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The relationships of organizational patterns of IGE/ Multiunit schools to opinions and goals of teachers

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The relationships of organizational patterns of IGE/Multiunit schools to opinions and goals of teachers

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CHAPTER I. INTRODUCTION

During the present decade much educational change has been directed toward elementary schools regarding continuous progress learning. Emphasis was placed on development of methods, materials, and school organizations to facilitate meeting the individual needs of students and to make better provisions for their individual differences. The Wisconsin Research and Development Center staff produced curriculum materials and improved reading in selected situations. The staff of the Wisconsin Research and Development Center initially developed the concept of the multiunit elementary school organization. Later the Wisconsin Research and Development Center in conjunction with the Institute for Development of Educational Activities (I/D/E/A) developed and promoted Individually Guided Education/Multiunit Schools-Elementary (IGE/MUS-E)[1]. IGE is an overall management strategy to individualize the instructional delivery system of elementary schools.

Individually Guided Education has been implemented in facilities varying from brand new, open space buildings to old, traditional, two and three story buildings. Although curriculum and motivational materials have been developed at the Wisconsin Research and Development Center, the Institute for Development of Educational Activities sponsored by the Kettering Foundation has not advocated any particular kind of curriculum, type of material or course content. However, a wide range of programs in reading, arithmetic, social studies, science, etc. are in use in IGE schools. In individualizing instruction, IGE teachers draw on a large number of sources to achieve specific instructional objectives.

Holzman (42) described Individually Guided Education as an elementary school program replacing the self-contained classroom with an instructional unit composed of a unit leader,

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[1] In this investigation IGE and Multiunit Schools-Elementary are used as synonymous terms.

three to five teachers, paraprofessionals and clerical aides, and 100 to 150 children organized according to overlapping age ranges. Teachers in each unit function as a team with a unit leader. Students are grouped and regrouped according to needs, objectives, or interests. Teachers plan, discuss, critique, and make decisions together at regularly scheduled unit meetings. At the building level, the Instructional Improvement Committee consisting of a unit leader from each unit and chaired by the principal meets to discuss and resolve problems affecting two or more units. Self-improvement is planned through the unit structure and the Instructional Improvement Committee. The program is designed to include nongraded instruction, team teaching, continuous progress, peer-group instruction, and differentiated staffing.

Individually Guided Education has the following components (46, pp. 3 and 4):

A. Organizational and Decision-Making Structure

The multiunit organization is the basic structure.

B. The IGE Learning Cycle

Instructional processes provide appropriate learning programs for each child built on a continuous cycle:

a. Assessment (finding out where the student is and how he got there)
b. Specifying objectives (deciding what he needs to learn next)
c. Diversified learning opportunities (selecting the best ways for him to attain those objectives)
d. Reassessment (making sure that he has met the objectives)

C. Home School Communication

The assistance and cooperation of the community is vital to the success of any new educational program. It is particularly essential for the success of a highly innovative system such as IGE. Individually Guided Education

encourages the involvement of parents in the education of their children.

D. League of Cooperating Schools

Schools participating in I/D/E/A's program to implement IGE are linked with other schools in LEAGUES OF COOPERATING SCHOOLS to support and strengthen in-service education. Each League encourages the sharing of experiences and exchange of information on a personal basis--principal to principal, unit leader to unit leader, teacher to teacher. It is yet another means of providing self-improvement.

Need for the Study

The organizational changes introduced by multiunit schools were among the most extensive known. Changes included the replacement of conventional grades by units, team teaching, the use of instructional and clerical aides, and the introduction of the new position of unit leader. The new positions of unit leader were accompanied by a host of other innovations--e.g., Individually Guided Education, the provisions of enriched and flexible curriculum materials, and an emphasis on planning, identification of objectives, and evaluation. The discovery of planned and unplanned organizational changes accompanying such innovations in multiunit schools was an important research goal. Significant implications for educational development could be the result of this study (83, p. 1).

Definition of Terms

In order to clarify the meaning of various terms used in this study, the following definitions were used:

(1) Nongraded School; (1) a school which groups its students according to academic ability, disciplinary problems, and mental and physical capabilities rather than strictly by grade and age, each student progressing at his or her own rate; (2) a school in which grade labels are not applied to the students and which instruction is given on an individual basis; (3) a novel form of school which dispenses with all criteria except achievement scores for assignment of pupils to groups, called phases; the plan is to permit learners to work at their own rates within their own levels of competency and to allow them to go through high school, obtaining education of a quality best fitted to their individual needs; (4) a school that has gone far beyond eliminating annual promotions, grouping students subject by subject on the basis of achievement, or making local curriculum revisions as a contribution to the nongraded approach; uses team teaching, flexible scheduling, technical devices, and teaching-learning methods that deal with independent study, large-group instruction, and small-group instruction (29, p. 387).

(2) Conventional School; a school that is the outgrowth of custom or common practice (29, p. 137).

(3) Continuous Progress; a theory or practice of providing an ungraded curriculum and interage groupings within which individual promotions in schools are based on a whole matrix of factors such as physical, emotional, social factors as well as on intellectual, chronological, and achievement changes (29, p. 453).

(4) Attitude; the predisposition or tendency to react specifically towards an object, situation, or value; usually accompanied by feelings and emotions; some writers differentiate a verbal attitude (what the reacting person says) from a behavioral attitude (what he actually does when confronted with the affect-producing stimuli); attitudes cannot be directly observed but must be inferred from overt behavior, both verbal and nonverbal (29, p. 49).

(5) Team Teaching; a type of instructional organization involving teaching personnel and the students assigned to them in which two or more teachers are given joint responsibility for all or a significant part of the instruction of the same group of students; the team may include such assistants as auxiliary aides or student teachers (29, p. 590).

Purpose of the Study

The purpose of this research was (1) to study multiunit schools in which there had been a plan to make changes in the organization of the school, (2) to determine what organizational elements were critical variables when planned changes were introduced, (3) to determine what organizational changes made effective implementation to innovation possible, (4) to determine whether organizational and operational patterns had a relationship to changes in teachers' opinions, goals, and operational objectives, (5) to determine the relationship that knowledge of continuous progress learning had upon the opinions, goals, and objectives of teachers in both multiunit and conventional schools, and (6) to determine how the perceptions of educational trends regarding continuous progress learning were associated with the aforementioned items.

Statement of the Problem

The problem was (1) to determine the interaction pattern, division of labor, and the decision-making process as they relate to the organizational structure in both multiunit schools, and control schools,[1] (2) to determine how the organizational structure associates with these factors, (3) to determine how the above mentioned factors combine to associate with the opinions, goals, and objectives of teachers, (4) to determine the extent of the knowledge of continuous progress learning possessed by teachers in both multiunit schools and conventional schools, and (5) to determine the perception of educational trends regarding continuous progress learning in both multiunit and conventional schools.

The specific objectives of this study were:

1. To identify, determine, and contrast the pattern of interdependent relationships of teachers in multiunit

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[1] In this investigation conventional schools and control schools will be used synonymously.

and conventional schools.

2. To determine and contrast the division of labor and/or specialization of teachers in multiunit and conventional schools.
3. To determine the impact of the position of unit leader on teachers and principals in multiunit schools.
4. To determine and contrast the locus of decision-making prerogatives of teachers and the extent to which power and influence are concentrated or dispersed in multiunit and conventional schools.
5. To determine and contrast the kinds of changes multiunit organizations produce in decision-making processes and the status hierarchy of multiunit and conventional schools.
6. To determine whether or not organizational changes make appreciable changes in the operational work goals which teachers set for themselves in multiunit and conventional schools.
7. To determine and contrast the opinions of school personnel toward their work environment in multiunit and conventional schools.
8. To determine and contrast the extent of knowledge of continuous progress learning and the perception of educational trends regarding continuous progress learning possessed by teachers in both multiunit and conventional schools.

The following five hypotheses were stated for this study:

1. Interaction patterns, division of labor, and the decision-making process do not differ significantly in multiunit and conventional schools.
2. The organizational structure does not associate significantly with interaction patterns, division of labor, and the decision-making process.

3. Opinions, goals, and objectives of teachers do not differ significantly in multiunit and conventional schools.
4. The extent of knowledge of continuous progress learning possessed by teachers does not differ significantly in multiunit and conventional schools.
5. The perceptions of educational trends of teachers do not differ significantly in multiunit and conventional schools.

The following assumptions were made:

1. Interaction patterns, division of labor, and the decision-making process as they relate to the organizational structure in both multiunit and conventional schools can be surveyed.
2. A determination of how the organizational structure determines the above mentioned items can be surveyed.
3. A determination of how the above mentioned factors combine to influence the opinions, goals, and objectives of teachers can be surveyed.
4. Selected Central Iowa school districts will provide a suitable basis for study.
5. Individually Guided Education is close enough to fruition that schools can be selected that are near full implementation.
6. The information gained from the study will provide program planning and implementation input for schools considering, entering, or involved with Individually Guided Education sponsored by Iowa State University and the Iowa Department of Public Instruction.

Delimitations of the Study

This study was limited to a sampling of persons who spent at least part of their time in classroom or individual

instruction and whose work was related to the elementary program. A sampling of opinions toward selected educational practices was limited to selected Iowa school districts. The source of educational practices was limited to selected items found in a search of critical literature.

Because of the exploratory nature of this study, six schools constituted the sample population: three were multiunit and three were conventional (control) schools. Both multiunit and conventional schools were located in each of the three communities. The schools and districts were not identified by name. Observations were limited to perceptions of the following individuals: (a) seventy-two teachers, (b) twelve unit leaders.

CHAPTER II. REVIEW OF LITERATURE

A wide variety of research has been compiled regarding IGE, multiunit schools, and continuous progress learning. From these studies, selected research was cited to provide an overview as well as to establish the extent of teachers' knowledge of continuous progress learning practices, teachers' opinions of IGE, and their perceptions of educational trends.

Introduction

During the 1950's and 1960's, educational change centered on high school organizations and programs. Trump and Allen were two individuals who spearheaded the movement toward team teaching and flexible scheduling. During the early 1970's, the emphasis on change shifted from secondary schools to elementary schools and continuous progress. Continuous progress learning was designed to meet individual differences.

Providing for individual differences has long been a worthwhile goal and has presented persistent problems. The "whole child philosophy" and grouping within the class were emphasized in the 1920's and are often associated with the University of Chicago and the philosophy of John Dewey.

Since the 1920's, various methods and organizations have been utilized in attempting to individualize instruction and better meet the needs of youth. During the Depression, teachers and administrators in Gary, Indiana, economized by using the "Platoon System." The school gymnasium or auditorium was used for large groups to teach art, music, and physical education. Later a philosophy of enrichment developed to justify these large group activities. The Dalton or Contract Plan was developed during this same period of history. Students were allowed to contract for a specified amount of work with emphasis on doing the maximum amount of work. The contract

method gave students a part in planning their own education and attempted to provide balanced programs (64).

Another proposal known as the Winnetka Plan utilized a classroom work area, instruction area, and flexible seating. The text was thrown out, and teachers were placed on summer contracts to develop teacher made materials and resource units. The ungraded approach emphasized vertical articulation and taking each child educationally as far as possible without leaving the room. Curriculum was developed in concentric circles such as the family, to the neighborhood, and to the community (64).

Interclass grouping has had a long history. One of the early attempts was the English monitorial system in which a teacher taught a hundred students at a time while smaller groups were taught by tutors. Detroit's inter-grade grouping plan was one of the first in the U.S. and was called "vertical grouping." Pupils from different grades having comparable intelligence were grouped for instruction. The San Francisco "circling" plan of the 1930's placed fourth, fifth, and sixth graders in different reading classes on the basis of their reading ability (71, p. 952).

The Joplin Plan of inter-class grouping has been used in intermediate grades. Developed in Joplin, Missouri, the plan gained nation-wide attention in a Saturday Evening Post article by Roul Tunley entitled "Johnny Can Read in Joplin." The article indicated that every child would make reading progress and love to read. Sputnik was launched shortly after the article appeared and probably motivated a number of schools to try the Joplin Plan. In organizing for the Joplin Plan, intermediate teachers meet near the end of the school year and assign pupils according to reading achievement tests to various reading levels. Grade level scores are given the most weight, but group I.Q. tests, overall academic achievement, and the teacher's evaluation are also used. Groups are flexible and

teachers are encouraged to move children from group to group. Separate reading levels are established for third through the eighth reading levels. Basal reading series are used; however, workbooks are not used because teacher prepared work sheets are valued more. In addition, a twenty minute recreational reading period is scheduled in the opposite half of the day (71, pp. 951-952).

During the 1920's and early 1930's, concern was expressed among educators regarding the effects of promotion and non-promotion. Three studies were conducted to determine the relationship of promotion and nonpromotion to achievement. These studies were made by Arthur, McKinney, and the Long Beach schools. The results of the three studies indicated that academic success was not improved significantly by nonpromotion. Also, failure or the threat of failure had little or no effect when used as a method of motivation (5, p. 9).

According to Brody (6) essential features of nongraded programs were the elimination of conventional grade-level structure and the organization of the curriculum so that pupils progressed at their own rate. Reading and arithmetic curriculums were divided into sequential levels or steps. Learners are preassessed and started at an appropriate level. Upon completion of a level or step, learners are given a mastery test. If the child demonstrates command of 90 percent of the material in that particular step, the child proceeds to the next step. Nongrading stresses vertical advancement.

For years the grade level organization of schools has been the established practice. Recently, however, questions raised in the Twenties and Thirties have been asked again. Lorton (61) reported on the McKinley Project which represented a systems approach to reorganizing instruction based on three conclusions from an investigation of research and practices by the Commission on Public Personnel Policies in Ohio. Testing was conducted in a blue-collar community, in an old building,

and within normal budget limitations. The results indicated that (1) variance within a grade level was greater than between grade levels, therefore, nongradedness; (2) self-contained classrooms were the least effective alternatives, thus, teaming; and (3) grade retention seldom benefited the child, hence, nonretention.

Related Studies

In Iowa, IGE and continuous progress learning have been implemented in facilities varying from new, open-plan schools to old, traditional buildings. No specific curriculum, materials, or course content have been used. Also, a wide range of programs in reading, arithmetic, social studies, and science have been used. In individualizing instruction, teachers have drawn on a large number of sources to achieve specific instructional objectives. Three IGE research studies have been completed at Iowa State University as part of an on-going team research project.

Halvorsen (35) developed an instrument to measure the degree of implementation of IGE processes. The sample consisted of 307 elementary teachers in twelve IGE elementary schools. Analysis of variance was used. The results indicated that IGE schools were significantly higher in implementation of team teaching, use of auxiliary personnel, instructional improvement activities, school to school interaction, and the use of teacher advisors. There were no significant differences between IGE and Non-IGE schools in implementation of home-school communication, goals, and objectives, learning activities, decision-making, student grouping, and in-service. Schools implementing IGE processes reported higher implementation scores for schools with three years of experience than schools with two years implementation experience.

Lindaman (59) studied 871 Iowa eight and ten year old students and their teachers in IGE and Non-IGE schools to determine differences between student reported self-esteem and differences between teachers' inferences of learner self-concepts. Lindaman estimated achievement levels using ITBS or Stanford Achievement Reading Scores depending on the district's testing program. Coopersmith's Self-Esteem Inventory and Purkey's Florida Key, a learner self-concept measure for teacher use, were used. Analysis of variance, t-tests, and correlations were used to treat the data. Non-IGE students reported more positive self-esteem. Non-IGE teachers inferred higher learner self-concepts for their students. There were no significant differences between IGE student reported and teacher inferred self-concept scores or between the Non-IGE student reported and teacher inferred self-concept scores. Non-IGE high achieving students were significantly higher on School-Academic self-esteem than their IGE counterparts. IGE male low achievers indicated higher self-esteem on the Social Self-Peers subscale than their Non-IGE peers. Learner self-concepts were inferred by Non-IGE teachers to be more positive for high and low achieving students.

In Lindaman's study, school faculties were "homogenized" by teachers transferring to Non-IGE schools who did not want to implement IGE concepts. Therefore, the transfers may have produced a reverse Hawthorne effect.

Doyle (15) conducted a study of IGE and Conventional schools using "Indicators of Quality" to assess classroom processes regarding individualization, interpersonal regard, group activity, and creativity. The sample consisted of five IGE schools and eleven Non-IGE schools. Teams of trained observers made 275 classroom observations. An analysis of 1972 baseline observation data indicated no significant differences between IGE and Non-IGE schools. Analysis of 1973 observation data was reported as showing no significant differences in the

amount of individualization and group activity. No significant differences were found for interpersonal regard or creativity. IGE schools scored substantially higher than national norms on all "Indicators of Quality" tests except for interpersonal regard. In all cases, IGE school scores were higher than the control schools, and plots of trend lines favored the IGE schools.

Two major studies, one by Pellegrin and the second by Meyers and Cohen, arrived at similar conclusions regarding the relationship of elementary school organizational patterns and teachers' influence on educational decisions affecting them and on their level of professional satisfaction. Both studies were done separately and independently. The studies measured different variables but resulted in similar findings that teachers in multiunit, team-taught schools were higher than teachers in traditional self-contained schools in the following (63, p. 1):

1. The extent of their task-oriented interaction with fellow teachers.
2. The extent to which control over instructional, curricular decisions rested with groups of teachers.
3. The extent to which teachers were influential in decisions concerning school-wide matters.
4. The level of satisfaction teachers expressed regarding their work and occupation.

Decision-Making

Recently teachers and teacher organizations have sought to gain more of a voice in decision-making. The research by Pellegrin (83) is especially relevant for this study because Pellegrin's instrument was revised and used in the present investigation. Pellegrin indicated that the multiunit school organization holds promise for increased teacher involvement in decision-making. Pellegrin (83) surveyed and interviewed

teachers in six schools and central office personnel in each district. Three were multiunit schools, and three were control schools. The multiunit school organization increased teacher participation in decisions directly affecting them. There was a shift away from individual to group decisions which decentralized decision-making. As a result, teachers in multiunit schools revealed that they were more satisfied professionally than teachers in traditionally organized schools. Teachers were organized into relatively autonomous units with a unit leader responsible for the coordination and management of activities and personnel within the unit. The traditional decision-making functions and some of the authority are shifted to the units with school-wide coordination being the responsibility of the principal and Instructional Improvement Committee. Teachers indicated greater job satisfaction with group participation in the decision-making than with traditional, individual, centralized decision-making. The ability to generalize from the limited number of schools in the sample and the use of percentages instead of a more technical statistical treatment were weaknesses in the study.

At Iowa State University, Gress (32) investigated the relationship between the leader behavior characteristics of secondary principals and teachers' participation in the decision-making process. A random sample of 56 schools constituted the sample with responses from 55 principals and 623 teachers. Three instruments were used, the Leadership Behavior Description Questionnaire, the Decision Involvement Index, and a School Principal's Thinking. A Background Data Sheet was also developed for teachers and principals. Pearson product--moment correlation coefficients were used to treat the data.

Gress found that the desire for secondary teachers to be involved in decision-making varies by sex, age, tenure, education of the teacher and the behavior of the principal. The

leader behavior of the principal and the involvement of the teachers in decision-making were perceived as contributing to the effectiveness of the school. A significant relationship existed between the teachers' involvement in decision-making and the principal's tolerance of freedom. Principals with more tenure in their present positions and with greater education allowed teachers more freedom in decision-making. Faculties with more female teachers had more positive support of the principal's leader behavior characteristics. A significant difference existed between the age of teachers and the desire to participate in decision-making. A higher proportion of older teachers desired less participation in decision-making. A significant relationship existed between the teachers' participation in decision-making and the organizational structure of the school.

Patzwald (81) surveyed teacher values and found sex, age, and experience influenced teachers' concerns. Male teachers were more concerned about better administrative procedures and proper dress; whereas, female teachers were more concerned with student motivation. Younger and less experienced teachers expressed more concern about failures, faculty unity, better counseling, better vocational offerings, and better faculty and departmental meetings. Older and more experienced teachers were more concerned about uniform discipline and favored more stringent rules.

Alutto and Belasco (in 75) investigated the desire of teachers to participate in decision-making. The results indicated that the desire to participate in decision-making varies widely among teachers. Teachers were categorized into three groups: (1) decisionally deprived--fewer decisions participated in than desired; (2) saturated--more decisions than preferred; and (3) at an equilibrium--as many decisions participated in as desired.

The relationship between participation in decision-making and morale was also examined by Best (in 75). The sample consisted of 187 elementary, junior, and senior high teachers in a suburban New York State district. Teachers were asked to respond to twelve decision situations. One point was counted when there was less participation than desired. Two points were counted when more participation than desired was marked; and three points were scored when participation was as desired. The results were that decisional conditions differed significantly only in morale level. The greatest morale level scores were for those at saturation, with those at equilibrium next, followed by those at deprivation having the lowest morale level scores.

In an effort to determine what teachers discuss during team meetings and to characterize decision-making tasks, Molner (72) conducted a study using eleven volunteer teams ranging in size from three to eight members. Data were gathered by audio tapes over a three month period. Three areas of concern were (1) the request and offer of professional assistance, (2) the use of technical and personal expertise, (3) the evaluation of team and individual efforts. Reliability of the study was not totally satisfactory, and Molner acknowledged a need for refinement of the content analysis instrument.

Regardless of the design of the school, traditional or open space, Measel and Finchner (69) reported that the most important and vital aspect of team teaching was team planning. Team planning required team decision-making. An experimental school and a control school formed the sample population. Teachers completed questionnaires and participated in face-to-face evaluations and conferences. Outside evaluators were used, and data were treated statistically with computer programs. In the experimental school, planning sessions were organized by the executive teacher and concentrated on such problems as grouping in reading, development of learning

centers, or long and short range plans and use of behavioral objectives in a curriculum area. Effectiveness and efficiency of a team were directly related to the quality of planning. Decisions regarding the evaluation of students were reached by all team members meeting together. The members' subjective evaluation indicated that the project was successful. The sample was too small to form broad generalizations, and there was too much subjective evaluation.

Instructional Improvement Committees (IIC) were studied by Smith (99) to discover how the degree of compatibility among committee members, number of members, length of meeting time, and the principal's role related to the effectiveness of the Instructional Improvement Committee. The sample consisted of 31 multiunit elementary schools. Nine of the schools were in five Colorado districts and 22 schools were in 17 Wisconsin districts. Data were collected via attitudinal and factual questionnaires. Responses were analyzed statistically. The results indicated that compatibility of IIC members was strongly associated with effectiveness. The number of members and the effectiveness of the IIC were negatively associated. The length of time IIC's met was not significantly related to effectiveness. However, Smith suggested that length of time IIC's met might relate significantly to effectiveness when considered in conjunction with several other factors: (1) compatibility between IIC members; (2) small IIC membership; (3) a chairman (principal) who exhibits a high level of regard for the other members by considering their well-being, status, and contributions; (4) a chairman who does not dominate or control the IIC. Smith concluded that an IIC should not expect to improve its effectiveness by simply scheduling more meetings. However, Smith suggested that if these four positive factors did exist, more meeting time may increase IIC effectiveness.

Teacher Attitudes

Pellegrin (83) revealed that there was more professional satisfaction among multiunit school teachers than traditionally organized school teachers. Multiunit teachers indicated more participation in decision-making affecting them directly. Greater teacher involvement and responsibility were reported in deciding, managing, and coordinating instructional goals, objectives, activities, as well as both student and self-evaluation.

Teachers in two multiunit schools and teachers in two transitional schools in Janesville, Wisconsin were surveyed to determine their attitudes, and the data were treated statistically. According to Hackett and McKilligin (34) teachers in multiunit schools were more favorable toward their tasks than were the teachers in transitional schools. The Canton experiment conducted by Measel and Finchner (69) reported the importance of team planning, the resulting teaching-learning episodes, and team evaluation of pupil progress. The teachers' evaluations pointed out their satisfaction with the project and its success. Rhodes (91) reported that team teaching teachers were more positive in their attitudes toward their jobs than were teachers of self-contained classrooms.

Belden and Associates (45) interviewed 244 teachers over two years. Two teachers were systematically selected from each faculty studied. If a selected teacher could not be interviewed after three attempts, a substitute was found. A sample of school Learning Communities was drawn and stratified by urbanity and IGEness. Each school in each stratum was given an equal chance of being selected. Results were reported in percentages. Teachers reported that IGE was good or excellent and also reported a better job of teaching was

done as the result of IGE. There was strong agreement among teachers that IGE worked well for all students, fast or slow, culturally advantaged and culturally different. Teachers in urban areas were more favorable than teachers in nonurban settings. The teachers' primary complaint was the amount of time needed to implement IGE.

An inventory to measure knowledge and acceptance of the theoretical foundation of nongradedness was developed by McLoughlin (67). The instrument included the following subdivisions: (1) individual differences; (2) pupil evaluation and progress; (3) curriculum; (4) instruction; (5) organization for learning. McLoughlin believed that identification of the extent of knowledge and acceptance of the basic concepts related to the above five areas would enable educators to understand change, increase the possibility of developing a lasting nongraded program, and initiate remedial procedures to improve or strengthen implementation and continuation of nongraded programs. The instrument was administered to teachers and principals, but the results were inconclusive.

Teachers' attitudes toward high school modular scheduling or the "New Design" were studied by Mahaffey (62). Teachers responded with more positive attitudes than did students but were not quite as favorable as principals.

Administrative Attitudes

Research regarding IGE conducted by Belden Associates (45) and Willis (103) indicated that administrators believed that IGE was excellent or good. Belden Associates (45) found that administrators planned to increase the level of IGE implementation. Belden Associates (45) discovered that administrators in nonurban schools were more favorable than urban administrators. Administrators in primarily white schools were more favorable toward IGE than administrators in

primarily black schools. Belden Associates (45) and Willis (103) found that the extra time and work involved in implementing IGE were disliked by administrators.

Mahaffey (62) studied attitudes of principals toward the "New Design of Modular Scheduling." Principals were found to have more positive attitudes than teachers. Teachers were more positive than students, but all had positive attitudes.

Summary of Review of Literature

In Iowa, IGE schools with three years of experience implemented more of the IGE processes than schools with two years or less experience. IGE schools were significantly higher than conventional schools in the implementation of team teaching, instructional improvement activities, school to school interaction, and the use of teacher advisors. No significant differences existed between IGE and conventional schools regarding goals and objectives, learning activities, individualization and group activity, student grouping, interpersonal regard or creativity, home-school communication, in-service, and decision-making. Higher self-esteem scores were reported by conventional students. Higher learning self-concept scores were reported for conventional students by Non-IGE teachers.

The following data present a graphic display of selected, nation-wide research comparing IGE and conventional schools. Sixty-two studies favored IGE, nongraded schools, or team teaching. Twenty-two studies reported no significant differences. One study favored conventional schools.

Selected Research IGE Vs. Conventional Schools:

	Significant Differences Favoring IGE Schools	No Significant Differences Between IGE and Conventional Schools	Significant Differences Favoring Conventional Schools
Achievement (IGE and Nongraded)	24	6	
Achievement (Team Teaching)		5	
Organizational Structure	2	1	
Principal's Role	4	1	
Implementation Degree	11	1	
Student Attitudes and Self Concept	14	3	1
School Learning Climate	3	1	
Parental Attitudes	4	1	
Costs		3	

CHAPTER III. METHODS AND PROCEDURES

Introduction

Iowa State University and the Iowa Department of Public Instruction officially received confirmation in January, 1972, from the Institute for the Development of Educational Activities (I/D/E/A) sponsored by the Kettering Foundation that the two organizations were authorized to serve as a joint intermediate agency. Seven elementary schools in four districts (Ames, Indianola, Marshalltown, and Newton) formed the Central Iowa IGE League. Representatives of each of the schools along with the facilitators from Iowa State University and the Iowa Department of Public Instruction composed the HUB Committee which shared concerns and ideas, provided resources, and maintained communications.

In order to evaluate the results of the IGE program, an ongoing team research project was established. The research project consisted of four major aspects which were as follows: (1) "Development and Testing of an Instrument to Measure the Degree of Implementation of Individually Guided Education" conducted by Halvorsen; (2) "Pupil Self-Concept" conducted by Lindaman who also investigated achievement as a part of that study; (3) "Indicators of Quality" studied by Doyle; and (4) "Opinions and Goals of Teachers" investigated by Olney.

Selection of the Sample

This investigation was limited to six schools in three Central Iowa school districts. The districts involved were Ames, Indianola, and Marshalltown. There were two matched schools from each district. Similarities between Non-IGE

control schools and the IGE schools under investigation were used as a basis for matching. There were eighty-four teachers who were surveyed, forty-seven IGE and thirty-seven conventional teachers.

Indicators of Quality

The Indicators of Quality assessment instrument was applied in November, 1972; and the results provided data for matching the schools. Control schools were selected that were similar or comparable to the IGE schools regarding staff, program, and socio-economic level of the students, size, and location. The Indicators of Quality indicated that both control and experimental schools provided good representatives of each district's elementary program. Seventy-two teachers and twelve unit leaders participated in this study in the spring of 1974. This included all of the teachers in each of the six schools selected.

Description of Measuring Instruments

Three measuring instruments were used to gather data for this study. The survey instruments were as follows: (1) Continuous Progress--A Test of Current Educational Principles and Practices (CP); (2) Perceptions of Educational Trends (PET); and (3) an opinionnaire.

The CP and PET instruments were developed by Frederick Gies at the Center for Educational Improvement (CEI) at the University of Missouri as a part of the I/D/E/A evaluation project. The instruments were also used in the Missouri Desegregation Training Institute conducted in Kansas City and Columbia, Missouri on July 1, 1973, and June 30, 1974. The Test of Current Instructional Principles and Practices (CP)

received KR-20 reliability scores of 86.7 and 86.4. The Perceptions of Educational Trends (PET) had KR-20 reliability scores of 90.1 and 88.0. Content validity was established for instruments by a team of professional educators at CEI. Both instruments were used at a number of other sites with similar results.

The opinionnaire was built on concepts extracted from an instrument developed by Roland J. Pellegrin at the Center for the Advanced Study of Educational Administration, University of Oregon at Eugene. The instrument used in this study was evaluated by experts in the field.

The knowledge test, Continuous Progress--A Test of Current Instructional Principles and Practices (CP) contained fifty-two multiple choice items. These items were selected from a search of the in-service materials developed to prepare elementary teachers to implement IGE concepts. All references to IGE were removed. For a sample, see Appendix C.

The Perception of Educational Trends (PET) contained forty directional items to determine teachers' perceptions of trends regarding continuous progress. The items were selected from a critical review of related literature. For a sample, see Appendix D.

The opinionnaire utilized the basic concepts studied by Roland J. Pellegrin. The instrument developed by Pellegrin was revised and shortened. For a sample, see Appendix E. The opinionnaire contained nine parts which were as follows:

Part I was background information which contained questions concerning age, sex, number of years as a teacher, and number of years in the particular school. Because of teachers' concerns for confidentiality and the fact that this portion was either left blank or cut off by many teachers, data were not reported for Part I.

Part II was related to the teacher's instructional objectives. There were two sections to this part. The first

section asked the teachers to indicate from a list of ten items which three objectives received the highest relative importance, priority or emphasis. The second portion asked the teachers to check from a list of ten items the three most important barriers or constraints faced in trying to achieve objectives.

Part III asked questions regarding teacher relationships with others. There were three sections to this part. The first asked the teachers for an identification of the position of the person, if any, most heavily relied upon in accomplishing their work tasks. Section two asked the teachers to indicate which position, if any, was so closely related to theirs that the two jobs must be performed collaboratively in order for them to perform their work. Section three asked the teachers which item best described their way of working.

Part IV was an inventory of teaching tasks. Teachers were asked to rate the fifteen tasks in terms of what they actually did on the job, not in terms of what they or others should do if conditions were ideal. The rating scale was "1" none or virtually no time and effort; "2" moderate time and effort; "3" major time and effort.

Part V consisted of five sections related to instructional activities. Section one asked the teachers to check which positions supervised or evaluated their instructional activities. The frequency by which others supervised or evaluated instructional activities was checked in section two. Section three asked teachers to indicate the degree to which they were supervised or evaluated. Section four dealt with how teachers were supervised or evaluated. The fifth section asked teachers to indicate why supervision or evaluation occurred.

Part VI asked questions regarding interaction and communication. The four sections to this part dealt with the

following: (1) Section one asked how often teachers received reactions or advice from other teachers about curriculum planning, grading practices, teaching of specific lessons or classes, student control and discipline practices, and the manner of working with individual students. (2) Section two asked how often teachers talked with other teachers about curriculum plans, scheduling teaching activities, student reactions to a specific lesson, getting teaching resources or supplies, learning needs of a particular student, and personal gripes or concerns about work. (3) Teachers were asked to answer questions in section three about how often they talked with teaching assistants about curriculum plans, the schedule of teaching activities, student reactions to a specific lesson, learning needs of a particular student, and personal gripes or concerns about work. (4) In section four teachers were asked how often they talked with their principal about curriculum plans, the schedule of teaching activities, student reactions to a specific lesson, learning needs of a particular student and personal gripes or concerns about work.

Part VII consisted of two questions regarding decision-making and problem solving. Teachers were asked to indicate the position of the person they asked to approve their instructional ideas and to indicate the position of the individual from whom they received ideas.

Part VIII asked teachers to check on each of eight items how much freedom they had on day-to-day teaching or instructional decisions.

Part IX asked teachers to indicate their opinions on three questions.

Methods of Collecting Data

Upon completion of the selection of the sample, the appropriate central office administrator in each of the

three districts was contacted by phone; a conversation was then held with the principal of each school in the sample to explain the purpose of the research project, that the joint intermediate agency was sponsoring the research, and how the information was to be used.

A letter explaining the research project was drafted for the appropriate central office administrators' signatures and was included in each teacher's packet. The teacher packets contained the letter of explanation mentioned above (Appendix A) a letter of instructions (Appendix B), A Test of Current Instructional Principles and Practices (Appendix C), Perception of Educational Trends (Appendix D), and a copy of the opinionnaire (Appendix E). In order to provide complete confidentiality, each teacher was provided an envelope in which to seal the completed forms.

The teachers participating in the study were assured that all responses would be treated as confidential and that the results would be reported in total and that no attempt would be made to identify the responses of any individual. There were eighty-four teachers, forty-seven IGE and thirty-seven conventional teachers who were surveyed. Teacher responses to this study were represented by a 96.4 percent return.

Treatment of the Data

After the completed instruments were returned, the data contained in each of the three instruments were coded and then transferred to key punched cards for computer analysis. The data were treated statistically by the IBM 360 computer at the Iowa State University Computation Center using the Statistical Package for the Social Sciences (SPSS) (Nie, Bent and Hull, 1970).

A quasi-experimental research design was selected using a static group comparison without randomization. One group of subjects was administered the experimental treatment (IGE training and program implementation) and was then posttested. Another group of subjects received only the posttest. The main source of internal invalidity which might affect this design is that posttest differences between groups might be attributed to the characteristics of the groups as well as to the experimental treatment. In addition to selection, mortality and the interaction of selection and maturation might also affect internal validity. Also, the primary source of external invalidity which might affect this design is the interaction of selection and the experimental treatment (5, p. 391).

The general form of the null hypothesis was stated and tested in each of the six schools for each of the five hypotheses as follows:

Hypothesis 1: Interaction patterns, division of labor, and the decision-making process do not differ significantly in multiunit and conventional schools.

Hypothesis 2: The organizational structure does not associate significantly with interaction patterns, division of labor, and the decision-making process.

Chi square and pooled variance t tests were used to determine statistical significance for questions related to hypotheses 1 and 2. Using Downie and Heath (14, pp. 197-206) $\chi^2 = \Sigma\frac{(O-E)^2}{E}$, chi square is used in testing hypotheses concerning the significance of the difference of the responses of two or more groups to a stimulus and that when data are arranged in contingency tables, the null hypothesis is that there is no

relationship between variables. Since chi square was arrived at by squaring the differences between the observed and the expected frequencies, it had no sign and was a nondirectional test. Therefore, a two tailed test was made with chi square. Pooled variance t tests were an important statistical tool which are explained later in this section.

Hypothesis 3: Opinions, goals, and objectives of teachers do not differ significantly in multiunit and conventional schools.

A rank test for two independent samples was selected to test the statistical significance for questions related to hypothesis number 3. Ferguson (21, pp. 358-360) suggests that two independent samples of N_1 and N_2 observations may be arranged in order $N_1 + N_2$. A rank 1 was assigned to the smallest value, a rank 2 to the next to the smallest, etc. The sums of ranks for the two samples were calculated and denoted by R_1 and R_2. Samples were assumed to have been drawn from the same population, and the expected value of R_1 was N_1 times the mean of the $N_1 + N_2$ ranks and is

$$E(R_1) = \frac{N_1 \ (N_1 + N_2 + 1)}{2}$$

and the expected value of R_2 is

$$E(R_2) = \frac{N_2 \ (N_1 + N_2 + 1)}{2} .$$

The test criterion is

$$Z = \frac{\left| R_1 - E(R_1) \right| - 1}{\sqrt{\frac{N_1 \ N_2 \ (N_1 + N_2 + 1)}{12}}} .$$

If the calculated value is equal to or greater than 1.96 or 2.58, the null hypothesis is rejected at either the .05 or .01 level, and the alternative hypothesis that the samples are from different populations fails to be rejected. The .05

level was selected for this study.

Hypothesis 4: The extent of knowledge of continuous progress learning possessed by teachers does not differ significantly in multiunit and conventional schools.

Hypothesis 5: The perceptions of educational trends of teachers do not differ significantly in multiunit and conventional schools.

Chi square was used to test each question related to hypothesis 4. F tests and pooled and separate variance t tests were applied to hypotheses 4 and 5 to determine statistical significance for related questions. Downie and Heath (14, pp. 182, 221) suggests that the F test is used for testing the homogeneity of variance which means that the variances of the populations from which the samples are drawn are the same. The following formula was used to calculate the F test: (14, pp. 182-183, 221)

$$F = \frac{S_1^2}{S_2^2}$$

S_1^2 = the larger of the two sample variances.

S_2^2 = the smaller of the two sample variances.

$$\frac{n_1 - 1}{n_2 - 1} = df$$

If the F test does not reflect variance differences or if the calculated F is smaller than the table value, t is computed by pooling the variances. The pooled variance t test formula, working at the .05 level of significance, is as follows: (14, p. 185)

$$.05\ t_{df} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{\Sigma x_1^2 + \Sigma x_2^2}{N_1 + N_2 - 2}\left(\frac{1}{N_2} + \frac{1}{N_2}\right)}}$$

note: $\Sigma x^2 = \Sigma x^2 - \frac{(\Sigma x)^2}{N}$

The number of degrees of freedom is determined by $(N_1 + N_2 - 2)$. After the formula is applied, the t table is entered with the appropriate degrees of freedom at the specified level of significance.

If the variance differences are reflected by the F test or if the calculated F value is larger than the table value, t is computed by using the separate variance method. The separate variance t test formula is as follows: (14, pp. 180-181)

$$t_{.05\ df} = \frac{\bar{x}_1 - \bar{x}_2}{\sqrt{\frac{s_1^2 + s_2^2}{N_1 + N_2}}}$$

The number of degrees of freedom is determined by averaging t values for (a) degrees of freedom equal to $n_1 - 1$ and (b) degrees of freedom equal to $n_2 - 1$ (85, p. 148).

The criteria used to determine significance were as follows: If one-half or more of the items related to a hypothesis were significant, the null hypothesis was rejected. If the overall test related to the hypothesis was significant, the null hypothesis was rejected. If one of the two conditions above did not occur, the null hypothesis failed to be rejected.

CHAPTER IV. FINDINGS

Results were reported for statistically significant items and grouped by hypothesis and related questions. Detailed tables are found in Appendix F.

Hypothesis 1: Interaction patterns, division of labor, and the decision-making process do not differ significantly in multiunit and conventional schools.

Hypothesis 2: The organizational structure does not associate significantly with interaction patterns, division of labor, and the decision-making process.

The null hypotheses stated above were rejected at the .05 level of significance as the result of analysis of either chi square or pooled variance t data. There were fifty-six items related to hypotheses 1 and 2, and twenty-nine of the items were statistically significant. Judging from chi square and pooled t analysis of the data, twenty-five of the twenty-nine indicators were significant favoring IGE. Four indicators were significant favoring conventional schools. There were twenty-seven items for which no significant differences could be reported. Generally speaking, it appears that IGE schools had more desirable instructional patterns.

Table 1 represents the responses of teachers to five areas in which analysis of the data indicated significant results. The five major categories are identified along with the significant items. Modal or mean responses and the significant statistics are reported.

Section A of Table 1 reports the perceptions of teachers regarding teacher relationships with others. Item 1 indicates that IGE teachers relied upon other teachers to accomplish their work tasks while conventional teachers

Table 1. Results related to hypotheses 1 and 2

A. Teacher relationships with others	Modal response IGE	Modal response Conventional	Chi square results indicating significant differences
1. Position relied upon to accomplish work	Other teachers	None	.0009**
2. Position so closely related work must be performed collaboratively	Other teachers	None and other teachers	.0016**
3. Amount of work done in collaboration with others	Substantial	Dispersed	.0005**

B. Inventory of teaching tasks regarding:	Mean response IGE (High mean significant)	Mean response Conventional (High mean significant)	Pooled variance t favoring IGE	Pooled variance t favoring Conventional
4. Time used with other teachers on student evaluation	1.8723	1.5588	.007**	
5. Planning student grouping or modes of instruction with other teachers	2.1064	1.7941	.014**	
6. Instructing or working with other teachers	2.1702	1.5882	.000**	
7. Conferring with teachers on use of classroom space	1.4468	1.1471	.004**	
8. Becoming an expert in a particular instructional technique	1.5319	1.7941		.043*
9. Selecting with other teachers instructional materials for a class	2.0638	1.6471	.000**	

C. Interaction and communication with other teachers regarding:	Mean response (Low mean significant) IGE	Conventional	Pooled variance t favoring (Low mean significant) IGE	Conventional
10. Advice or reactions about curriculum planning	2.5745	3.6176	.000**	
11. Teaching specific lessons or classes	2.8085	3.8788	.000**	
12. Student discipline and control practices	3.7046	3.9412	.006**	
13. Working with individual students	2.7381	3.7273	.001**	
14. Frequency of talks with teachers about curriculum planning	2.0000	3.2059	.000**	
15. The schedule of teaching activities	1.9574	3.0882	.000**	
16. Student reactions to a specific lesson	2.2766	3.1515	.001**	
17. Acquisition of teaching resources or supplies	2.3404	3.2059	.001**	
18. Personal gripes or concerns about work	2.4468	3.1176	.016*	

D. Interaction and communication with teaching assistants regarding:	Mean response (Low mean significant) IGE	Conventional	Pooled variance t favoring (Low mean significant) IGE	Conventional
19. Curriculum plans for the class	3.2766	4.6176	.003**	
20. The schedule of teaching activities	3.1489	4.5588	.002**	

*Significant at .05 level in this and all subsequent tables.

**Highly significant at .01 level in this and all subsequent tables.

Table 1 (Continued)

D. Interaction and communication with teaching assistants regarding:	Mean response (Low mean significant) IGE	Conventional	Pooled variance t favoring IGE	Conventional
21. Student reactions to a specific lesson	3.3830	4.6765	.004**	
22. Acquisition of teaching resources or supplies	3.0426	4.5294	.001**	
23. Learning needs of a particular student	3.4255	4.7059	.002**	
24. Personal gripes or concerns about work	4.2553	5.0082	.010**	

E. Decision-making and problem solving	Modal response IGE	Conventional	Chi square results indicating significant differences
25. Position of person asked to approve instructional ideas	Other teachers	Principal	.004**
26. Position of person asked for ideas	Other teachers	Other teachers Principal None	.015*

F. Decision-making and freedom	Mean response (Low mean significant) IGE	Conventional	Pooled variance t favoring IGE	Conventional
27. Freedom of means of assessing student performance	1.5319	1.2647		.028*
28. Freedom of grouping students for teaching	1.4681	1.2353		.042*
29. Freedom regarding methods of establishing and maintaining classroom discipline	1.3040	1.0588		.002*

generally relied on no one. In responding to questions related to collaborative work efforts, IGE teachers in item 2 responded that their work was so closely related to other teachers that it must be performed collaboratively, whereas conventional teachers indicated a nearly bimodal response that they relied on no one and other teachers. Item 3 shows that IGE teachers do a substantial amount of their work in collaboration with other teachers. Conventional teachers' responses were not closely clustered but were dispersed.

The inventory of teaching tasks in Section B of Table 1 reports on a number of tasks. Item 4 indicates that IGE teachers spend significantly more time with other teachers on student evaluation than conventional teachers. According to item 5, planning student grouping or modes of instruction with other teachers is done more by IGE than conventional teachers. Teaching or working with other teachers as reported in item 6 is also done more by IGE teachers than conventional teachers. According to item 7, IGE teachers confer more with other teachers on the use of classroom space than do conventional teachers. Responses reported in item 8 indicate that becoming an expert in a particular instructional technique is done significantly more by conventional teachers as compared to IGE teachers. Item 9 indicates that IGE teachers work in selecting instructional materials with other teachers more than conventional teachers.

Section C of Table 1 indicates the extent of interaction and communication with other teachers regarding a number of topics. IGE teachers indicate in item 10 that they receive advice or reactions from other teachers with greater frequency than do conventional teachers. The frequency of interaction and communication with other teachers regarding the teaching of specific lessons or classes as reported in item 11 is greater for IGE teachers than conventional teachers. Item

12 shows that IGE teachers discuss student discipline and control practices more frequently than conventional teachers. Discussions about working with individual students according to item 13 occurs more often between IGE teachers when contrasted with conventional teachers. Item 14 indicates that IGE teachers talk with other teachers with greater frequency about curriculum planning than do conventional teachers. Interaction and communication about the schedule of teaching activities as reported in item 15 is greater for IGE teachers. Discussions about student reactions to a specific lesson occur more often between IGE teachers than conventional teachers according to item 16. Item 17 illustrates that IGE teachers communicate more with each other about the acquisition of teaching resources or supplies than conventional teachers do. Personal gripes or concerns about work as presented in item 18 are discussed more by IGE teachers than conventional teachers.

Interaction and communication with teaching assistants regarding six topics are presented in Section D of Table 1. According to item 19, curriculum plans for the class are discussed with teaching assistants significantly more by IGE teachers than conventional teachers. The schedule of teaching activities as reported in item 20 is discussed with teaching assistants more frequently by IGE teachers than conventional teachers. Item 21 illustrates that IGE teachers interact and communicate with teaching assistants more often about student reactions to a specific lesson than do conventional teachers. Item 22 shows that more IGE teachers communicate with teaching assistants about the acquisition of teaching resources or supplies than conventional teachers. According to item 23, learning needs of a particular student are discussed with teaching assistants more frequently by IGE teachers than conventional teachers. Item 24 indicates that

IGE teachers discuss more frequently personal gripes or concerns about work with teaching assistants than do conventional teachers.

Section E of Table 1 indicates teachers' responses to questions regarding decision-making and problem solving. According to item 25, IGE teachers ask other teachers to approve their instructional ideas, whereas more conventional teachers tend to ask the principal to approve their instructional ideas. IGE teachers in item 26 tend to ask other teachers for ideas. The responses of conventional teachers are more diversified even though they also acquire ideas from other teachers.

Significant responses to decision-making and freedom are reported in Section F of Table 1. According to items 27, 28, and 29, conventional teachers have considerably more freedom than IGE teachers in the means of assessing student performance, grouping students for teaching, and in the methods of establishing and maintaining classroom discipline. IGE teachers as illustrated by the analysis of the data rely on and interact and communicate with other teachers with greater frequency. This may create a greater interdependency and thereby limit freedom and decision-making for IGE teachers in the above areas.

Hypothesis 3: Opinions, goals, and objectives of teachers do not differ significantly in multiunit and conventional schools.

The results of the analysis of the data indicated that no significant differences existed between multiunit and conventional schools regarding the goals and objectives of teachers. Therefore, the null hypothesis as stated in hypothesis 3 failed to be rejected.

Hypothesis 4: The extent of knowledge of continuous progress learning possessed by teachers does not differ significantly in multi-unit and conventional schools.

The results related to hypothesis 4 are presented in Tables 2 and 3. An analysis of the data indicated highly significant results favoring IGE teachers regarding the extent of their knowledge of continuous progress learning.

The overall results related to hypothesis 4 are presented in Table 2. Judging from the pooled variance t test analysis of data, the overall t results were highly significant in favoring IGE teachers.

Table 2. Results related to hypothesis 4. A test of current instructional principles and practices

Group	Mean	Significance	Statistic
IGE	40.4	.0000**	Pooled variance t
Conventional	35.2		

**Highly significant at .01 level.

There were fifty-two items on the test of knowledge of current instructional principles and practices. The IGE teachers received a mean score of 40.4 correct answers compared to a mean score of 35.2 for the conventional teachers which equals a mean score difference of 5 answers favoring IGE teachers.

In Table 3, the chi square results are presented for the nine questions which had significant results favoring IGE teachers. No significant differences were reported for forty-three of the questions.

Table 3. Results related to hypothesis 4. Significant test questions favoring IGE teachers

Questions and correct answers		Wrong	Right	Chi square results
1. The appropriate atmosphere for a brainstorming session is (c) noncritical.	IGE	21.3%	78.7%	.0136**
	Conven.	50.0%	50.0%	
2. A Continuous Progress Learning Program is defined as (a) all things done to help the learner achieve his objectives.	IGE	21.3%	78.7%	.0509*
	Conven.	44.1%	55.9%	
3. Team Leaders function as (e) a and c teachers and liaison between the team and principal.	IGE	21.3%	78.7%	.0509*
	Conven.	44.1%	55.9%	
4. The (c) small group is the lifeblood of Continuous Progress.	IGE	39.1%	60.9%	.0038**
	Conven.	75.0%	25.0%	
5. The following illustration is an example of what kind of small group mode: (b) didactic group. 0 teacher 0 0 ---- 0 0 0	IGE	44.4%	55.6%	.0087**
	Conven.	77.4%	22.6%	
6. The teacher attempting to generate many ideas quickly will use the (c) brainstorming group.	IGE	13.0%	87.0%	.0149**
	Conven.	39.4%	60.6%	
7. The basic assessment tool for affective behavior is (b) observation.	IGE	6.5%	93.5%	.0267*
	Conven.	27.3%	72.7%	
8. Learning stations are created to (a) reach educational objectives.	IGE	10.9%	89.1%	.0003**
	Conven.	50.0%	50.0%	
9. Which of the following attitudes is best for a Continuous Progress teacher? (b) supportive.	IGE	2.1%	97.9%	.0177*
	Conven.	20.6%	79.4%	

*Significant at .05 level.

**Highly significant at .01 level.

IGE teachers score significantly higher on items from the Test of Current Instructional Principles and Practices regarding the use of the following: (1) brainstorming, (2) continuous progress learning, (3) individualized assessment, (4) small groups, and (5) learning stations.

Hypothesis 5: The perceptions of educational trends of teachers do not differ significantly in multiunit and conventional schools.

The results of the analysis of the data indicated that no significant differences existed between multiunit and conventional teachers regarding their perceptions of educational trends. Therefore, the null hypothesis as stated in hypothesis 5 failed to be rejected.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

In order to determine "The Relationships of Organizational Patterns of Multiunit Schools to Opinions and Goals of Teachers," eighty-four IGE and conventional teachers in three Central Iowa school districts were surveyed and tested. Six schools, two matched schools from each district, comprised the sample. A quasi-experimental research design using a static group comparison was utilized. Response to the survey was good (a 96.4 percent return). The three instruments which were employed to gather the data were as follows: (1) an opinionnaire, (2) Continuous Progress -- A Test of Current Instructional Principles and Practices (CP), and (3) Perception of Educational Trends (PET).

The results of the opinionnaire indicated that the opinions of teachers differed significantly in favor of the multiunit schools regarding interaction patterns, division of labor, and decision-making. The activities or inventory of teaching tasks of teachers differed significantly in favor of IGE schools. However, the data regarding the objectives of teachers indicated no significant differences between IGE and conventional schools.

Overall, IGE teachers rated significantly higher than conventional teachers on knowledge of continuous progress practices. IGE teachers were significantly higher on items from the Test of Current Instructional Principles and Practices regarding the use of: (1) continuous progress learning, (2) small groups, (3) brainstorming, (4) individualized assessment, and (5) learning stations.

The Perception of Educational Trends instrument evaluated the teachers' opinions on forty educational trends. When composite scores of teachers from IGE and conventional

schools were examined, no significant differences were found. However, analysis of the subscales revealed that teachers from IGE schools scored significantly higher in the areas of: (1) individualized curriculum, (2) teachers in teaming arrangments, and (3) use of paraprofessionals. A significant difference was found favoring teachers from conventional schools in the area of the amount of structure and the concern for the significance of subject matter.

Conclusions

Significant differences in perceptions were established. Based upon the analysis of the data compiled for this study, and within the limitations presented, the following conclusions seem justified:

Organizational structure and patterns

Hypotheses numbers 1 and 2 stated: Interaction patterns, division of labor, and the decision-making process do not differ significantly in multiunit and conventional schools. The organizational structure does not associate significantly with interaction patterns, division of labor, and the decision-making processes.

Hypotheses 1 and 2 were rejected at the .05 level, indicating the existence of significant differences between teachers' interaction patterns, division of labor, and the decision-making process in multiunit and conventional schools. IGE teachers reported more desirable interaction patterns, division of labor, and involvement in decision-making.

Results favorable to IGE Significant differences favoring IGE schools regarding interaction patterns and communication with other teachers were reported for the following:

1. Curriculum planning
2. Teaching specific lessons or classes
3. Student discipline and control
4. Working with individual students
5. Teaching activities
6. Student reactions to a specific lesson
7. Acquisition of teaching resources and supplies
8. Personal gripes or concerns about work

The multiunit school organization appears to result in significantly more teacher interaction and communication than the conventional school.

Significant differences favoring IGE teachers regarding their interaction and communication with teaching assistants were reported for the following:

1. Curriculum plans
2. Schedule of teaching activities
3. Student reactions to a specific lesson
4. Acquisition of teaching resources and supplies
5. Learning needs of a particular student
6. Personal gripes or concerns

There were more teaching assistants in multiunit schools which could have influenced these results.

IGE teachers relied upon other teachers more than conventional teachers in order to accomplish their own work tasks and worked in collaboration with other teachers significantly more. IGE teachers reported more interdependent relationships than conventional teachers. Multiunit schools appear to be successful in establishing significantly more collaborative activity.

An inventory of teaching tasks reflected a different division of labor between multiunit and conventional schools. IGE teachers were involved in significantly more collaborative planning, instruction, evaluation, and selection of instructional materials as well as conferring on the use of classroom space than conventional teachers.

Significant differences were reported between multiunit and conventional schools regarding decision-making and problem

solving. IGE teachers were inclined to ask other IGE teachers to approve their instructional ideas, whereas conventional teachers tended to ask for the principal's approval or for approval from no one. IGE teachers reported receiving ideas more frequently from other teachers. Conventional teachers also reported receiving ideas from other teachers; however, the principal was the source of ideas for a greater number of them than for IGE teachers. Receiving ideas from no one was reported more often by conventional teachers. The multiunit organization appears to encourage and support the development of decentralized decision-making and problem solving.

No differences No significant differences between multiunit and conventional teachers were reported for interaction and communication regarding grading practices and learning needs of a particular student. The organizational structure did not appear to influence these items.

On the inventory of teaching tasks, no significant differences were reported between multiunit and conventional teachers on the following:

1. Assisting individual students
2. Keeping student progress records
3. Guiding small groups or individuals on special projects
4. Doing skill development diagnostic work
5. Developing expertise in one particular curriculum area
6. Preparing and conducting larger than normal class size group lessons
7. Holding parent conferences
8. Conferring with the principal
9. Systematically studying others teaching behavior

Therefore, no differences with division of labor were reflected for the aforementioned areas.

No significant differences between multiunit and conventional schools regarding teacher interaction and communication with the principal were found for the following:

1. Curriculum plans
2. Schedule of teaching activities
3. Student reactions to a specific lesson
4. Acquisition of teaching resources or supplies
5. Learning needs of a particular student
6. Personal gripes or concerns about work

The organizational structure did not significantly influence the frequency or extent of interaction and communication between teachers and the principal.

No significant differences were found between multiunit and conventional schools in the area of decision-making and freedom for the following:

1. Selecting and using supplementary instructional materials
2. Subject content to emphasize with students
3. Timing and pacing of instruction
4. Modes and techniques of teaching
5. Style of relating to students

The organizational structure did not influence significantly decision-making and freedom in the aforementioned areas.

Results favorable to conventional Teachers in conventional schools scored significantly higher in becoming an expert in using a particular instructional technique. The conventional schools appear to develop teachers who are experts in a particular instructional technique.

Decision-making and freedom were reported as favoring conventional schools regarding freedom of:

1. Assessing student performance
2. Grouping students for teaching
3. Methods of establishing and maintaining classroom discipline

Teachers in conventional schools are not required to interact and communicate with other teachers in these areas and thus perceived that they have more freedom.

Opinions, goals, and objectives

Hypothesis number 3 stated: Opinions, goals, and objectives of teachers do not differ significantly in multiunit and conventional schools.

No differences The null hypothesis stated for hypothesis 3 was not rejected. The data indicated that no significant differences existed between multiunit and conventional school teachers regarding goals, objectives, and opinions. According to the data, the organizational structure did not significantly influence the opinions, goals, and objectives of teachers in multiunit or conventional schools.

Knowledge of continuous progress and other innovative teaching methods

Hypothesis number 4 stated: The extent of knowledge of continuous progress learning possessed by teachers does not differ significantly in multiunit and conventional schools.

Results favorable to IGE Hypothesis 4 was rejected ($P < .05$) indicating the existence of significant differences between multiunit and conventional school teachers regarding the knowledge of continuous progress learning. Multiunit or IGE teachers scored significantly higher than conventional teachers on the overall test of knowledge of continuous progress learning.

IGE teachers scored significantly higher on items from the Test of Current Instructional Principles and Practices on use of the following:

1. Continuous progress learning
2. Small groups
3. Brainstorming
4. Individualized assessment
5. Learning stations

The multiunit organization seemingly fosters development of knowledge of continuous progress principles and practices.

No differences No significant differences were reported between IGE and conventional teachers on all other test items.

Perceptions of trends

Hypothesis number 5 stated: The perceptions of educational trends of teachers do not differ significantly in multiunit and conventional schools.

No differences Hypothesis 5 was not rejected. The composite data indicated that no significant differences existed between multiunit and conventional school teachers regarding perceptions of educational trends. However, an examination of subscales revealed that teachers from IGE schools scored significantly higher in the following areas:

1. Individualized curriculum
2. Teachers in teaming arrangements
3. Use of paraprofessionals

A significant difference was found favoring teachers from conventional schools regarding the amount of structure and concern for significance of subject matter. No significant differences were reported on subscales for thirty-six of the forty items. Neither the multiunit nor conventional school organizational structure appears to influence significantly the perceptions of educational trends of teachers.

Limitations

This study was based on perceptions, opinions, and knowledge of classroom teachers through the opinionnaires and knowledge test. The conclusions can only be generalized for the population studied and Central Iowa and are constrained by assumptions and definitions made in Chapter I. Conclusions were formed concerning multiunit and conventional school organization. Some of the differences may be due to school size rather than organization or programs.

As in most experimental investigations in education, the nagging question of control for extraneous variables remains. Did the IGE treatment influence opinions, practices, knowledge, and perceptions? Only if IGE and conventional teachers were really alike. In addition to selection, mortality and the interaction of selection and maturation might also have affected internal validity.

The basic instruments utilized in the study were (1) an opinionnaire, (2) Continuous Progress -- A Test of Current Instructional Principles and Practices, and (3) Perception of Educational Trends. There is always some doubt as to objectivity when an individual must indicate self-perceptions and also be tested on knowledge. Some individuals may indicate what they think should be instead of what they really do while others may respond in a manner which indicates modesty on their part.

The survey instruments were mailed to each district's central office and then distributed to each participating principal which created an advantage in the economy of time and expense in collecting the data and the disadvantage of having no personal contact with the participants. Principals were contacted personally with a project explanation so that the principal and respondents would understand the intent of the instruments.

The study examined the perceptions of teachers in multi-unit and conventional schools regarding interaction patterns, division of labor, the decision-making process, goals, objectives, and opinions as well as their knowledge of continuous progress practices and, in addition, their perceptions of educational trends. The perceptions and knowledge of principals, students, parents, and lay citizens were not considered.

Inadvertently, questions related to the evaluation of instructional activities were included in the opinionnaire.

Pellegrin had used these in his Oregon study. These questions were not relevant to this study and should have been excluded.

Discussion

Significant differences favoring IGE teachers were reported in this study regarding teacher relationships with others, the inventory of teaching tasks, and the interaction and communication with other teachers and teaching assistants. These findings were paralleled by those of Pellegrin, and Cohen and Meyers, who found that teachers in multiunit schools scored significantly higher than conventional teachers regarding the extent of their task-oriented interaction with other teachers (63).

In this study, there were no significant differences between IGE and conventional teachers related to grading practices and learning needs of a particular student. However, Measel and Fincher (69) reported that student evaluation decisions were reached by all team members.

This study found that teachers in IGE schools participated extensively in decisions which affected them. Decentralized decision-making resulted in a change from individual to group decisions. Pellegrin's (83) studies supported these findings regarding IGE teachers' increased participation in decisions affecting teachers. A shift away from individual to group decision-making occurred in IGE schools and resulted in decentralized decision-making.

In this study, there were significant differences between teachers' participation in decision-making and the organization of the school. This finding is supported by the research of Gress (32) who reported a significant relationship between teacher participation in decision-making and the organization of the secondary school. However, Halvorsen (35) reported

that there were no significant differences between IGE and conventional teachers' participation in decision-making.

Participation of IGE teachers in this study was higher than that of conventional teachers regarding the extent to which control over instructional, curricular decisions rested with groups of teachers. Pellegrin (63) and Cohen and Meyers (63) reported similar findings, i.e., that greater control over instructional, curricular decisions existed with groups of multiunit or IGE teachers.

The goals and objectives of IGE and conventional teachers in this study did not differ significantly. These findings were similar to those of Halvorsen (35) who also found that the goals and objectives of IGE and conventional teachers did not differ significantly. The other side was presented by Pellegrin (83) who found differences between IGE and conventional teachers regarding their goals and objectives.

IGE teachers in this study possessed significantly more knowledge of continuous progress instructional principles and practices than did conventional teachers. The research by McLoughlin regarding knowledge of the theoretical foundations of nongradeness produced results which were inconclusive.

Recommendations

Recommendations for practice and further research were developed from the review of literature, the analysis of data, and the foregoing conclusions and discussion.

Recommendations for practice

1. IGE teachers and administrators need knowledge of continuous progress principles and practices. This could be accomplished through the use of "CPL Labs" from Educational Progress Corporation in Tulsa.
2. The principal of an IGE school needs to understand the interdependent relationships which develop

within an IGE staff and know how to organize and facilitate staff interaction and communication. Materials developed by Anderson from Harvard can be used to meet this need.

3. Teachers and administrators in IGE schools need to know and understand how the decision-making process will function in their building and district. The Instructional Improvement Committee within each building can develop an inservice program for the staff.
4. Teachers in IGE schools need to be trained in the use of teaching assistants. A program developed by Helen Coe and Joe Millard at A.E.A. 11 will meet this need.
5. IGE teachers need to know and understand their role with each other and the principal. Conferences between the principal and the teachers can be held regarding role perceptions, attitudes of teachers and administrators toward each other, and self-concept.
6. IGE teachers need to know and understand the interaction patterns, division of labor, and decision-making process which occur in multiunit schools. A local handbook can be developed and used to accomplish this.

Recommendations for further study

1. Since Pellegrin's research indicated significant differences between IGE and conventional teachers regarding their goals and objectives and the research in this study did not, further research related to the goals and objectives of IGE and conventional teachers is recommended.

2. The null hypothesis regarding the perceptions of educational trends by IGE and conventional teachers remains tenable and needs to be studied further.
3. The extent of evaluation of instructional activities was not a relevant topic for this study, but it needs additional scrutiny.
4. The extent to which teacher interaction and communication increases effectiveness needs to be studied.
5. The extent to which involvement in the decision-making process increases effectiveness needs to be studied.
6. The extent to which freedom in decision-making increases effectiveness needs to be studied.
7. Teacher interaction and communication regarding grading practices and learning needs of particular students needs more research.
8. Teacher interaction and communication with the principal regarding curriculum plans, the schedule of teaching activities, acquisition of teaching resources and supplies, learning needs of students, and personal concerns would be fruitful topics for investigation.

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APPENDIX A: LETTER OF EXPLANATION FROM THE DISTRICT CENTRAL OFFICE TO THE TEACHERS

May 1, 1974

Dear Teachers:

The Ames school district is cooperating with the College of Education, Iowa State University, and the State Department of Public Instruction in testing a newly developed survey of teachers' opinions, knowledge of Continuous Progress, and perceptions of trends in education in the public schools. The survey will be directed by Gary Olney of Muscatine, Iowa and conducted in Ames, Indianola, and Marshalltown. It is hoped that the results obtained from this survey will provide a better understanding of what teachers think of their schools.

Organizational structure is being studied in both multi-unit and conventional schools. The problem is to determine the interaction pattern of teachers, division of labor among teachers, and the decision making process as they relate to the organizational structure. The study will attempt to see if there is a relationship between the school organization and the opinions, goals, and objectives of teachers. The study will also attempt to determine the extent of knowledge of Continuous Progress Learning possessed by teachers as well as the perception of educational trends regarding Continuous Progress Learning.

We would like to encourage your participation in this survey and we hasten to assure you that all responses will be treated as confidential. Results will be reported in total and no attempt will be made to identify the responses of any individual. Data will be processed by the Computer Center of Iowa State University. A summary and abstract of the report will be provided for your use.

Thank you very much for your cooperation.

Sincerely,

Luther L. Kiser, Ed. D.
Assistant Superintendent for
Curriculum and Instruction

APPENDIX B: LETTER OF INSTRUCTIONS FROM THE RESEARCHER TO THE TEACHERS

May 1, 1974

Dear Teacher:

The questions that follow are designed to provide supporting information for the in-depth study of your school. Surveys are being completed by teachers in several other school settings, as well, and for that reason the questions may not be exactly applicable to your situation.

The questions should be answered only by persons who spend at least part of their time in classroom or individual instruction and should be answered in respect to the teaching part of their work in this school.

We have asked you to give your name only for the purpose of internal identification in the research. Your name, and names of other teachers, will be given a code number as the questionnaires are recorded on tabulation forms, and the original questionnaires will be destroyed. The questionnaires will be seen only by research personnel from Iowa State University, who will hold in strictest confidence the information you provided.

The questionnaire has been pared to the barest minimum in order to conserve your time. Each question is important, so please give careful consideration to your answers and fill out the questionnaire completely.

Your cooperation and assistance are much appreciated.

Sincerely,

Gary L. Olney

APPENDIX C: CONTINUOUS PROGRESS: A TEST OF CURRENT INSTRUCTIONAL PRINCIPLES AND PRACTICES

CP

CONTINUOUS PROGRESS

A TEST OF CURRENT INSTRUCTIONAL PRINCIPLES AND PRACTICES

Developed by

Frederick John Gies

Donn W. Gresso

B. Charles Leonard

Faculty Members
University of Missouri-Columbia

Form CP-A-52
Answer Key Z12a

1. Appropriate assessment procedures in continuous progress include _____.

   a) performance tests
   b) observations
   c) paper and pencil tests
   d) a and b
   e) a, b, and c

2. After decisions are made concerning the assignment of pupils to groups engaged in a specific learning program, what follows?

   a) Objectives are specified
   b) Teachers are assigned
   c) Instructional materials are selected
   d) Decisions are cleared with the principal
   e) Assessment procedures are developed

3. The primary role of the principal in a continuous school is that of _____.

   a) instructional leader
   b) teacher evaluator
   c) administrator
   d) policy maker
   e) disciplinarian

4. What constitutes the basis for pupil assessment in continuous progress?

   a) measurable objectives
   b) differentiated teaching strategies
   c) instructional goals
   d) standardized tests
   e) grouping patterns

5. Communicating objectives to pupils should increase which of the following?

   a) understanding
   b) motivation
   c) standardized test results
   d) a and b
   e) a and c

6. After all is said and done, the purpose of continuous progress is to _____.

   a) make instruction easier for teachers
   b) make administration easier for principals
   c) help teachers learn to use objectives
   d) encourage teachers to use a variety of activities
   e) individualize instruction for each pupil

7. Which of the following is NOT an appropriate activity for an instructional design meeting in a team teaching situation?

   a) develop pupil instructional materials
   b) select instructional content
   c) determine teaching strategies
   d) make teacher assignments
   e) identify pupil assessment procedures

8. The appropriate atmosphere for a brainstorming session is _____.

   a) critical
   b) closed
   c) non-critical
   d) analytical
   e) calculated

9. Contemporary educational thinking asserts that learning experiences should occur _____.

   a) primarily in the classroom
   b) primarily in the learning center
   c) anywhere they are available
   d) independently of the school
   e) none of the above

10. If the appropriate learning materials are not available, a continuous progress advocate would advise the teacher to _____.

   a) change the objective
   b) eliminate the learning experience
   c) purchase some related materials
   d) develop or produce the materials
   e) all of the above

11. Which is to be preferred as the basis for selecting pupil learning activities?

a) pupil selection
b) content structure
c) teacher selection
d) achievement tests
e) textbook organization

12. The statement "The learner will define the role of photosynthesis in the CO_2, O_2 cycle." is an example of a(an)_____.

a) process
b) goal
c) objective
d) purpose
e) none of these

13. A continuous progress learning program is defined as_____.

a) all the things done to help the learner achieve his objectives
b) the processes used to achieve learning ends
c) the formal program designed for pupils
d) all the learning experiences provided under the auspices of the school
e) the procedures utilized in planning experiences for learners

14. Children who have the same learning needs for a given subject should be placed in _____.

a) the same group
b) a large group
c) an independent study situation
d) a tutorial situation
e) a group with a different learning need

15. Above all a continuous progress program should be_____.

a) flexible
b) pre-determined
c) rigid
d) immutable
e) pupil controlled

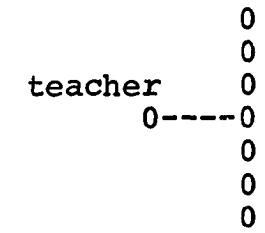
16. Team Leaders function as_____.

a) teachers
b) administrators
c) liaison between the team and the principal
d) a and b
e) a and c

17. The _____ mode is the lifeblood of continuous progress.

a) independent study
b) one-to-one
c) small group
d) large group
e) medium group

18. The following illustration is an example of what kind of small group mode?



a) task group
b) didactic group
c) discussion group
d) brainstorming group
e) inquiry group

19. The teacher attempting to generate many ideas quickly will use the _____ group.

a) task
b) inquiry
c) brainstorming
d) discussion
e) didactic

20. In the independent study mode the teacher's role is defined as _____.

a) guidance
b) encouragement
c) assessment
d) all of the above
e) none of the above

21. The key to performance testing is _____.

a) emphasizing the time the test begins
b) avoiding the child until the performance starts
c) establishing a clear description of behavior to be demonstrated
d) giving a demonstration just before testing the performance
e) knowing the child well

22. Performance testing and observation may be defined as _____.

a) management
b) assessment
c) directing
d) supervision
e) none of the above

23. It is very important to measure a student's attitudes toward learning. "Observation" provides one technique to accomplish this measuring process. In addition, "Observation" may be used to monitor other affective behaviors such as the ability to _____.

a) share possessions
b) work in a group
c) obey school regulations
d) tutor other peers
e) all of the above

24. "Developing scientific attitudes" is an example of a(an)_____.

a) objective
b) goal
c) value
d) activity
e) plan

25. Building a continuous progress learning program always begins with a list of _____.

a) pupils
b) materials
c) objectives
d) assessment means
e) learning activities

26. The basic assessment tool for affective behaviors is____.

a) paper and pencil tests
b) observation
c) conferences with parents
d) inter-teacher conferences
e) none of the above

27. In the traditionally organized school, individual teachers have_____.

a) a great deal of sharing with one another
b) little or no sharing with each other
c) no time to work together
d) a and b
e) none of the above

28. In a good educational program the first person to know about a pupil's progress is the_____.

a) parent
b) pupil
c) team leader
d) principal
e) aide

29. Learning stations are created to_____.

a) reach educational objectives
b) provide a quiet study area
c) provide individualized lessons for slow students
d) provide a progressive atmosphere
e) none of the above

30. Which of the following is NOT a continuous progress outcome?

a) Students engage in self-assessment.
b) Students accept responsibility for selection of learning objectives.
c) Students participate in selecting activities
d) Students accomplish the same goals.
e) Students can state learning objectives for learning activities.

31. Classroom activities are determined by which of the following factors?

a) materials available
b) objectives to be achieved
c) student knowledge and interest
d) concern for achieving "grade level"
e) a, b, and c

32. Frequently when visitors come into a continuous progress school, they may complain about what appears to be a lack of _____.

a) structure and organization
b) activity and materials
c) enough teachers and aides
d) space
e) none of these

33. The activities at each learning station are determined by which of the following criteria?

a) the space available
b) the objectives of the station
c) the number of students in the room
d) the amount of time allowed for each learning program
e) none of the above

34. Learning station activities are designed to provide ways for pupils to _____ their new skills.

a) observe
b) apply
c) plan
d) evaluate
e) review

35. Any pupil may get bored with an activity. When this occurs the student_____.

a) goes home
b) goes to another learning station he knows he will enjoy
c) continues on the activity
d) changes activities
e) gets the objective changed

36. Which of the following is NOT a critical part of the instructional process of continuous progress?

a) assessment of each student
b) specifying objectives for each student
c) assignment of each student to a teacher and a class
d) providing diversified learning opportunities
e) reassessment of each student's progress

37. A multi-unit organizational structure should consist of _____student age groups.

a) only one
b) only two
c) only three
d) three or more
e) two or more

38. A team leader should be the _____.

a) most knowledgeable member of the group
b) the most experienced in the group
c) the best leader in the group
d) a and b
e) b and c

39. Which of the following attitudes is best for a continuous progress teacher?

a) critical
b) supportive
c) assertive
d) passive
e) resistant

40. A continuous progress program is most closely related to the notion of_____.

a) unifying the curriculum for all learners
b) individualizing the curriculum
c) enlarging the curriculum to keep pace with change
d) selecting the curriculum that best serves the instructor's plans
e) all of the above

41. In a continuous progress program the teacher has the opportunity to achieve all of the following EXCEPT:

a) design the curriculum
b) revise the curriculum
c) tailor the curriculum to the student
d) tailor the student to the curriculum
e) organize the curriculum

42. Achievement of pupil objectives can be determined by_____.

a) consulting past records
b) observation
c) work samples
d) objective testing
e) all of the above

43. The management aspects of a continuous progress program appropriately include consideration of_____.

a) time
b) equipment
c) space
d) all of the above
e) two of the above

44. A learning "need" could best be described as_____.

a) the teacher's objective for the period
b) the child's specific objective
c) a study approach based on time limitations
d) a combination of the child's specific objective and the best way for him personally to achieve that objective
e) a learning goal which has been set after consultation between student and unit teachers

45. There are four basic learning modes into which students may be grouped for various time spans in order to facilitate the achievement of learning objectives. Select the most important one as perceived by advocates of continuous progress.

a) independent
b) one-to-one
c) small group
d) medium group
e) large group

46. One of the goals of a continuous progress program is to develop students who will_____.

a) be able to communicate with their fellowman
b) respect, appreciate and value human differences
c) become self-directed human beings
d) be able to select their own learning activities
e) all of these

47. Most American schools group children on the basis of_____.

a) I.Q. Tests
b) achievement tests
c) maturation
d) chronological age
e) non-gradedness

48. Which of the following is NOT necessarily true of multi-age grouping?

a) is flexible enough to meet individual needs
b) promotes social growth while facilitating academic growth
c) increases measured academic achievement
d) encourages and facilitates teaching-learning situations among students
e) enhances teacher-student relationships

49. Which of the following is NOT necessarily a goal to be worked toward in a continuous progress program?

a) a more humanistic system of education
b) a lowering of the absentee rate
c) a lessening of noise in the school
d) a more flexible student placement system
e) a greater student centered approach to learning

50. The learner who can_____well has a greater advantage in almost every area of formal schooling.

a) read
b) speak
c) write
d) listen
e) compute

51. As a teacher engages in planning the learning objectives of a pupil for the next day, which of the following activities could be appropriate?

a) Mastery is established--select another objective
b) Reinforcement activities are provided
c) Remedial activities are provided
d) none of the above
e) all of the above

52. The anxious style of learning characterizes a student who is_____.

a) fearful of failure
b) disrespectful to teachers
c) consistently breaking classroom rules
d) a and c
e) b and c

APPENDIX D: PERCEPTION OF EDUCATIONAL TRENDS

DIRECTIONS

Indicate your opinion of how practices in Iowa Schools are changing by checking the direction of the trend

Example:

	TRENDS TOWARD ←				TRENDS TOWARD →	
	Much	Some	None	Some	Much	
Less use of workbooks		✓				Greater use of workbooks
Less use of teacher made materials					✓	Greater use of teacher made materials

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Perception of Educational Trends

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Columbia, Missouri 65201

		TRENDS TOWARD ←				TRENDS TOWARD →	
		Much	Some	None	Some	Much	
Individualized Curriculum	1.						1. Common Curriculum
Teachers in Teaming Arrangements	2.						2. Teachers in Self-Contained Classrooms
Large Group Instruction (20+)	3.						3. Small Group Instruction (4-14)
Individualized Instruction	4.						4. Whole Group Instruction
Teacher Presentation	5.						5. Student Inquiry
Focus on Teaching	6.						6. Focus on Learning
Teacher Directed Learning	7.						7. Student Directed Learning
Concept Development	8.						8. Accumulation of Knowledge
Assessment for Grading Purposes	9.						9. Assessment for Feedback & Reinforcement
More Self-Motivating Experiences	10.						10. More External Motivating Experiences
Equivalent Roles for Teachers	11.						11. Differentiated Roles for Teachers

Open Type Schooling	12.		12. Conventional Type Schooling
Renewal of Traditions in Education	13.		13. New Explorations in Education
Facts and Explanations	14.		14. Inquiry and Discovery
Greater Teacher Responsibility for Decision Making	15.		15. Greater Administrator Responsibility for Decision Making
Setting Group Achievement Standards	16.		16. Setting Individual Achievement Standards
Focus on Subject Matter	17.		17. Focus on Student Needs
Structure and Significance of Subject Matter	18.		18. Scope and Sequence of Subject Matter
More Variety in Learning Activities	19.		19. Less Variety in Learning Activities
More Formality in School	20.		20. More Informality in School
Decreased Role Specialization of Teachers	21.		21. Increased Role Specialization of Teachers
Multi-age Grouping of Children	22.		22. Single-age Grouping of Children
Greater Community Involvement	23.		23. Less Community Involvement
Concrete Experiences	24.		24. Abstract Experiences
More Emphasis on Affective Attitudinal	25.		25. More Emphasis on Cognitive-Intellectual
Prescribed Subject Matter	26.		26. Elective Subject Matter
Teacher as a Learning Facilitator	27.		27. Teacher as a Knowledge Dispenser
Less Use of Measureable Objectives	28.		28. Greater Use of Measureable Objectives
More Use of Para-Professionals	29.		29. Less Use of Para-Professionals
Focus on Correcting Student Errors	30.		30. Focus on Student Success

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Perception of Educational Trends

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Columbia, Missouri 65201

		TRENDS TOWARD ←				→	
		Much	Some	None	Some	Much	
Creativity Emphasized for Students	31.						31. Conformity Emphasized for Students
Less Use of Teaching-Learning Machines	32.						32. More Use of Teaching-Learning Machines
Cooperative Approaches to Learning	33.						33. Competitive Approaches to Learning
Less Student Involvement in Decision Making	34.						34. More Student Involvement in Decision Making
Attitudes and Values	35.						35. Facts and Principles
Less In-Service Training for Teachers	36.						36. More In-Service Training for Teachers
Less Time for Teacher Planning	37.						37. More Time for Teacher Planning
Education as a Finished Product	38.						38. Education as a Continuing Experience
Discipline Through Self-Discipline and Self-Direction	39.						39. Discipline Through Rules and Regulation
More Educational Research	40.						40. Less Educational Research

APPENDIX E: OPINIONNAIRE

PART I. BACKGROUND INFORMATION

1. NAME_____2. SCHOOL_____3. SEX_____

4. Experience as an educator (at the end of this school year):

Years as a teacher_____Years in this School_____

PART II. THE TEACHER'S INSTRUCTIONAL OBJECTIVES

1. Please read through the entire list of instructional objectives and then check those three objectives to which you give the highest relative importance, priority, or emphasis in your own work. (Check only three)

___Encouraging creativity among students.

___Maintaining an orderly environment for learning.

___Enriching the course of study or curriculum for your students.

___Giving individual attention to students.

___Experimenting with new teaching techniques.

___Diagnosing learning problems of students.

___Improving the self-image, or self-worth, or individual students.

___Ensuring that students learn basic skills and subject matter content.

___Helping individual students solve their personal problems.

___Developing student ability in analytical reasoning and problem-solving.

2. Please read through the entire list, and then check the three most important barriers or constraints you face in trying to achieve the objectives. (Check only three)

___Reactions or expectations of other teachers.

___Official school district policies and procedures.

___Reactions or expectations of your principal.

___Lack of physical facilities or space.

___Reactions or expectations of your students.

___Difficulty or complexity of the objectives themselves.

___Reactions or expectations of parents.

___Lack of time.

___Reactions or expectations of central office personnel.

___Lack of resources.

PART III. TEACHER RELATIONSHIPS WITH OTHERS

1. Circle the position of the person, if any, upon whom you rely most heavily to get your own work tasks accomplished. (Circle one)

   Principal Unit Leader Aides Counselor Other teachers

   None

2. Circle which position, if any, is so closely related to yours that you believe the two jobs must be performed collaboratively in order for either of you to perform work.

   Principal Unit Leader Aides Counselor Other teachers

   None

3. Please check one item below which best describes your pattern of working. (Check one)

   ___Nearly all of my work is done independently.

   ___I work in collaboration with others a small part of the time and for limited purposes.

   ___I work in collaboration with others a substantial part of the time and for various purposes.

   ___Nearly all of my work is in collaboration with other staff members.

PART IV. INVENTORY OF TEACHING TASKS

Please think of these tasks in terms of what you actually do on the job--not in terms of what you or others think you should do if conditions were ideal. Beside each task enter ___ if you devote: "1" None or virtually none of your time and effort.; "2" A moderate time and effort.; "3" A major part of your time and effort.

___Deciding with other teachers what students should receive on evaluation reports.

___Giving assistance to individual students on class work.

___Developing expertise in one particular curriculum area.

___Planning with other teachers on appropriate student grouping or mode of instruction.

___Instructing or working with other teachers.

___Conferring with other teachers on the use of classroom space.

___Becoming an expert in using a particular instructional technique.

___Keeping records on student progress.

___Preparing and holding lessons for large groups of students (larger than class size).

___Working with others to select instructional materials for a class.

___Guiding small groups or individual students on their own special projects.

___Holding parent conferences.

___Doing diagnostic work on the skill development of individuals.

___Conferring with the principal.

___Systematically studying others' teaching behavior.

PART V. INSTRUCTIONAL ACTIVITIES

1. My instructional activities are supervised and/or evaluated by: (Check one or more).

___Other individual teachers

___A group of other teachers ("peer evaluation").

___The principal or other administrators.

___Instructional supervisor.

___No one.

2. In general, my instructional activities are supervised and/or evaluated by others: (Check one)

___Very often ___Fairly infrequently ___Never

___Fairly often ___Rarely

3. In general, my instructional activities are supervised and/or evaluated: (Check one)

___Very closely ___Fairly loosely ___Not at all

___Fairly closely ___Very loosely

4. My instructional activities are supervised and/or evaluated by: (Check one or more.)

___Systematic procedures involving direct evidence of my instructional competency, including observation of my teaching.

___Indirect procedures (Examples: assessment of pupil achievement records, assessment of discipline, parental complaints.)

___Informal discussion and advice from others.

___No definite procedure for supervision and/or evaluation.

5. My instructional activities are supervised and/or evaluated in order to: (Check one or more)

___Assess my performance for the purpose of tenure and salary increases.

___Assess the quality of my instruction.

___Assess my adherence to policies and procedures.

___Assess my adaptability to innovation.

PART VI. INTERACTION AND COMMUNICATION

1. How often do you receive reactions or advice from other teachers about your:

	Very often (daily or several days a week)	Fairly often (weekly)	Fairly infrequently (biweekly or monthly)	Rarely (bi-monthly or each semester)	Never
Curriculum planning	___	___	___	___	___
Grading practices	___	___	___	___	___
Teaching of specific lessons or classes	___	___	___	___	___
Student control and discipline practices	___	___	___	___	___
Manner of working with individual students	___	___	___	___	___

2. How often do you talk with other teachers about:

	Very often (daily or several days a week)	Fairly often (weekly)	Fairly infrequently (biweekly or monthly)	Rarely (bi-monthly or each semester	Never
General curriculum plans for the class	___	___	___	___	___
The schedule of teaching activities	___	___	___	___	___
Student reactions to a specific lesson	___	___	___	___	___
Getting teaching resources or supplies	___	___	___	___	___
Learning needs of a particular student	___	___	___	___	___
Personal gripes or concerns about work	___	___	___	___	___

3. How often do you talk with teaching assistants about:

	Very often (daily or several days a week)	Fairly often (weekly)	Fairly infre-quently (bi-weekly or monthly)	Rarely (bi-monthly or each semester)	Never	I have no Assist.
General curriculum plans for the class	___	___	___	___	___	___
The schedule of teaching activities	___	___	___	___	___	___
Student reactions to a specific lesson	___	___	___	___	___	___
Getting teaching resources or supplies	___	___	___	___	___	___
Learning needs of a particular student	___	___	___	___	___	___
Personal gripes or concerns about work	___	___	___	___	___	___

4. How often do you talk with your principal about:

	Very often (daily or several days a week)	Fairly often (weekly)	Fairly infrequently (biweekly or monthly)	Rarely (bi-monthly or each semester	Never
General curriculum plans for the class	___	___	___	___	___
The schedule of teaching activities	___	___	___	___	___
Student reactions to a specific lesson	___	___	___	___	___
Getting teaching resources or supplies	___	___	___	___	___
Learning needs of a particular student	___	___	___	___	___
Personal gripes or concerns about work	___	___	___	___	___

PART VII. DECISION-MAKING AND PROBLEM SOLVING

1. Circle the position of the person whom you ask to approve your instructional ideas.

   Principal Unit Leader Aide Counselor Other teacher

   None

2. Circle the position of the individual from whom you get ideas.

   Principal Unit Leader Aides Counselor Other teachers
   None

PART VIII. INSTRUCTIONAL DECISIONS.

Please check how much freedom of choice you have on your own day-to-day teaching.

1. Selecting and using supplementary instructional materials.

___Considerable freedom___Moderate freedom___Little freedom

2. The subject content to emphasize with students.

___Considerable freedom___Moderate freedom___Little freedom

3. The timing and pacing of your instruction.

___Considerable freedom___Moderate freedom___Little freedom

4. Your modes and techniques of teaching.

___Considerable freedom___Moderate freedom___Little freedom

5. Your means of assessing students' performance.

___Considerable freedom___Moderate freedom___Little freedom

6. The procedures for grouping students for teaching.

___Considerable freedom___Moderate freedom___Little freedom

7. Your style of relating to students.

___Considerable freedom___Moderate freedom___Little freedom

8. Methods of establishing and maintaining classroom control.

___Considerable freedom___Moderate freedom___Little freedom

PART IX. TEACHER OPINIONS

Please mark the alternative on the right that best describes the extent of your agreement or disagreement with each of the following statements.

Symbols: SA - Strongly agree; A - Agree; MA - Moderately agree; MD - Moderately disagree; D - Disagree; SD - Strongly disagree

	SA	A	MA	MD	D	SD
1. The ultimate authority of the major educational decisions should be exercised by professional teachers	___	___	___	___	___	___
2. Teachers should try to live up to what they think are the standards of their profession even if the administration or the community does not seem to respect them.	___	___	___	___	___	___
3. Teachers should be evaluated primarily on the basis of the their knowledge of the subject that they teach and on the basis of their ability to communicate it.	___	___	___	___	___	___

Thank you for your opinions.

APPENDIX F: CHI SQUARE AND POOLED VARIANCE t TEST RESULTS RELATED TO HYPOTHESES 1 AND 2

Teachers Relationships with Others

Table F1. Position relied upon to accomplish work tasks

	1 Principal	2 Unit leader	3 Aides	4 Coun-selors	5 Other teachers	6 None	Row total
IGE	2	4	1	0	23	17	47N
	4.3	8.5	2.1	0.0	48.9	36	58%
Non-IGE	3	0	7	0	5	19	34N
	8.8	0.0	20.6	0.0	14.7	55.9	42%
Column total	5	4	8	0	28	36	81TN
	6.2	4.9	9.9	0.0	34.6	44.4	100%

Chi square = 18.7799; Df = 4; Significance = .0009; P < .05; P <.01

Table F2. Position so closely related that work had to be performed collaboratively

	1 Principal	2 Unit leader	3 Aides	4 Coun-selors	5 Other teachers	6 None	Row total
IGE	0	3	0	2	34	8	47N
	0.0	6.4	0.0	4.3	72.3	17.0	58%
Non-IGE	5	0	0	0	15	14	34N
	14.7	0.0	0.0	0.0	44.1	41.2	42%
Column total	5	3	0	2	49	22	81TN
	6.2	3.7	0.0	2.5	60.5	27.2	100%

Chi Square = 17.3646; Df = 4; Significance = .0016; P < .05; P < .01

Table F3. Amount of work done in collaboration with others

	1 Nearly all work done independently	2 Limited purpose and small amount of time spent in working collaboratively	3 Various purposes and substantial amount of time spent in working collaboratively	4 Nearly all work done collaboratively	Row total
IGE	0 0.0	11 23.4	30 63.8	6 12.8	47N 58%
Non-IGE	9 26.5	11 32.4	13 38.2	1 2.9	34N 42%
Column total	9 11.1	22 27.2	43 53.1	7 8.6	81TN 100%

Chi Square = 17.6608; Df = 3; Significance = .0005; P < .05; P < .01

Inventory of Teaching Tasks

Table F4a. Time used with other teachers on student evaluation

	1 None	2 Moderate	3 Major	Row total
IGE	8 17.0	37 78.7	2 4.3	47N 58%
Non- IGE	16 47.1	17 50.0	1 2.9	34N 42%
Column total	24 29.6	54 66.7	3 3.7	81TN 100%

Chi Square = 8.5410; Df = 2; Significance = .0140;
P < .05

Table F4b. Time used with other teachers on student evaluation

Group	Mean	Pooled variance t results
IGE	1.8723	.007**
Non-IGE	1.5588	

Table F5a. Planning student grouping or modes of instruction with other teachers

	1 None	2 Moderate	3 Major	Row total
IGE	4 8.5	34 72.3	9 19.1	47N 58%
Non-IGE	10 29.4	21 61.8	3 8.8	34N 42%
Column total	14 17.3	55 67.9	12 14.8	81TN 100%

Chi Square = 6.7311; Df = 2; Significance = .0345; P < .05

Table F5b. Planning student grouping or modes of instruction with other teachers

Group	Mean	Pooled variance t results
IGE	2.1064	.014**
Non-IGE	1.7941	

Table F6a. Instructing or working with other teachers

	1 None	2 Moderate	3 Major	Row total
IGE	5 10.6	29 61.7	13 27.7	47N 58%
Non- IGE	16 47.1	16 47.1	2 5.9	34N 42%
Column total	21 25.9	45 55.6	15 18.5	81TN 100%

Chi Square = 15.9075; Df = 2; Significance = .0004; P < .05; P < .01

Table F6b. Instructing or working with other teachers

Group	Mean	Pooled variance t results
IGE	2.1702	.000**
Non-IGE	1.5882	

Table F7a. Conferring on use of classroom space

	1 None	2 Moderate	3 Major	Row total
IGE	27 57.4	19 40.4	1 2.1	47N 58%
Non- IGE	29 85.3	5 14.7	0 0.0	34N 42%
Column total	56 69.1	24 29.6	1 1.2	81TN 100%

Chi Square = 7.3408; Df = 2; Significance = .0256; P < .05

Table F7b. Conferring on use of classroom space

Group	Mean	Pooled variance t results
IGE	1.4468	.004**
Non-IGE	1.1471	

Table F8a. Becoming an expert in a particular instructional technique

	1 None	2 Moderate	3 Major	Row total
IGE	23 48.1	23 48.9	1 2.1	47N 58%
Non-IGE	10 29.4	21 61.8	3 8.8	34N 42%
Column total	33 40.7	44 54.3	4 4.9	81TN 100%

Chi Square = 4.2348; Df = 2; Not significant at .1203; P > .05

Table F8b. Becoming an expert in a particular instructional technique

Group	Mean	Pooled variance t results
IGE	1.5319	
Non-IGE	1.7941	.043*

Table F9a. Selecting with other teachers instructional materials for a class

	1 None	2 Moderate	3 Major	Row total
IGE	2 4.3	42 85.1	5 10.6	47N 58%
Non-IGE	12 35.3	22 64.7	0 0.0	34N 42%
Column total	14 17.3	62 76.5	5 6.2	81TN 100%

Chi Square = 15.6863; Df = 2; significance = .0004; P < .05 P < .01

Table F9b. Selecting with other teachers instructional materials for a class

Group	Mean	Pooled variance t results
IGE	2.0638	.000**
Non-IGE	1.6471	

Interaction and Communication

Table F10a. Curriculum planning--interaction and communication

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	11 23.4	14 29.8	10 21.3	8 17.0	4 8.5	47N 58%
Non-IGE	2 5.9	5 14.7	7 20.6	10 29.4	10 29.4	34N 42%
Column total	13 16.0	19 23.5	17 21.0	18 22.2	14 17.3	81TN 100%

Chi Square = 12.0407; Df = 4; Significance = .0171; P < .05

Table F10b. Curriculum planning--interaction and communication

Group	Mean	Pooled variance t results
IGE	2.5745	.000**
Non-IGE	3.6176	

Table F11a. Teaching specific lessons or classes--interaction and communication

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	4 8.5	19 40.4	10 21.3	10 21.3	4 8.5	47N 58.8%
Non-IGE	1 3.0	5 15.2	5 15.2	8 24.2	14 42.4	33N 41.3%
Column total	5 6.3	24 30.0	15 18.8	18 22.5	18 22.5	80TN 100%

Chi Square = 15.4338; Df = 4; Significance = .0039; P < .05; P < .01

Table F11b. Teaching specific lessons or classes--interaction and communication

Group	Mean	Pooled variance t results
IGE	2.8085	.000**
Non-IGE	3.8788	

Table F12a. Student control and discipline practices

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	10 23.8	8 19.0	3 7.1	12 28.6	9 21.4	42N 55.3%
Non-IGE	1 2.9	3 8.8	7 20.6	9 26.5	14 41.2	34N 44.7%
Column total	11 14.5	11 14.5	10 13.2	21 27.6	23 30.3	76TN 100%

Chi Square = 12.0432; Df = 4; Significance = .017; P < .05

Table F12b. Student control and discipline practices

Group	Mean	Pooled variance t results
IGE	3.7046	.006**
Non-IGE	3.9412	

Table F13a. Interaction and communication on manners of working with individual students

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	9 21.4	13 31.0	7 16.7	6 14.3	7 16.7	42N 56%
Non-IGE	0 0.0	5 15.2	9 27.3	9 27.3	10 30.3	33N 44%
Column total	9 12.0	18 24.0	16 21.3	15 20.0	17 22.7	75TN 100%

Chi Square = 13.0428; Df = 4; Significance = .0111; P < .05; P < .01

Table F13b. Interaction and communication on manners of working with individual students

Group	Mean	Pooled variance t results
IGE	2.7381	.001**
Non-IGE	3.7273	

Table F14a. Interaction and communication regarding curriculum planning

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	15 31.9	21 44.7	8 17.0	2 4.3	1 2.1	47N 58%
Non-IGE	3 8.8	11 32.4	3 8.8	10 29.4	7 20.6	34N 42%
Column total	18 22.2	32 39.5	11 13.6	12 14.6	8 9.9	81TN 100%

Chi Square = 21.7037; Df = 4; Significance = .0002; P < .05; P < .01

Table F14b. Interaction and communication regarding curriculum planning

Group	Mean	Pooled variance t results
IGE	2.0000	.000**
Non-IGE	3.2059	

Table F15a. Discussions regarding the schedule of teaching activities

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	22 46.8	9 19.1	13 27.7	2 4.3	1 2.1	47N 58%
Non-IGE	4 11.8	13 38.2	1 2.9	8 23.5	8 23.5	34N 42%
Column total	26 32.1	22 27.2	14 17.3	10 12.3	9 11.1	81TN 100%

Chi Square = 31.2371; Df = 4; Significance = .0000; P < .05; P < .01

Table F15b. Discussions regarding the schedule of teaching activities

Group	Mean	Pooled variance t results
IGE	1.9574	.000**
Non-IGE	3.0882	

Table F16a. Discussion of student reactions to a specific lesson

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	11 23.4	23 48.9	5 10.6	5 10.6	3 6.4	47N 58%
Non-IGE	0 0.0	15 45.5	2 6.1	12 36.4	4 12.1	33N 41.3%
Column totals	11 13.8	38 47.5	7 8.8	17 21.3	7 8.8	80TN 100%

Chi Square = 15.0046; Df = 4; Significance = .0047; P < .05; P < .01

Table F16b. Discussion of student reactions to a specific lesson

Group	Mean	Pooled variance t results
IGE	2.2766	.001**
Non-IGE	3.1515	

Table F17a. Acquisition of teaching resources or supplies

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	10 21.3	17 36.2	15 31.9	4 8.5	1 2.1	47N 58%
Non-IGE	0 0.0	11 32.4	8 23.5	12 35.3	3 8.8	34N 42%
Column total	10 12.3	28 34.6	23 28.4	16 19.8	4 4.9	81TN 100%

Chi Square = 16.7615; Df = 4; Significance = .0022; P < .05 P < .01

Table F17b. Acquisition of teaching resources or supplies

Group	Mean	Pooled variance t results
IGE	2.3404	.000**
Non-IGE	3.2059	

Table F18a. Expression of personal gripes or concerns about work

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	Row total
IGE	13 27.7	12 25.5	13 27.7	6 12.8	3 6.4	47N 58%
Non-IGE	2 5.9	11 32.4	7 20.6	9 26.5	5 14.7	34N 42%
Column total	15 18.5	23 28.4	20 24.7	15 18.5	8 9.9	81TN 100%

Chi Square = 9.1597; Df = 4; Significance = .0572; P > .05 = N.S.

Table F18b. Expression of personal gripes or concerns about work

Group	Mean	Pooled variance t results
IGE	2.4468	.016*
Non-IGE	3.1176	

Table F19a. Discussions with teaching assistants regarding general curriculum plans for the class

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	13 27.7	9 19.1	3 6.4	9 19.1	0 0.0	13 27.7	47N 58%
Non-IGE	4 11.8	4 11.8	2 5.9	1 2.9	3 8.8	20 58.8	34N 42%
Column total	17 21.0	13 16.0	5 6.2	10 12.3	3 3.7	33 40.7	81TN 100%

Chi Square = 16.1009; Df = 5; Significance = .0066; P < .05; P < .01

Table F19b. Discussions with teaching assistants regarding general curriculum plans for the class

Group	Mean	Pooled variance t results
IGE	3.2766	.003**
Non-IGE	4.6176	

Table F20a. Discussion of the schedule of teaching activities with teaching assistants

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	14 29.8	9 19.1	6 12.8	5 10.6	0 0.0	13 27.7	47N 58%
Non-IGE	3 8.8	6 17.6	1 2.9	3 8.8	1 2.9	20 58.8	34N 42%
Column total	17 21.0	15 18.5	7 8.6	8 9.9	1 1.2	33 40.7	81TN 100%

Chi Square = 12.5097; Df = 5; Significance = .0284; P < .05

Table F20b. Discussion of the schedule of teaching activities with teaching assistants

Group	Mean	Pooled variance t results
IGE	3.1489	.002**
Non-IGE	4.5588	

Table F21a. Discussion of student reactions to a specific lesson with teaching assistants

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	9 19.1	13 27.7	6 12.8	2 4.3	4 8.5	13 27.7	47N 58%
Non-IGE	2 5.9	6 17.6	2 5.9	1 2.9	3 8.8	20 58.8	34N 42%
Column total	11 13.6	19 23.5	8 9.9	3 3.7	7 8.6	33 40.7	81TN 100%

Chi Square = 9.1436; Df = 5; Significance = .1035; P > .05 = N.S.

Table F21b. Discussion of student reactions to a specific lesson with teaching assistants

Group	Mean	Pooled variance t results
IGE	3.3830	.004**
Non-IGE	4.6765	

Table F22a. Discussion of acquisition of teaching resources or supplies with teaching assistants

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	16 34.0	9 19.1	6 12.8	2 4.3	1 2.1	13 27.7	47N 58%
Non-IGE	2 5.9	7 20.6	2 5.9	3 8.8	0 0.0	20 58.8	34N 42%
Column total	18 22.2	16 19.8	8 9.9	5 6.2	1 1.2	33 40.7	81TN 100%

Chi Square = 14.1005; Df = 5; Significance = .0150; P < .05

Table F22b. Discussion of acquisition of teaching resources or supplies with teaching assistants

Group	Mean	Pooled variance t results
IGE	3.0426	.001**
Non-IGE	4.5294	

Table F23a. Discussion of learning needs of a particular student with a teaching assistant

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	4 8.5	16 34.0	9 19.1	5 10.6	0 0.0	13 27.7	47N 58%
Non-IGE	1 2.9	8 23.5	0 0.0	2 5.9	3 8.8	20 58.8	34N 42%
Column total	5 6.2	24 29.6	9 11.1	7 8.6	3 3.7	33 40.7	81TN 100%

Chi Square = 17.6043; Df = 5; Significance = .0035; P < .05; P < .01

Table F23b. Discussion of learning needs of a particular student with a teaching assistant

Group	Mean	Pooled variance t results
IGE	3.4255	.002**
Non-IGE	4.7059	

Table F24a. Discussion of personal gripes or concerns about work with a teaching assistant

	1 Very often	2 Fairly often	3 Fairly infrequently	4 Rarely	5 Never	6 No assistant	Row total
IGE	1 2.1	6 12.8	7 14.9	14 29.8	6 12.8	13 27.7	47N 58%
Non-IGE	0 0.0	2 5.9	4 11.8	3 8.8	5 14.7	20 58.8	34N 42%
Column total	1 1.2	8 9.9	11 13.6	16 19.8	11 13.6	34 42.0	81TN 100%

Chi Square = 9.3729; Df = 5; Significance = .0951; P > .05 = N.S.

Table F24b. Discussion of personal gripes or concerns about work with a teaching assistant

Group	Mean	Pooled variance t results
IGE	4.2553	.010**
Non-IGE	5.0082	

Decision-making and Problem Solving

Table F25. Position of person asked to approve instructional ideas

	1 Principal	2 Unit leader	5 Other teacher	6 None	Row total
IGE	13 27.7	9 19.1	22 46.8	3 6.4	47N 58%
Non-IGE	15 44.1	0 0.0	11 32.4	8 23.5	34N 42%
Column total	28 34.6	9 11.1	33 40.7	11 13.6	81TN 100%

Chi Square = 13.3394; Df = 3; Significance = .0040; P < .05; P < .01

Table F26. Position of person asked for ideas

	1 Principal	2 Unit leader	3 Other teacher	4 None	Row total
IGE	1 2.1	4 8.5	41 87.2	1 2.1	47N 58%
Non-IGE	5 14.7	0 0.0	25 73.5	4 11.8	34N 42%
Column total	6 7.4	4 4.9	66 81.5	5 6.2	81TN 100%

Chi Square = 10.5303; Df = 3; Significance = .0146; P < .05

Table F27a. Freedom of means of assessing student performance

	1 Considerable freedom	2 Moderate freedom	3 Little freedom	Row total
IGE	23 48.9	23 48.9	1 2.1	47N 58%
Non-IGE	26 76.5	7 20.6	1 2.9	34N 42%
Column total	49 60.5	30 37.0	2 2.5	81TN 100%

Chi Square = 6.8059; Df = 2; Significance = .0333; P < .05

Table F27b. Freedom of means of assessing student performance

Group	Mean	Pooled variance t results
IGE	1.5319	
Non-IGE	1.2647	.028*

Table F28a. Freedom for grouping students for teaching

	1 Considerable freedom	2 Moderate freedom	3 Little freedom	Row total
IGE	26 55.3	20 42.6	1 2.1	47N 58%
Non-IGE	26 76.5	8 23.5	0 0.0	34N 42%
Column total	52 64.2	28 34.6	1 1.2	81TN 100%

Chi Square = 4.1637; Df = 2; Significance = .1247; P > .05 = N.S.

Table F28b. Freedom for grouping students for teaching

Group	Mean	Pooled variance t results
IGE	1.4681	
Non-IGE	1.2353	.042*

Table F29a. Freedom regarding methods of establishing and maintaining classroom discipline

	1 Considerable freedom	2 Moderate freedom	3 Little freedom	Row total
IGE	32 68.1	14 29.8	1 2.1	47N 58%
Non-IGE	32 94.1	2 5.9	0 0.0	34N 42%
Column total	64 79.0	16 19.8	1 1.2	81TN 100%

Chi Square = 8.1228; Df = 2; Significance = .0172; P < .05

Table F29b. Freedom regarding methods of establishing and maintaining classroom discipline

Group	Mean	Pooled variance t results
IGE	1.3040	
Non-IGE	1.0588	.002**