

Lindenwood University

Digital Commons@Lindenwood University

---

Theses

Theses & Dissertations

---

7-1979

**Social Integration of Learning-Disabled Students in Mainstream Programs Where the Method of Instruction is Divergent Questioning**

Phyllis Bigby

Follow this and additional works at: <https://digitalcommons.lindenwood.edu/theses>



Part of the Education Commons

---

304

SOCIAL INTEGRATION OF LEARNING-DISABLED STUDENTS  
IN MAINSTREAM PROGRAMS WHERE THE METHOD  
OF INSTRUCTION IS DIVERGENT QUESTIONING

BY  
PHYLLIS BIGBY

Submitted in partial fulfillment of the  
requirements for the Master of Science  
in Education degree at  
The Lindenwood Colleges  
July 18, 1979



## ABSTRACT

This paper concentrates on an approach to enhance the social integration of learning-disabled students in regular classrooms. The chief problem is to design learning experiences which stimulate the development of social integration in mainstream programs. What effect does method of instruction have on positive affective states of learning-disabled students when mainstreamed?

After defining terms, the literature review includes studies on 1)divergent questioning and its relationship to the thinking processes, 2)methods of instruction, 3)actual and perceived peer status of learning-disabled students in regular classrooms.

The research design will be experimental, using the classroom situation and primary students. The Peer Acceptance Scale (Bruininks 1972) will be used to assess peer status. Divergent questioning will be the method of instruction.

The investigation will be aimed at the relationship between the level of the learning-disabled student's peer status in mainstream programs before and after the method of instruction of divergent questioning.

In addition, a design of divergent questioning techniques for teachers preparing to mainstream will be included.

## TABLE OF CONTENTS

Chapter		
I.	INTRODUCTION .....	1
	Scope and Purpose .....	1
	Definitions .....	3
	Conceptual Formulation .....	6
II.	REVIEW OF RELATED LITERATURE .....	10
	Review: Divergent Questioning and its Relationship to Thinking Processes to Enhance Social Integration of Learning Disabled Children in Mainstream Programs .....	10
	Review: Methods of Instruction .....	13
	Review: Peer Status of Learning-Disabled Students in Mainstream Programs .....	17
III.	METHODOLOGY .....	21
	Materials .....	22
	Procedures .....	25
	Divergent Questioning for Children .....	28
	Divergent Questioning for Teachers .....	32
.....		
	BIBLIOGRAPHY .....	35

## CHAPTER I

### INTRODUCTION

#### Scope and Purpose

On October 1, 1977, the Education for All Handicapped Children Act (PL 94-142) went into effect. The act mandates a "free, appropriate public education in the least restrictive environment possible".<sup>1</sup>

Special education is a part of not apart from, regular education. It has been referred to as the philosophy of the least restrictive environment and is included in the 1975 federal law Education for All Handicapped Children Act. That means that the child should be taken from the regular classroom only when it is not possible to deliver the needed service within the regular classroom, that a special class should be established only when it becomes obvious that a part-time resource room or itinerant teacher program is not adequate to do the job, and that the child should be institutionalized only when all other efforts to provide good education within the framework of the local school system have failed.<sup>2</sup>

Specifically, however, this paper will concentrate on an approach to enhance the social integration of learning-disabled (LD) students in regular classrooms. Substantial numbers of LD

---

<sup>1</sup> "Teachers and PL 94-142," MNEA, Something Better (December 1977):9.

<sup>2</sup> Samuel Kirk and James Gallagher, Educating Exceptional Children (Boston: Houghton Mifflin Co., 1979), p. 19.

students are now in mainstream educational programs, and educational experiences need to be planned to enhance their relationships with peers. Bruiniks investigated the peer status of these students in regular classrooms and the accuracy with which they perceived their social position in the peer group. "Results showed that LD students in mainstream programs were significantly less socially accepted than their classmates in regular classrooms and that they were less accurate than their classmates in assessing their own personal status in the group."<sup>3</sup>

The chief problem, therefore, is to design learning experiences which stimulate the development of social integration in regular classrooms with mainstream programs. What effect does method of instruction, particularly divergent questioning, have on positive affective states of the LD students when mainstreamed in the regular classroom? It is expected that, divergent questioning would provide an opportunity for social success for all students by developing self confidence and favorable attitudes during participation. "This kind of questioning stimulates interest and provides motivation for exploration and experimentation. Using divergent questions is also more likely to lead to the development of insights, appreciations, and desirable attitudes than convergent questions."<sup>4</sup>

---

<sup>3</sup>Virginia L. Bruininks, "Actual and Perceived Peer Status of Learning-Disabled Students In Mainstream Programs," Journal of Special Education 12 (Spring 1978): 51.

<sup>4</sup>James Weigand, ed., Developing Teacher Competencies (New Jersey: Prentice-Hall, Inc., 1971), p. 97.

Some research indicates that divergent questioning improves social acceptance. In a study which focused on altering attitudes toward the physically handicapped through the use of literature and open-ended discussion, "research showed that positive changes in student attitudes were most pronounced among students of teachers who were supportive of a study of the handicapped. These teachers stated that they had encouraged open-ended discussion whenever the subject of handicaps arose."<sup>5</sup>

#### Definition of Terms

"Mainstreaming refers to the temporal, instructional and social integration of eligible exceptional children with normal peers. It is based on an ongoing individuality determined educational needs assessment, requiring the clarification of responsibility for coordinated planning and programming by regular and special education administrative, instructional, and support personnel."<sup>6</sup>

Students meet the definition of learning-disabilities if they qualify under State of Missouri guidelines for special services as an LD student in their district. In applying this definition, to qualify a child for services, the multidisciplinary

---

<sup>5</sup> Dianne Monson, "Mainstreaming" We're Almost There," Early Years, April 1979, p. 38.

<sup>6</sup> M. Kaufman et al., Mainstreaming: Toward an Explication of the Construct (Denver: Love Publishing Co., 1975), p. 40.



evaluation team uses the following criteria for determining the existence of a specific learning-disability.

1. A team may determine that a child has a specific learning disability if:
  - a.) The child does not achieve commensurate with his age and ability levels in one or more of the areas listed in paragraph b of this section when provided with learning experiences appropriate for the child's age ability levels; and
  - b.) The team finds that a child has a severe discrepancy between achievement and intellectual ability in one or more of the following areas; oral expression, listening comprehension; written expression, basic reading skill, reading comprehension, mathematics calculation, or mathematics reasoning.
2. The team may not identify a child as having a specific learning disability if the severe discrepancy between ability and achievement is primarily the result of: a visual, hearing, or motor handicap; mental retardation, emotional disturbance, or environmental, cultural or economic disadvantage.

Divergent questions permit more than one acceptable response.

The answers to these questions are not necessarily predictable; these are thought-provoking questions. A divergent question asks the person responding to organize elements into new patterns that were not clearly recognized before. A teacher asking this kind of question would allow a child to be original in his response. "Divergent questions might create new problem situations and require the child to synthesize ideas and construct a meaningful solution. In responding to divergent questions the child may perform the operations of predicting, hypothesizing, or

---

<sup>7</sup>Missouri Department of Elementary and Secondary Education, Special Education Section, Jefferson City, Missouri, PL 94-142 FY80 LEA Compliance Plan. (Section 2.4).

inferring.<sup>8</sup> Examples of these kinds of questions include the following:

- A. What predictions can you make about what is going to happen to the marbles?
- B. If you saw a native of a strange planet, how would you communicate to him that you were friendly and meant no harm?
- C. What are some numbers that will make this sentence true?  $\square + \triangle - \square = 5$
- D. How might our country be different today if we had never had slavery?
- E. What are some ways a fish might live differently if the type of water in which he lives is changed?

Divergent Thinking, as defined as one of Guilford's (1959) five major groups of intellectual abilities, is "thinking in different directions, sometimes searching, sometimes seeking variety."<sup>9</sup>

Peer Status or Actual Peer Status refers to the relative position of the social standing of each class member as perceived by others in the class.

Perceived Peer Status refers to the relative position of the social standing of a class member as he feels each of his classmates regards him.

---

<sup>8</sup> James J. Gallagher, Productive Thinking of Gifted Children, Cooperative Research Project No. 969, Urbana, Illinois: Institute for Research on Exceptional Children (University of Illinois, 1965) pp. 25-26.

<sup>9</sup> Arthur J. Jersild, Child Psychology (New Jersey: Prentice-Hall, Inc., 1968) p. 487.

### Conceptual Formulation

Mainstreaming will require a great deal of energy and extra time from all involved: parents, students, principals, teachers, special educators. It will require preparation, patience and experimentation to discover and invent the arrangements that work best.

This writer has attempted to experiment and discover the value of one method of instruction, namely divergent questioning, to enhance social integration of the learning-disabled students in regular classrooms.

"Situational socialization represents the process of acquiring the new knowledge, behavior, and attitudes which both mild to moderately handicapped learners and regular class learners need in order to interact successfully in interpersonal relationships. Through a socialization process approach, the goals of mainstreaming (realization of personal worth and the ability to communicate effectively with others) can be accomplished."<sup>10</sup>

The skill of asking divergent questions can benefit the regular classroom teacher in two ways. First, these questions can be answered as an organizational self analysis technique. Second, the teacher can use divergent questions to mainstream children in the classroom.

---

<sup>10</sup>Darryl Newberger, "Situational Socialization: An Affective Interaction Component of the Mainstreaming Reintegration Construct," Journal of Special Education 12 (Summer 1978): 113.

These kinds of questions have been used frequently as a teaching skill in the regular classroom with success. A study by Taba, Levine, and Elzey<sup>11</sup> found an almost perfect correlation between the levels of thought pupils displayed in their answers to teachers' questions and the types of questions asked by their teachers. In addition, the study showed that questions asked by the teacher have a very strong influence on other behaviors performed by the pupils. The way a teacher asks questions can be one of the most influential parts of teaching.

According to Guilford, there are many ways of being intelligent. One of many ways is to employ what Guilford calls convergent thinking; another is to use divergent thinking. The convergent thinker follows conventional paths. He uses information at hand to arrive at conclusions leading to one right answer. It is the answer that someone, who already has traversed the ground, knows in advance.

The divergent thinker does not move in such an ordered way from given premises to foregone conclusions. He seeks variety. He seeks not the one correct solution, but considers several possible answers.

Divergent thinking, as compared with convergent thinking, is more flexible and fluid; it is not confined to the information at hand; it permits a richer flow of ideas, and thus opens a way toward solutions that are novel and creative.<sup>12</sup>

Divergent thinking encourages the variety of ideas and experiences exhibited by individual differences among children.

---

<sup>11</sup> Hilda Taba, Samuel Levine, and Freeman Elzey, Thinking in Elementary School Children, Cooperative Research Project No. 1574, San Francisco (San Francisco State College, April 1964) p. 177.

<sup>12</sup> Jersild, Child Psychology, p. 500.

These kinds of educational experiences help to attain educational objectives.

"The goal of education is to enable every child to have the fullest possible life. The more experience a youngster has in meeting the ordinary everyday challenges of living and learning, the better prepared he will be for the challenges of adult life."<sup>13</sup>

"In the long run, as special education moves toward closer collaboration and involvement with regular education, many positive changes are likely to occur. In this way, the special education field has an important opportunity to make a significant contribution to the American school."<sup>14</sup>

"One impetus that led to mainstreaming was the concern that segregation of handicapped learners in special classes had either an adverse effect, or at least no beneficial effect on: a)peer acceptance, b)self acceptance, c)student attitude, and d)academic achievement."<sup>15</sup>

"Students attitudes are important in mainstreaming. To understand the student, one would want to tap the following:  
1. General attitudes toward school, 2. Attitudes regarding the teacher-student relationship, 3. Attitudes toward peers, 4. Feelings about attending school."<sup>16</sup>

<sup>13</sup>Seymour, Saranson, "Public Law 94-142: What Does It Say?", The Exceptional Parent (August 1977): p. 6.

<sup>14</sup>Frank M. Hewett, Educational of Exceptional Learners, (Boston: Allyn and Bacon, 1974) p. 397.

<sup>15</sup>Donald MacMillan and Melvyn Semmel, "Evaluation of Mainstreaming Programs," Focus on Exceptional Children 9 (September, 1977): 2

<sup>16</sup>Ibid.

Accordingly, this teacher-researcher looking for a theory of attitude formation, has developed a construct called the use of divergent questioning, and stated the hypothesis: learning-disabled students who are instructed by the method of divergent questioning and who are in mainstream programs will increase their status on the Peer Acceptance Scale.

The importance and significance of this investigation is to gather more information and design effective instructional plans for mainstream programs to aid the acceptance and adjustment of the learning-disabled students in regular classroom social integration. The following section of this paper will deal with a more thorough review of the literature.

## CHAPTER II

## REVIEW OF RELATED LITERATURE

Review: Divergent Questioning and  
Its Relationship to Thinking Processes  
to Enhance Social Integration of  
Learning Disabled Children in  
Mainstream Programs

Productive thinking requires the use of many if not all of the intellectual operations, products, and content in the Guilford (1960) system. It is important for educators because it focuses on divergent production and evaluation. Divergent thinking (the ability to produce many different answers to propositions) was supposed to be linked with creative abilities and thus was a legitimate skill to encourage with specific educational exercises.

This writer has proposed, using this kind of productive thinking with LD students in mainstream programs, to enhance social integration through participation. The following technique of brainstorming, would be used with divergent questioning, emphasizing the groundrules.

---

<sup>17</sup>Kirk, Educating Exceptional Children, p. 86

One of the more common devices used to increase fluency, or the number of responses that a child can give to a problem, is brainstorming. Using that technique a group could discuss a particular problem, trying to suggest as many answers as possible. There are important ground rules that they must follow: No criticism allowed, the more the better, and integration and combinations of ideas welcomed.<sup>18</sup>

Hypotheses regarding the accelerating effects in thinking are supported by analyses of the structure of intelligence. Guilford's (1960) structure of intellect model is obtained from his analytic studies. These studies and others such as Miner (1957) and Sigel (1963) suggest that intelligence is not a fixed capacity as has been presumed in the conceptions underlying some intelligence tests. Neither is intelligence a unitary capacity, but a composite of many different factors, some of which can be readily identified as reasoning and thinking. These studies also indicate that experience has a great deal to do with unlocking the intellectual potential and with converting it into functioning capacity. These observations regarding the nature of intelligence suggest that under appropriate stimulation and training, gains in cognitive functioning may show a low relationship to<sup>19</sup> scores obtained on current intelligence tests.

A similar statement has been made by Bruner (1963) to the effect that higher levels of intellectual operations can be induced by giving children the best hints, the best tools, the maximum theoretical props and formulas.

"In effect, then, it seems that how people think may depend largely on the kinds of thinking experiences they have had."<sup>20</sup>

---

<sup>18</sup>Ibid., p. 87.

<sup>19</sup>Taba, Thinking In Elementary School Children, p. 24.

<sup>20</sup>Ibid.



In addition, the evidence suggests that the social climate where thinking takes place is important for successful social integration of the learning-disabled student in mainstream programs. Learning-disabled students need to be aware of their peer status in the regular classroom. "Much of what we refer to as social sensitivity is the ability to pick up subtle cues as to how the social environment is reacting to us. The ability to use information about how the world is reacting to us is crucial to our social adjustment."<sup>21</sup>

"It is important for exceptional children to be with regular classroom children whose behavior and social interaction patterns are to be hopefully adopted."<sup>22</sup>

"The essential elements of mainstreaming provide that the exceptional child 1)spend more time in school with his or her normal peers, 2)receive coordinated special and regular educational services and, 3)will have the time and opportunity to interact socially with normal peers."<sup>23</sup>

The next section of this chapter will deal with regular and special educational methods of instruction.

---

<sup>21</sup>Kirk, Educating Exceptional Children, p. 52.

<sup>22</sup>Ibid., p. 484.

<sup>23</sup>Ibid.

Review: Methods of Instruction

"Studies by Flanders (1963,1962) have been interested in describing the effect of teacher behavior on classroom climate and goals. In his interactional analysis he uses ten categories to sort out behavior of teachers and students. Seven of these describe teacher behavior as accepting feelings, praising and encouraging, using ideas of students, asking questions, (underlining mine), lecturing, giving directions, criticizing or justifying authority.

By compiling these types of behavior into interaction matrices, Flanders (1962) plots the concentrations of direct and indirect influence, and from the ratio of the two infers their impact of teaching acts on students."<sup>24</sup>

"Until fairly recently, it was not the practice to teach the child in terms of his overt functioning, to foster basic intellectual sub-skills, such as motor skills, language skills, perceptual skills, and cognitive skills, so that he could learn to handle the intellectual tools of our culture. It was assumed that because he was not learning the way other children learn, he could not learn what other children learn, and he was put into a special class so that he would not interfere with the learning of normal children.

Children cannot be expected to fit the curriculum. The curriculum--which really means all of the activities that go on in school--must be designed to raise the functional level of each child. It begins

---

<sup>24</sup>Taba, Thinking In Elementary School Children, p. 45.

where the child is, with what he can do. The child is expected to learn, and he will learn. The teacher's job is to teach him: to observe his behavior and formulate short-term goals; to arrange conditions, select materials, assign tasks within the child's observed repertory, and gradually to increase that repertory through direct teaching."<sup>25</sup>

"School systems which provide an instructional atmosphere characterized by a constant succession of failures create children who approach an educational task expecting failure and whose approach to problem-solving is characterized by a desire to avoid failure rather than to achieve success."<sup>26</sup>

As stated previously, hopefully, divergent questioning can provide an opportunity for success for all students. It can be an experimental teaching tool to help create an accepting atmosphere for LD students and their social acceptance and adjustment in mainstream programs in regular classrooms.

"All individuals are creative."<sup>27</sup> "Creativity springs from divergent thinking. Ideas escalate from this approach. The variety and multiplicity of ideas grow out of the interaction of the contributing members. Divergent thinking stimulates creativity. No responses can be considered wrong."<sup>28</sup>

---

<sup>25</sup> Betty Van Witsen, Teaching Children With Severe Behavior/Communications Disorders, (New York: Teachers College Press, 1977)p.8.

<sup>26</sup> Robert Farrald and Richard Schambler, A.D.A.P.T., A Diagnostic and Prescriptive Technique Handbook: A Mainstream Approach, (Sioux Falls, South Dakota: Adapt Press, 1973.)p.95.

<sup>27</sup> Weigand, Developing Teacher Competencies, p.209.

<sup>28</sup> Ibid. p. 232.

This writer has investigated the possibility of increased peer status of LD students on the Peer Acceptance Scale related to the anticipated positive accepting attitudes formed during the divergent thinking experiences.

"Using appropriate teaching strategies, the questions teachers ask set the limits within which students can operate and the expectations regarding the level of cognitive operations. Questions are the carrier of whatever new cognitive system is emerging. Some questions function as invitations to heighten the performance of certain cognitive operations, while leaving the content and the directions of these operations open. Such questions invite invention, discovery, and the creative use of previous knowledge. Such questions dictate both what the students are to think about and how they are to go about it, thereby limiting both the level and the nature of thought. Teachers get in proportion to what they seek. Those who seek formal thinking more frequently also get it more frequently."<sup>29</sup>

"Divergent thinking represents intellectual operations wherein the individual is free to generalize independently his own ideas within a data-poor situation, or to take a new direction or perspective on a given topic."<sup>30</sup>

Current educational practices include educational objectives with curriculum development. Basic ideas underlying a study of questions come from the following.

Taxonomy of Educational Objectives, edited by B.S. Bloom,<sup>31</sup> is carried in a new direction by the taxonomy of questions which

<sup>29</sup> Taba, Thinking In Elementary School Children, p.177.

<sup>30</sup> Gallagher, Productive Thinking of Gifted Children, p.25.

<sup>31</sup> Benjamin S. Bloom, ed., Taxonomy of Educational Objectives (New York: David McKay Co., Inc., 1956).

is developed by Sanders.<sup>32</sup>

"One of the ways they (Taxonomy of Educational Objectives authors) defined each category of the cognitive domain was by using examples of questions that required students to engage in the specific kind of thinking."<sup>33</sup>

"The categories of thinking that encompassed all intellectual objectives in education are named knowledge, comprehension, application, analyses, synthesis, and evaluation."<sup>34</sup>

"Learning by doing, an important idea in a prominent theory of learning, is given more precise meaning by the taxonomy of questions. The taxonomy of questions helps to clarify learning by doing by demonstrating that a child can be sitting quietly at a desk and yet be vigorously engaged in any one of a number of kinds of mental activities."<sup>35</sup>

Moving toward a specific example of an attempt to develop a better learning environment, the following is a brief explanation of the Santa Monica Madison School Plan. This engineered classroom design "begins with the global notion that every child is a learner and that some regular classroom integration is a

---

<sup>32</sup>Norris M. Sanders, Classroom Questions, What Kinds? (New York: Harper & Row, 1966).

<sup>33</sup>Ibid., p3.

<sup>34</sup>Bloom, Taxonomy of Educational Objectives, p.18.

<sup>35</sup>Sanders, Classroom Questions, p.7.

positive goal for the most, the Madison School Plan attempts to describe the exceptional child in terms of his level of learning competence in relation to curriculum, conditions, and consequences and to assign him an educational program that meets him where he is."<sup>36</sup>

"The Madison School Plan attacks the special versus regular class issue directly by attempting to offer the best of all possible worlds--full-time special class placement if necessary and limited part-time resource help if that is appropriate. The swinging-door concept has been applied to all components of the program."<sup>37</sup>

The following section of this chapter will deal more thoroughly with a review of the literature addressing the peer status of the learning-disabled students in mainstream programs.

Review: Peer Status of Learning-Disabled  
Students in Mainstream Programs

It is interesting that some research has shown a "positive relationship between children's peer status and academic achievement in studies by Gronlund (1959) and Lilly (1970)."<sup>38</sup>

Peer relationships of Learning-Disabled Students in the regular classroom in a study by Bryan (1964,1976) found LD students to be

---

<sup>36</sup>Hewett, Education of Exceptional Learners,p.423.

<sup>37</sup>Ibid.

<sup>38</sup>Bruininks, "Actual and Perceived Peer Status of Learning-Disabled Students in Mainstream Programs",p.51.

significantly less socially accepted than their classmates.

Adjustment of an individual to his peer group may be affected by how accurately he can perceive the relative status of its members, including his own status was found in a study by Ausubel, Schiff and Gasses (1952). Ausubel et al. found positive correlations between actual and perceived status at all grade levels from 3 to 12. This relationship may be lower among LD students, however, since poor social perception has been discussed and characteristic of those LD students, it would seem important to assess the accuracy with which they perceive their own and others' social status.<sup>39</sup>

In a study by Bruininks, "as predicted, LD students in regular classrooms were significantly lower in peer status than a randomly selected comparison sample and lower in status when compared with all their classmates. This sample of LD students in mainstream programs was significantly less socially accepted than their classmates in regular classrooms, confirming the results reported by Bryan. In addition, it was found that such students were less accurate than their classmates in assessing their own personal status in the group. These findings have important implications for instructional planning and further research."<sup>40</sup>

Dr. Bruininks' study included 410 elementary school-age children (16 LD students and 16 comparison students) from four school districts in Minnesota. (One rural district and three

---

<sup>39</sup>Ibid.

<sup>40</sup>Ibid., p. 57.

suburban school districts.)

Dr. Bruininks' study reported statistical comparisons on measures of peer status and perceived peer status were made between the LD students and two comparison groups (identified comparison subjects and all classmates) by means of *t* tests for independent groups. The .05 level was used as the criterion of statistical significances in all comparisons. Since peer status measures are relative to particular classroom settings, all comparisons between LD students and the total number of classmates in the study were made with classrooms as the statistical unit of analysis.

In 1975 Lewis and Rosenblum<sup>41</sup> concluded that peer relationships are important because they appear to influence social development and learning. If LD students do not perceive their peer status in the classroom, they may not see a need to alter their interactions with peers in order to achieve more positive relationships.

This proposed study, therefore, is aimed to investigate the peer status of LD students in regular classrooms and the accuracy with which they can assess their status within the peer group before and after the divergent questioning method of instruction. Based on limited findings, it is predicted that these students will be lower in peer status than their classmates

---

<sup>41</sup>Ibid.



and less accurate in estimating their own social status before the method of instruction. Accordingly, it is predicted that these students will be higher in peer status and more accurate in estimating their own social status after the method of divergent questioning is used.

The following chapter will deal with a more thorough explanation of the method of this study.

## CHAPTER III

## METHODOLOGY

This study is a replication of Dr. Bruininks' which is mentioned previously. The study will include 200 second grade school-age children from a school district in St. Charles, Missouri. Francis Howell School District has a mainstream program for LD students and represents a range in socioeconomic levels in both rural and suburban areas. Eight LD students will be randomly selected from the special education rolls. Students meet this study's definition of Learning-Disabilities if they qualify under State guidelines for special services as an LD student in their district. All will receive most of their instruction in a regular classroom and an average of 45 minutes of daily instruction in a special education resource room.

Comparison subjects will be 192 regular classroom peers (sex to be determined at time of study), including a sample of eight subjects composed of one student chosen at random from within the regular classroom of each of the LD students. This sample will permit comparisons on a measure of perceived social status, while the total group of classmates are used for the peer status analysis. Two classrooms (50 students) will be the control groups which will not receive the method of instruction.

To assure that the method of instruction is the only variable that causes the change, the six teachers (x) in the experimental classrooms will receive divergent questioning training. The two control classroom teachers (y) will receive no divergent questioning training, and in fact, will avoid divergent questioning in the classroom.

Table I will present academic achievement for the LD students and the comparison sample. Achievement will be surveyed by means of the Stanford Achievement Tests for total math and reading scores. As in Dr. Bruininks' study, grade equivalents will be used in these comparisons.

Information concerning the LD student's achievement below actual placement in reading at the time of the study, and overall standards for their grade level will be included.

-----  
Suggested Table 1\*  
DESCRIPTIVE STATISTICS ON LD AND COMPARISON STUDENTS

Score	LD group			Comparison group			t
	N	Mean	SD	N	Mean	SD	
Reading	8	---	---	8	---	---	**
Math	8	---	---	8	---	---	---

\*\*p>.05

\*Table to be completed at the time of the study.

### Materials

The Peer Acceptance Scale (Bruininks, Rynders, and Gross, 1972) will be used to assess peer status. This instrument was designed to measure the social status or popularity of students in a group setting. It is a forced-choice scale on which every

group member rates every other group member by circling the appropriate number on a line drawing adjacent to the name of each person in the group. Figure 1 shows the response format of the Peer Acceptance Scale.



Fig. 1 Response format

Each child in the regular classroom will complete the Peer Acceptance Scale. Peer acceptance scores will be computed for each LD and comparison student by totaling the ratings they receive within the classroom from a) all children of the same sex (same-sex ratings), and b) all children of the opposite sex (opposite-sex ratings). These scores will also be produced for the total group of 200 students.

Perceived social status will be assessed, using the Peer Acceptance Scale in an individual testing situation with LD students and comparison students. The same instrument will be presented, but this time both groups of students will be asked to indicate how they feel each of their classmates regards them. A mean rating for each student will be computed.

As mentioned previously, the Peer Acceptance Scale was used by Virginia Bruininks, Ed.D., of the University of Minnesota, to investigate the Actual and Perceived Peer Status of Learning-Disabled students in Mainstream Programs. This writer's proposed study involves the above investigation and attempts to design and test instructional procedures in this area of current educational concern and legal compliance.

This writer followed Dr. Bruininks' research design incorporating the true experimental design to be able to compare the results of the proposed method of instruction.

The validity of sociometric techniques is related to the interpretations which are made from the data. In addition, the reasons for choices cannot be inferred from this kind of study.

The reliability of a sociometric instrument is somewhat more complex than reliability of a test.

This kind of a scale is a useful method for studying the social interaction of primary elementary students. However, one must not overinterpret the data. Characteristics of the respondents and their motives cannot often be inferred from the responses. Furthermore, a person may be a consistent choice among the members of one group but not another.

The 1972 Peer Acceptance Scale is not listed in Buros' Mental Measurements (1972). Also, upon inquiry, there was no response from the author concerning the instrument's reliability.

However, "while the sociometric method is simple to apply and sometimes requires only that children, on the spur of the moment, write or check the names of youngsters whom they prefer, it usually provides information that is reliable and significant, as far as it goes."<sup>42</sup>

---

<sup>42</sup>Jersild, Child Psychology, p. 279.

Procedures

The eight regular second grade classrooms will contain twenty-five students each. The eight LD students and the eight comparison students will be selected randomly. Two of the classrooms will be the control groups and receive no treatment.

In order to allow enough time for the children to become acquainted, this study will begin with the second quarter (10th week of school). At that time the Peer Acceptance Scale will be administered to all subjects. Setting I (all students) is suggested to be administered in the morning during the first instructional block of time. At this time students will indicate 1)how they feel about other classmates and 2)how they feel each classmate regards them. Setting II will be the individual testing situation with LD students and comparison students. Setting II may be in the same afternoon or following day or two.

Findings on the actual peer status and perceived peer status of the LD and comparison groups will be summarized in Tables 2 and 3. These tables present information on peer status ratings derived from children of the same sex and ratings of children of the opposite sex. The number of boys and girls in the sample for comparison is to be determined at the time of the study. See page 27 for the Suggested Tables 2 and 3.

Based on data included in Tables 2 and 3, results of peer ratings will be tabulated.

In addition Table 4 will present statistics on actual status and perceived status for both LD and comparison subjects separately, using t tests for related measures.

Suggested Table 4 is on page 27 also.

The children's divergent question techniques should be used during the second quarter after administering the Peer Acceptance Scale. Accordingly, the scale should be administered again to test the hypothesis concerning the increase in peer status of LD students in mainstream programs after the method of instruction of divergent questioning has been used.

The results will be tabulated concerning data using previously mentioned tables and additional tables, to be devised, which will measure the classroom peer status after the method of instruction. A comparison will be made between the relationship of peer status of the LD student before and after the method of instruction with the experimental groups and the control groups.

Suggested Table 2  
 PEER STATUS AND PERCEIVED PEER STATUS SCORES--  
 SAME - SEX RATINGS--FOR LD AND COMPARISON STUDENTS

Scores/grp	LD grp		Comp. grp		Total	cls	t <sup>a</sup>	t <sup>b</sup>
	Mean	SD	Mean	SD	Mean	SD		
Peer status								
Boys	---	---	---	---	---	---	---	---
Girls	---	---	---	---	---	---	---	---
Total	---	---	---	---	---	---	---	---
Perceived Status								
Boys	---	---	---	---	---	---	---	---
Girls	---	---	---	---	---	---	---	---
Total	---	---	---	---	---	---	---	---

<sup>a</sup>LD vs. comparison grp

<sup>b</sup>LD vs. total class

\*Table to be completed at the time of study.

Suggested Table 3

PEER STATUS AND PERCEIVED PEER STATUS SCORES--  
 OPPOSITE-SEX RATINGS--FOR LD AND COMPARISON STUDENTS

Table 3 will be tabulated exactly as Table 2 but using the data for opposite sex ratings.

Suggested Table 4

ACTUAL PEER STATUS AND PERCEIVED PEER STATUS FOR LD AND COMP. GRPS

Group	Same-sex ratings		Opposite-sex ratings	
	Actual status and perceived status t		Actual status and perceived status t	
Learning-disabled grp				
Boys		---		---
Girls		---		---
Total		---		---
Comparison Grp				
Boys		---		---
Girls		---		---
Total		---		---



Divergent Questioning for Children

The following is a description of the method of instruction to be used in the proposed study, i.e. divergent questioning.

Using, as a general curriculum guide, four basic aspects of education, in which it is argued not one aspect can be overlooked, explanation is given for a small portion of the techniques of using divergent questions in the regular classroom to benefit mainstreaming. The four basics are "acquisition and coping of skills, character or social development, citizenship, and private realization."<sup>43</sup>

In the first basic area of acquisition and coping of skills, we are concerned with taking as a whole the fields of knowledge we deal with in schools. "Language, reading, mathematics, science and the arts, and social studies portray to our students the array of skills and information required for them to cope with themselves and the world."<sup>44</sup>

"There are other basics, also uniquely offered in school. They are equally essential for coping. Here are several: the skills of social interaction--skills arising from the fact that schools offer a unique example of society to students; the skills of emotional growth; the skills of spiritual response.

---

<sup>43</sup>Arthur W. Foshay, "What's Basic about the Curriculum?", Education Digest, (December, 1977), 5.

<sup>44</sup>Ibid., p.6.

The coping skills embrace all the significant aspects of what it is to be a human being."<sup>45</sup>

Some examples of divergent questions, in this area, used to mainstream and equally involve all students in the classroom are as follows:

- A. After reading, or hearing our story read, what kind of a person do you think Tom was and why do you think that?
- B. How many different ways can you tell that Tom showed he loved his parents?
- C. If you were alone and lost in a strange city and had no money, what kinds of things could you do to be found?
- D. How many different occupations can you think of where spelling is important?
- E. After discussing and hearing our poem today, tell what happiness means to you. When were you really happy? How did you feel? What different kinds of things did you think about?
- F. How many different tasks can you think of where Math is important?
- G. If we put our plants into the closet and forgot about them, what kinds of things would begin to happen to them after several days?...several weeks?

Secondly, in the basic area of development of character, is the involvement of ethics. It involves self-direction, dependability, honest dealings, and a clear sense of justice. "Children are not inherently sweet, or cooperative, or ethical."<sup>46</sup> They have to be

---

<sup>45</sup>Ibid., p7.

<sup>46</sup>Ibid.

shown these qualities by precept, example, and practice.

As teachers we are usually quick to forbid and punish. We need to be reminded to, just as often, use a positive approach to character development.

Accordingly, some examples of divergent questions, in this area, used to mainstream and equally involve all students in the classroom are as follows:

- A. If someone wanted to cheat on his schoolwork by copying, what kinds of things could you tell him to show him he would only be cheating himself?
- B. If someone were being unkind to Karen because she was wearing glasses, what kinds of things could you do to make Karen feel better about herself?
- C. If two boys were frequently fighting on the playground, what different kinds of things could you tell them to help them get along better?
- D. If Jayne and Sue both demand the red pencil is their own, what different ways can you help them find out whose it really is?
- E. How many different ways can you think of that you could practice good manners in the classroom?

Thirdly, citizenship is action based on a feeling of affiliation with the nation. Examples of divergent questions in this area are as follows:

- A. How many reasons can you think of why a driver should obey the law and stop for a red light?
- B. How many different ways can you think of that the rules at school are like the laws of the City of St. Charles?

- C. Name as many reasons that you can that when you are old enough to vote you should. Why is this important?
- D. How many ways can you think of that countries can be good neighbors and friends?

Lastly, a person is not only a public being, but also has a private, inward existence. One educator states, "Private realization refers to that complex understandings, attitudes, and perceptions that make up by assertion that I am. I am, apart from others and their beliefs about me."<sup>47</sup>

In the classroom, if we do not compare children or allow them to compete for teacher's approval, we will aid them in a positive way. Using divergent questions is an experimental means to this end. Hopefully, divergent questioning would provide an opportunity for success for all students. It not only would help to develop the student's problem solving ability, but also help develop self confidence and a favorable attitude toward curiosity.

Children's responses to divergent questions would develop positive reactions to questions if their answers are accepted by the teacher and possibly used as a classroom springboard for further discussion and activities. A teacher asking these kinds of questions would allow a child to be original in his responses.

A teacher should not only ask divergent questions in a classroom. To develop specific skills, we use convergent and cognitive-memory questions frequently. However, if and when we utilize the divergent level of questioning, hopefully, we help

---

<sup>47</sup>Ibid.

all children develop their ability to think and handle new problem situations. In addition, it, hopefully, enhances the social interaction in the classroom.

"Early experiences in life may have profound effects upon later functioning, that development may be affected by the attitudes of parents and society, that a person's thoughts and feelings about himself and his body are significant and merit consideration, and that the professional worker's understanding, or lack of it, may be an important variable in the outcome of the rehabilitative process."<sup>48</sup>

#### Divergent Questioning for Teachers

The value of divergent questioning can move in a new direction for the creative regular classroom teacher who is attempting to mainstream. "The creative person has a questioning mind - a sensitivity to problems."<sup>49</sup>

As found by Hewitt,<sup>50</sup> regular elementary classroom teachers held widely discrepant positions regarding the inclusion of exceptional learners in regular classrooms. Accordingly, new organizational and self analysis techniques need to be developed for regular classroom teachers preparing to mainstream.

---

<sup>48</sup>Roger Freeman, "Emotional Reactions of Handicapped Children," Rehabilitation Literature, (September, 1967): 71.

<sup>49</sup>Sanders, Classroom Questions, p. 126.

<sup>50</sup>Hewett, Education of Exceptional Learners, p. 389.

Hewitt's categories of statements<sup>51</sup> related to placement of exceptional learners in regular classroom by regular elementary teachers sets a framework for such a technique.

The statements the regular teachers were asked to respond to focused on "behavior and learning problems that might be presented by the children themselves; the effect of these problems on the rest of the class; the academic learning potential of the exceptional learners; and the additional problems that might be faced by the teacher if these children were integrated."<sup>52</sup> In addition, this writer has added the area of concern of the physically disabled child.

The following is an attempt to develop a set of divergent questions for the regular classroom teacher preparing to mainstream.

1. The behavior and learning problems of exceptional children themselves.
  - A. How many different ways can you think of to handle an emotionally disturbed child who is disruptive at the reading table?
  - B. How many different ways can you think of to help structure the behavior of an emotionally disturbed child in your classroom?
  - C. How many different ways can you think of to use children to teach slower children in the classroom?
  - D. How many different concrete activities can you think of that will help the slow learner with math facts?
2. The effects of these problems on the rest of the class.
  - A. How many different negative effects can you name that these behavior and learning problems will have on the rest of the class?...positive effects?

---

<sup>51</sup>Ibid.

<sup>52</sup>Ibid.

- B. If the presence of an educatable mentally retarded child adversely affects the motivation to learn of someone else in class, how many motivational techniques can you name?
3. The academic learning potential of the exceptional learner.
- A. How many different problems can you name that could arise while you're teaching the emotionally disturbed child to read?
- B. How many different participation activities or techniques could be used to include the physically disabled child during math?
- C. How many different activities can you plan to include the classroom wide range of ability during spelling?
4. The additional problems that might be faced by the teacher when these children are integrated.
- A. How many different items of discussion will be needed to be frequently discussed with special education school personnel?
- B. What kinds of things will be demanded of the teacher physically? ...mentally?
- C. What kinds of things could you do if you find yourself unwillingly rejecting an exceptional child?
5. The physical aspects with physically disabled children.
- A. How many physical changes will your school require to accomodate a physically disabled child?
- B. How many ways will the physically disabled child change or modify your daily classroom schedule?
- C. How many different simple techniques can you think of to list for a substitute teacher?

In conclusion, Chapter IV, addressing the analysis and discussion of the study and Chapter V, the summary, conclusions, and recommendations are absent because for Masters Seminar Lindenwood College does not require that the study be completed.

## BIBLIOGRAPHY

- Ausubel, D. D.; Schiff, H. M.; and Gasser, E. B. "A preliminary study of developmental trends in socioempathy: Accuracy of perception of own and other's sociometric status." Child Development, 23 (December 1952): 111-128
- Ballard, Maurine. "Improving the Social Status of Mainstreamed Retarded Children." Journal of Educational Psychology 69 (October 1977): 605-611.
- Bloom, Benjamin S., ed. Taxonomy of Educational Objectives. New York: David McKay Company, Inc., 1956.
- Bruininks, Virginia L. "A Humanistic Competency-Based Training for Teachers of L-D Students." Journal of Learning Disabilities 10 (October 1977): 518-526.
- Bruininks, Virginia L. "Actual and Perceived Peer Status of Learning-Disabled Students In Mainstream Programs." Journal of Special Education 12 (Spring 1978): 51-58.
- Bruner, J. S. "Growing." A paper delivered at the Invitational Conferences on Testing Problems, sponsored by Educational Testing Service, Princeton, N.J., 1963.
- Bryan, T. H. "Peer popularity of learning-disabled children." Journal of Learning Disabilities 7 (December 1974): 621-625.
- Bryan, T. H. "Peer popularity of learning-disabled children; A replication." Journal of Learning Disabilities 9 (1976): 307-311.
- Decker, Robert J. and Decker, Lawrence A. "Mainstreaming the LD Child: A Cautionary Note." Academic Therapy 12 (Spring 1977): 353-356.
- Farrald, R., and Schambler, R. A.D.A.P.T., A Diagnostic and Prescriptive Technique Handbook: A Mainstream Approach. Sioux Falls, South Dakota: Adapt Press, 1973.



- Flanders, N. A. "Intent, Action, and Feedback: A Preparation for Teachers." Journal of Teacher Education (September 1963).
- Flanders, N. A. Some Relationships Between Teacher Influence, Pupil Attitudes, and Achievement. Unpublished manuscript. 1962.
- Foshay, Arthur. "What's Basic about the Curriculum?", Education Digest 21 (December 1977): 5-8.
- Freeman, Roger. "Emotional Reactions of Handicapped Children." Rehabilitation Literature 28 (September 1967): 71-73.
- Gallagher, James J. Productive Thinking of Gifted Children. Urbana, Illinois: University of Illinois, 1965.
- Gronlund, N. E. Sociometry in the Classroom. New York: Harper & Brothers, 1959.
- Guilford, J. P. "Basic Conceptual Problems in the Psychology of Thinking." Fundamentals of Psychology: The Psychology of Thinking 91 (1960): 9-19.
- Hewett, Frank M. Education of Exceptional Learners. Boston: Allyn and Bacon, Inc., 1974.
- Jersild, Arthur T. Child Psychology. New Jersey: Prentice-Hall, Inc., 1968.
- Kaufman, M.; Gottlieb, J.; Agard, J. A.; and Kukic, M. B. Mainstreaming: Toward an explication of the construct. Denver; Love Publishing Co., 1975.
- Kennedy, Patricia, and Bruininks, Robert H. "Social Status of Hearing Impaired Children In Regular Classrooms," Exceptional Children 40 (February 1974): 336-342.
- Keogh, Barbara K. "Special Education In The Mainstream: A Confrontation of Limitations." Focus on Exceptional Children 8 (March 1976): 1-11.
- Kirk, Samuel and Gallagher, James. Educating Exceptional Children. Boston: Houghton Mifflin Company, 1979, 86-89.

- Lilly, S. Classroom Sociometry: A Research Related Review of Theory and Practice. Eugene, Oregon: Northwest Regional Special Education Instructional Materials Center, 1970.
- MacMillan, Donald, and Semmel, Melvyn. "Evaluation of Mainstreaming Programs." Focus on Exceptional Children 9 (September 1977): 1-20.
- Mathis, B. C.; Cotton, J. E.; and Sechrest, L. Psychological Foundations of Education. New York: Academic Press, 1970.
- Miner, J. B. Intelligence in the United States. New York: Springer, 1957.
- Missouri Department of Elementary and Secondary Education, Special Education Section. "PL94-142 FY80 LEA Compliance Plan" (Section 2.4), Jefferson City, Missouri.
- MNEA, Something Better, "Teachers and PL94-142", Missouri National Education Association, Jefferson City, Missouri: December, 1977.
- Monson, Dianne. "Mainstreaming, We're Almost There." Early Years (April 1979): 38-39.
- Mosley, James L. "Integration: The Need For A Systematic Evaluation of the Socio-Adaptive Aspect." Education and Training of the Mentally Retarded 13 (February 1978): 4-8.
- Mussel, P. H.; Conger, J. J.; and Kagan, J. Child Development and Personality. New York: Harper & Row, 1969.
- Newberger, Darryl. "Situational Sociolization: An Affective Interaction Component of the Mainstreaming Reintegration Construct." Journal of Special Education 12 (Summer 1978): 113-121.
- Russo, James. "Are Your Facilities Suitable for Mainstreaming the Handicapped?" Education Digest 40 (January 1975) 18-21.
- Sanders, Norris M. Classroom Questions, What Kind? New York: Harper & Row, 1966.

- Sarason, Seymour; and Doris, John. "Public Law 94-142: What Does It Say?" The Exceptional Parent (August 1977): 6-8.
- Sigel, I. E. "How Intelligence Tests Limit Understanding of Intelligence." Merrill-Palmer Quarterly 9 (1963): 39-56.
- Sigel, I. E.; and Hooper, F. H. Logical Thinking in Children, Research Based on Piaget's Theory. New York: Holt, Rinehart and Winston, Inc., 1968.
- Smith, Monte D. "School-Related Factors Influencing the Self-Concepts of Children with Learning Problems." Peabody Journal of Education 54 (April 1977): 185-95.
- Taba, Hilda; Levin, Samuel; and Elzey, Freeman. Thinking In Elementary School Children. San Francisco: San Francisco State College, 1964.
- Van Witsen, Betty. Teaching Children With Severe Behavior/Communication Disorders. New York and London: Teachers College Press, Columbia University, 1977.
- Weigand, James, ed. Developing Teacher Competencies. New Jersey: Prentice-Hall, Inc., 1971, 81-130.
- Wiig, E. H.; and Semel, E. M. Language Disabilities in Children and Adolescents. Columbus, O.: Charles E. Merrill, 1976.