepared on the same units for use with the control group (see Appendix D).[2]

After completion of the instruction, the treatment will be measured for both groups by a teacher adapted achievement test (see Appendix E). The twenty items for the adapted test for two particular objectives were taken in part from the Stanford Achievement Test (Advanced Battery),[3] the Stanford Test of Academic Skills (Level I-A),[4] and a Criterion-Referenced Test designed by the City of St. Charles with the help of Scientific Research Associates, Inc.[5] According to the technical manual the reliability coefficient for the Language subtest of the Stanford Achievement Test based on the odd-even scores of the Spearman Brown formula is .95, and based on the Kuder Richardson Formula 20 is .94. According to the technical manual the reliability coefficient for the English subtest of the Test of Academic Skills based on the odd-even scores of the Spearman Brown formula is .96, and based on the Kuder Richardson Formula 20 is .95. No specific reliability coefficients were available in the examiner's manual for the Criterion-Referenced Test. However, since specific items were selected for use in the adapted test, rather than entire sections or subtests, the reliability may be somewhat affected.

Students in both groups will also complete a questionnaire adapted from a Math Attitude Scale by Aiken and Dregger (1961) in a book of attitude scales compiled by Shaw and Wright,[6]

(see Appendix F). This twenty item, Likert-type scale is intended to measure whether or not there is a difference in attitude, specifically a positive increase in attitude which would imply an increase in the level of motivation.

Procedures and Data Collection

A pilot study will be carried out with a group of ninth graders who will not be participating in the actual experiment. The main purpose of the pilot study will be to determine the reliability of the adapted achievement test and attitude scale. A secondary purpose of the study would be to refine the structure and timetable for the three grammar units to be covered.

The original authors of the achievement tests and the attitude scale were careful to design the measures with regard to predictive, concurrent, construct and content validity. The instructional objectives and the item groupings of the adapted test are similar to the original test, just as the same positive/negative arrangement of items on the attitude scale was used in the adapted scale. However, concurrent validity will need to be determined for the achievement test and attitude scale, especially since the adaptation of each may have affected the generalizability of the results. This could be done for the adapted achievement test by correlating it with other established and standardized measures like the Stanford Achievement Test. Validity for the adapted attitude scale could be determined by correlating its scores with rating scale scores (assigned by different teachers of the same students). Another way to assure validity for the adapted attitude scale might be to carefully examine the positive/negative arrangement of items with regard to consistency. Any scores in which clear

contradictions of attitude exist could be eliminated, since they would not provide accurate data.

Consistency and reliability will be determined by using a Kuder Richardson Test of Reliability with the adapted version of the achievement test and by checking the odd-even scores of the attitude scale according to the Spearman Brown formula (r_1I), as it is used with the pilot group. Following an examination of the results from the pilot study, the experiment itself would then be done.

Of the two groups participating, the first one to be picked at random will receive the treatment of the game technique, and thus serve as the experimental group. The remaining group will be presented with the lecture and discussion technique by the same teacher, and as such will be the control group. Each treatment involving the three units - correct identification and usage of the parts of speech, and building complete sentences, will be given over a period of eight days; the first two unit lessons or games taking four days, and the remaining unit taking four days.

Following the treatment of both groups by either the game or the lecture/discussion technique, the Achievement Test will be administered by an objective experimenter on the ninth day for the combined units. After the tests, both groups will also answer the questionnaire survey on the tenth day. The experimenter will then check scores for the test and survey in both groups.

Data Analysis

The two hypotheses for this experiment are:

1. The use of games for three related units of language skills

with one group of ninth graders will result in higher scores on a teacher adapted Achievement Test than a group with which the non-gaming technique of lecture and discussion is used.

2. The use of games for three related units of language skills with one group of ninth graders will result in higher scores on an adapted attitude scale, which is specifically designed to measure attitude toward newly learned skills and subject matter or content, than a group with which the non-gaming technique of lecture and discussion is used.

The design that will be used to test the two hypotheses will be a modification of the nonequivalent control group design.

Once all of the tests have been scored and mean and frequency scores have been calculated, these scores will then be compared for the experimental and control groups using an Independent T-test.[7] After scores for the attitude scale are compiled, they will be compared for both groups by the same method. Using .05 as the level of significance, analyses of the results with the above statistical methods will enable one to decide whether the two hypotheses should be accepted or rejected.

Footnotes

[1]Vicki Hacket, Games for Teaching Literature (Portland, Maine: J. Weston Walch, Pub., 1975), p. 5-15.

[2]John E. Brewton, B. Jo Kinnick, and others, Using Good English - Book 9 (River Forest, Ill.: Laidlaw Brothers, 1962), pp. 381-382, 320,321.

[3]Richard Madden, Eric F. Gardner, Herbert C. Rudnan and others, Stanford Achievement Test - Advanced Battery (N.Y.: Harcourt-Brace-Jovanivich, Inc., 1972), Language (Part A).

[4]Richard Madden, Eric F. Gardner and Jack C. Kerwin, Stanford Test of Academic Skills - Level I-A (N.Y.: Harcourt-Brace-Jovanovich, Inc., 1972), English (Part A).

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[6]Marvin E. Shaw and Jack M. Wright, Scales for the Measurement of Attitudes (N.Y.: McGraw-Hill, 1967), p. 242.

[7]Emanual J. Mason and William J. Bramble, Understanding and Conducting Research (St. Louis: McGraw-Hill, 1978), p. 197-198.

APPENDICES

Appendix A

Rules for the Game - Parts of Speech Rummy

MATERIALS: Each deck of cards consists of sixty-four cards, containing eight different cards for each of the eight parts of speech.

PLAYERS: The game can be played with two (competitive) to four (cooperative) players.

PREPARATION: Each player is dealt seven cards after the deck is shuffled. The remaining cards will be placed in a pile, face down, for drawing and discarding purposes.

PROCEDURE:
1. When two are playing, each player attempts by drawing and discarding (as with the game of gin rummy) to acquire in his/her possession a grouping of two sets of three of a kind, and one set of four of a kind, such as - three verbs, adverbs or four interjections; or a prepositional phrase with three word cards, two adjectives describing a noun or pronoun, etc.
2. When four are playing, two work together as partners and attempt to bid and outplay the other two players doing the same as prescribed above - the only difference being that the two players work together and have twice as many cards to use for constructing phrases and clauses.

SCORING: When two persons are involved - "Gin" may be called by the first player who obtains: two sets of three of a kind, and one set of four of a kind. Same parts of speech earn 5 points, phrases created by word cards earn 7 points; or a straight (which is a logical and complete sentence) earns 10 points.

When four persons are involved - "Gin" may be called by the first team of two who obtains: two sets of three of a kind, and one set of four of a kind. Same parts of speech earn 1 point, phrases created by word cards earn 3 points; or a straight earns 5 points.

Ultimate winners in both kinds of games are those individuals or teams who have earned the most points.

CRITERIA (FROM CHAPTER II) FOLLOWED: As advised by Van Etten and Watson the game is not intended to teach the skills of identifying and correctly using parts of speech, it is intended for practice of these skills. As prescribed by Pearson and Marfuggi the game is structured to allow for plenty of individual and team decision-making; the content is reflected in the format and outcome of the game, especially since it is the goal of the game to enable the student to correctly identify and use the eight parts of speech in various constructions and/or groupings; Competition and cooperation are both present in the game as a motivating factor or aid in achieving the goal; since only correct uses of parts of speech in groupings, phrases and sentences are awarded points the players do win according to skill rather than by chance; the structure allows the players a variety of behaviors and decision-making choices and the rules are not too comprehensive.

Appendix B

Rules for the Game - Sentence Scrabble

MATERIALS: Gameboard and container with small word cards, 72 approximately (varying numbers of each part of speech according - as with Scrabble - to the rarity of the part of speech, i.e., interjection receives more points, as does a "z", than a more common part of speech like a noun).

PLAYERS: As with Scrabble the game may be played by two to three players.

PREPARATION: As the game begins all the word cards are put face down, and each player draws at random seven pieces to keep and work with.

PROCEDURE:
1. As the game continues, each player draws and discards as necessary to create sentences on the game board, which lead off from other sentences.
2. The game continues until all usable pieces are gone, and all scores have been tallied.

SCORING: Scores are earned by adding the points assigned to each word card together, according to the length of the sentence created. Extra points may be earned if the word cards are placed on double or triple word or sentence scores. The winner of the game would be the one who has obtained the most points.

CRITERIA (FROM CHAPTER II) FOLLOWED: Again as advised by Van Etten and Watson the game is not intended to teach the concept of complete sentences, but is intended to reinforce it by practice. As prescribed by Pearson and Marfuggi the game is structured to allow for plenty of individual decision making (since this game is strictly competitive, no team decision making is involved); the content is reflected in the format and outcome of the game, again especially since the goal is to enable the student to construct complete sentences; Competition and resulting gratification are both present in the game by way of the points one earns as he/she constructs additional sentences; Again since only correct and logical sentences may receive points (in this case checked by the teacher instead of a dictionary, as with the original game), skill overrides the possibility of winning by chance; and finally the structure allows for a variety of behaviors with rules that are not too comprehensive.

Appendix C

Rules for the Game - Scrambled Sentence Eggs

MATERIALS: Leggs eggs that are white, silver and gold, containing sentences that have been cut apart into individual words, ranging in length from simple to compound.

PLAYERS: This game may be played with two players or an entire class.

PREPARATION: The sentence egg(s) are given to the particpating players with a clock or watch at hand for reference.

PROCEDURE:
1. When two players are involved, the sentence egg may be given to the two who attempt to put the sentence together in the right order within a certain amount of time or to do it before another group of two finishes.
2. When the entire class plays the game, the first person in each row is given a sentence egg to figure out. All the persons behind the first player are instructed to turn and face the back of the classroom while the first player works. When the first player finishes, he places the words back in the egg, shakes it, taps the next person on the shoulder to turn around, hands him or her the egg. The egg would pass backward until one row finishes ahead of the rest, and then continue until all rows are done.

SCORING: With two players - points would be awarded by the teacher after the sentence order is checked for accuracy.

With the entire class - five points would be awarded to the row that finishes first, four to the next one, three to the next and so on. When the supply of eggs is exhausted the team with the most points would be the winner.

CRITERIA (FROM CHAPTER II) FOLLOWED: The only difference between this and the previous game would be the allowance for players within a team to cooperate in order to meet the game goal of enabling the student to arrange the words in the right order so as to construct a complete and logical sentence; all other criteria are met in the same way as the Sentence Scramble game.

Appendix D

Brief Lecture and Discussion Notes
on Parts of Speech and
Complete Sentence Concepts (Review)

I. Parts of Speech

A. Identification - Teacher: The parts of speech all have specific functions, as we have already learned: nouns name things, verbs show action, pronouns give substitute names, adjectives describe, adverbs describe verbs or adjectives, interjections show emotion or exclamation, prepositions relate nouns to other words in the sentence, conjections connect words, phrases or sentences. Can anyone give an example of a noun? pronoun? verb? adverb?... Students: answer with examples.

B. Correct Usage - Teacher: Now I will write some sentences on the board for several of you to come up and correct (sentences taken from Using Good English - Book 9, Unit 12 on Grammar and Usage, pp. 381 and 382).

II. Complete Sentences

A. Definition - Teacher: Complete sentences must always have a subject and a predicate or a noun and a verb. Sentences that contain more than one complete thought, and are not separated by punctuation are called run-ons, and sentences which lack the full thought are incomplete fragments. Can anyone give an example of these? Students: answer with examples.

B. Construction or Recognition - Teacher: Now I will write some examples on the board, which you are to correct (sentences taken from Using Good English - Book 9, Unit 11 on Building Sentences, pp. 320 and 321). Students: respond with correct answers.

Appendix E

Adapted Achievement Test of Basic Grammar Skills

Objective #1: to determine the ability to select appropriate parts of speech for given sentences (especially verbs, pronouns and adjectives).

1. Which word is a pronoun? A. loudly B. hot C. they D. walking

2. Which part of the following sentence carries the action? The little girl fell down the stairs and bumped her head. A. fell and bumped B. down the stairs C. stairs and head D. little girl.

3. He soon had ___ a medical career and had ___ as an apprentice to a local doctor. A. chose-began B. chosen-began C. chosen-begun D. chose-begun

4. The young scientist Humphrey Davy and Dr. Thomas Beddoes began working together, and it was ___ experimented with various gasses. A. them which B. they which C. them what D. they who

5. Interest in science had ___ to a new high, and scientific groups had ___ up throughout England. A. rose-sprung B. rose-sprang C. risen-sprung D. risen-sprang

6. Beddoes soon saw that Humphrey was as good as ___; in fact, Humphrey was the ___ of the two. A. he-best B. him-better C. he-better D. him-best

7. People wondered if there ___ scientific subjects he didn't know about. A. wasn't any B. were any C. wasn't no D. weren't no

8. Many men have earned ___ more honors for ___ contributions. A. theirselves-less B. themselves-less C. themselves-fewer D. theirselves-fewer

9. Overwork took its toll, and he ___ paralyzed on his entire right side. A. become B. becomed C. becomes D. became

10. Neither rest nor long treatment ___ the solution to ___ health problems; he died at the age of fifty one. A. was-these B. wasn't those C. was-them D. were-them

Objective #2: to determine ability to distinguish complete sentences from incomplete sentences.

1. Which of the following is an <u>incomplete</u> sentence?
   A. He discovered it.
   B. They lifted it to the surface.
   C. When it began to sink.

2. Which of the following is an incomplete sentence?
   A. He explored it.
   B. Because the fire started.
   C. It ran.

3. Which of the following is an incomplete sentence?
   A. Who would help them?
   B. Helping each other out in times of trouble.
   C. They usually stay together in groups.

4. Which of the following is an incomplete sentence?
   A. Running along the bank.
   B. The river runs west.
   C. The lake shore is usually sandy.

5. Which of the following is an example of a run-on sentence?
   A. The book tells the story of the different Indian tribes of North America.
   B. The story of the Indian travels in the book is so long the Indians travel to many parts of the country.
   C. Indian culture is studied by many school children.

6. Which of the following is an example of a run-on sentence?
   A. Jane, Paul and Steve attended the game.
   B. Anna called Ruth on the telephone.
   C. Joe, Mary Ann, and Joan went to the baseball game Audrey and Eileen stayed home.

7. Which of the following sentences is complete?
   A. In spite of his long, shaggy exterior coat and thick undercoat.
   B. It was raining.
   C. Not having been able to survive.

8. Which of the following sentences is complete?
   A. Down from the north came the glaciers which proved the downfall of the mammoth.
   B. With complex ridged molars behind long slender curved tusks which were very valuable for their ivory.
   C. All creatures which cannot survive the rigors of changing nature.

9. Which of the following sentences is complete?
   A. "Miniature" at that time having nothing to do with size.
   B. Miniature paintings or portraits once served the function of the modern photograph they were of course much more expensive.
   C. Imagine finding the portrait of one of your ancestors tucked away in a tiny corner of the Metropolitan Museum.

10. Which of the following sentences is complete?
    A. Lord Nelson having destroyed the French fleet and marooned Napoleon and the entire French army in Egypt about the year 1798.

B. Although he chased the French fleet completely across the Atlantic, Lord Nelson was unable to engage them.
C. Because almost everyone has heard of the Battle of Trafalgar, which was the largest naval battle the world had seen at that time.

Appendix F

Attitude Scale Adapted for Language Arts

Directions: Please write your name in the upper right hand corner. Each of the statements on this questionnaire expresses a feeling which a particular person has toward Language Arts. You are to express on a five-point scale, the extent of agreement between the feeling expressed in each statement and your own personal feeling. The five points are: strongly agree (SA), agree (A), undecided (U), disagree (D), strongly disagree (SD). You are to encircle the letter(s) which best indicates how closely you agree or disagree with the feeling expressed in each statement AS IT CONCERNS YOU.

*1. I am always under a terrible strain in Language Arts class.
SD D U A SA

*2. I do not like Language Arts, and it scares me to have to take it.
SD D U A SA

*3. Language Arts is very interesting to me, and I enjoy Language Arts courses.
SD D U A SA

*4. Language Arts is fascinating and fun.
SD D U A SA

5. Language Arts make me feel secure, and at the same time it is stimulating.
SD D U A SA

*6. My mind goes blank, and I am unable to think clearly when doing grammar.
SD D U A SA

*7. I feel a sense of insecurity when attempting Language Arts skills.
SD D U A SA

*8. Grammar makes me feel uncomfortable, restless, irritable and impatient.
SD D U A SA

9. The feeling that I have toward Language Arts is a good feeling.
SD D U A SA

*10. Language Arts make me feel as though I'm lost in a jungle of words, and can't find my way out.
SD D U A SA

11. Grammar is something which I enjoy a great deal.
SD D U A SA

*12. When I hear the word "grammar", I have a feeling of dislike.
SD D U A SA

*13. I approach Language Arts with a feeling of hesitation, resulting from a fear of not being able to do grammar.
SD D U A SA

14. I really like Language Arts.
SD D U A SA

15. Language Arts is a course in school which I have always enjoyed studying.
SD D U A SA

*16. I have never liked Language Arts, and it is my most dreaded subject.
SD D U A SA

*17. It makes me nervous to even think about having to do a grammar problem.
SD D U A SA

18. I am happier in a Language Arts class than in any other class.
SD D U A SA

19. I feel at ease in Language Arts, and I like it very much.
SD D U A SA

20. I feel a definite positive reaction to Language Arts and grammar; they're enjoyable.
SD D U A SA

*These are the negative items, and must be reversed for purposes of scoring. The same response alternatives are used with all items.

Scoring: The response alternatives for positive items are weighted from 4 (strongly agree) to 0 (strongly disagree). These weights must be reversed for alternatives to negative items. The person's score is the sum of the weighted alternatives endorsed by him or her. High scores reflect positive attitudes toward Language Arts.

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