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ABSTRACT

The Interdisciplinary Teamed Instruction (ITI) project investigated the effects of interdisciplinary, teamed instruction on secondary school teaching and learning. It examined the effectiveness of a professional development model that facilitated the development, implementation, and evaluation of ITI. Through summer institutes and onsite workshops, project staff provided training, resources, and ongoing technical assistance to teams of teachers and administrators. Teams designed and tested integrated curricula that incorporated learning activities and alternative assessments; conducted collaborative action research to determine the effectiveness of units; and redesigned units using feedback from key stakeholders. Three summer institutes were held to help teacher-administrator teams build capacity for collaboration and interdisciplinary teamed instruction. One institute helped teams design integrated units, plan learning activities and assessments, and present their units. Researchers evaluated the institute's processes, outcomes, and products via questionnaires, observations, interviews, reflective assignments, feedback forms, oral evaluation feedback, and ratings of participants' presentations. Overall, the summer institute affected teacher self-efficacy, decision making, impact, and autonomy in scheduling. Its greatest impact was on collaboration, cooperative learning, assessment rubrics, multiple intelligences, and team building. Participants were very positive about the institute, which strengthened their belief in and commitment to ITI concepts and practices. (Contains 14 references.) (SM)

More is Not Always Better: Comprehensive Evaluation of a Summer Institute on Interdisciplinary Teamed Instruction for School-Level Teams

by

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INTRODUCTION

Interdisciplinary Teamed Instruction Background

The Interdisciplinary Teamed Instruction (ITI) project was a 2-year (1992-1994) research and development project aimed at determining the effects of interdisciplinary teamed instruction on teaching and learning in secondary schools. The study also sought to validate the effectiveness of a professional development model that would facilitate development, implementation, and evaluation of ITI. Through summer institutes and on-site workshops, project staff provided training, resources, and ongoing technical assistance to teams of teachers and administrators from four rural Virginia secondary schools. These teams designed and tested integrated curricula that incorporated learning activities and alternative forms of assessment; engaged in collaborative action research to determine the effectiveness of units; and redesigned units using data-based feedback from students, teachers, parents, and supervisors (Burns, 1994).

ITI project participants made two major recommendations: (1) Before ITI is implemented, school faculty and community should (a) learn about ITI concepts, processes, and conditions; and (b) determine their readiness and desire to begin ITI. (2) AEL should develop resources to support ITI implementation (Burns, 1994).

In response to these recommendations, Rebecca Burns, the ITI project director, wrote *Dissolving the Boundaries: Planning for Curriculum Integration in Middle and Secondary Schools* (1995a). This resource, with its *Facilitator's Guide* (1995b), is a professional development tool designed to increase a faculty's understanding of curriculum integration and to assist them with decision making about ITI implementation. Since the spring of 1995, AEL staff have conducted 48 *Dissolving the Boundaries* professional development sessions in 12 states, as well as the District of Columbia and Puerto Rico. Additionally, these resource documents are used by schools, districts, and colleges in 42 states, Puerto Rico, Nepal, and Argentina.

To assist schools that were ready to design and implement ITI, three summer institutes were held between June 1995 and August 1996 to help teams of teachers and administrators from 14 schools (representing five states) build capacity for collaboration and interdisciplinary teamed instruction. Two of the institutes were held in 1995: The first was intended to field test the ITI concept outside the parameters of a research and development project, and included four schools from Virginia, one from Tennessee, and one from Texas. The second was a contracted activity conducted for one school in West Virginia. The third institute, held in Virginia in July 1996, is the basis for this report.

1996 ITI Summer Institute

The third ITI Summer Institute was held at Radford University in Virginia from July 7-12, 1996. Facilitators included an AEL staff member and two consultants. Also in attendance were the AEL evaluator and the AEL scaling-up project director. The purpose of the Institute was to help participants design integrated units, plan learning activities and assessments, and present their units as a culminating activity at the close of the training.

Planning for the 1996 ITI Summer Institute focused on recruiting participants from sites where ITI had been introduced during the past year. Also, there was an emphasis on recruiting interns who might serve as trainers for future ITI institutes and workshops and who would promote the use of ITI in their locations. Recruitment was accomplished through personal contact by the ITI project leader, by telephone calls, and by mailing a descriptive brochure to other potential attendees. One school district that had conducted ITI workshops and one school that had participated in one of the 1995 ITI institutes enrolled teams; another site enrolled two interns. Also, a university faculty member was accepted as an intern. The institute was held on the Radford University, Virginia campus.

Thirty participants from four states attended the 1996 ITI Summer Institute. Four high school teams from one county school district in West Virginia attended. These teams (a total of 22 participants) were part of a group that had participated in an ITI workshop in the spring of 1996 and would continue working with ITI through the 1996-97 school year. Four academic teachers and one vocational teacher from the county's technical education center comprised each team. Two of the teams also included a building administrator. A fifth team, from a junior high school in Tennessee, was composed of four eighth-grade teachers and their principal. Rounding out the Institute membership were three interns. One intern was a local university education department faculty member and the other two interns were curriculum specialists from the Oklahoma Department of Education.

Purpose of this Evaluation

The major purpose of this effort was to conduct a comprehensive evaluation of the 1996 ITI Summer Institute. This evaluation focused on the processes, outcomes, and products of the Institute. Key evaluation activities included administering questionnaires on teacher empowerment, schools as communities of learners, school effectiveness, and teachers' sense of control; on-site observations; face-to-face interviews with participants; reflective assignments for participants; participant feedback forms; oral evaluation feedback provided during the Institute; and review and rating of participants' videotaped presentations. Decisions regarding the evaluations of future ITI summer institutes were expected to be informed by the methodology and instrumentation employed in this evaluation.

Major Objectives

The major objectives of this evaluation included the following:

- to measure participants' sense of personal locus of control
- to evaluate the processes of the ITI Institute via participants' reflective assignments, feedback forms, personal interviews, and observations of activities
- to evaluate participants' culminating activity of videotaped presentations, completed in teams
- to assess the outcomes of the ITI Institute on participants' sense of teacher empowerment and professional learning community
- to assess the outcomes of the ITI Institute on participants' perceptions of their organization's effectiveness.

METHODOLOGY

This section presents the methodology used in completing the comprehensive evaluation of the ITI 1996 Summer Institute. Descriptions of the schedule, the data collection techniques, and the evaluation procedures are presented below.

Institute Schedule

The Institute was held at Radford University in Virginia, from July 7-12 (see the Appendix for a copy of the agenda). Registration and check-in began on Sunday afternoon, July 7, followed by an overview session covering introductions, expectations, team roles, team needs, networking, and journaling. Each participant received a copy of *Dissolving the Boundaries: Planning for Curriculum Integration in Middle and Secondary Schools*. Participants also received notebooks containing additional handouts.

Monday, July 8, began with an administrators' breakfast, and then participants were asked to complete the "Teacher Questionnaire" and the "School as Community Questionnaire." This was followed by a session on "Developing Teams: Roles, Rules, Relationships, Results." After a mid-morning break, concurrent sessions were held on "Conflict Resolution," "Tools for Testing Consensus," and "Group Roles and Functions."

Following lunch, a "Team Exploration and Debriefing" session was conducted throughout the afternoon. This was a unique team-building session, in that each team was to design and construct a mousetrap-powered vehicle; these vehicles were then used in videotaped comparative trials with other teams. Mousetrap vehicles were constructed from materials such as cardboard, styrofoam, wood, plastic, rubber bands, string, cans, lids, etc., and, of course, a mousetrap. In addition to team building, the session also introduced participants to the concept of performance assessment using a scoring rubric. Another "Team Planning and Reflections" session was held after dinner.

An administrators' breakfast was again held on Tuesday, July 9, followed by "Five Stages of Integration: Reviewing and Rating ITI Examples." The second morning session was "Discovering 'Fertile' Themes." After lunch, a "Team Applications: Unit Design" session was held, including "Generating Learner Goals" and "Identifying Powerful Learning." The second afternoon session provided team planning time, with topics such as "Beginning the Unit Development—Selecting a Theme, Framing Essential Questions, and Designing Powerful Learning Experiences."

Following the administrators' breakfast on Wednesday, July 10, participants were asked to complete a "Control Questionnaire" and a "School Products and Services Questionnaire." A short

session was held afterward on "Learning Principles and Authentic Tasks." Afterwards, concurrent sessions were held on "Cooperative Learning," "Problem-Based Learning," and "Multiple Intelligences." Following the morning break, additional concurrent sessions were held on "Cooperative Tasks," "Community-based Learning," and "Writing to Learn." The first afternoon session focused on "Structuring a Powerful Learning Experience," followed by "Team Planning: Incorporating Authentic Tasks into Your Unit" and "Team Reflections."

Thursday, July 11, again began with an administrators' breakfast, followed by two morning sessions: "Understanding Alternative Assessment" and "Constructing Scoring Rubrics." After lunch, the entire afternoon session was devoted to "Team Planning Time: Construct a Rubric to Assess Student Performance, Construct a Rubric to Assess Unit Performance, and Team Reflection." After dinner, teams worked on preparing their team exhibit.

The last day of the Institute was Friday, July 12, which began with a final administrators' breakfast. Two short morning sessions were held on "Planning for Re-Entry" and "Team Action Plans." After the mid-morning break, team exhibitions were conducted and videotaped. After all teams were finished, certificates were presented, and then participants were asked to complete a "Feedback Form," the "Teacher Questionnaire," and the "School as Community Questionnaire."

Data Collection Techniques

Data collection included a mix of quantitative and qualitative techniques, including four surveys, a feedback form, interviews, observations, videotaped presentations, and reflective activities. Each method is discussed below.

Surveys. Four paper and pencil surveys were administered to participants in the 1996 ITI Summer Institute. Each survey is discussed in turn.

Teacher Questionnaire. The first survey was labeled the "Teacher Questionnaire." This is AEL's adaptation of the School Participant Empowerment Scale (SPES) originally developed by Short and Rinehart (1992). The SPES was administered to 4,091 teachers in 183 restructuring schools in Ohio by Klecker and Loadman (1996, 1998), who re-factor analyzed the 38 items of the SPES into six subscales. All 38 items use the 5-point Likert-type response options of 1 = Strongly Disagree to 5 = Strongly Agree. The six subscales and their Alpha internal consistency reliabilities were (1) Status, .80; (2) Professional Growth, .70; (3) Self-Efficacy, .89; (4) Decision Making, .80; (5) Impact, .83; and (6) Autonomy in Scheduling, .83. The number of items per subscale varied from a low of 3 for Autonomy in Scheduling to a high of 12 for Self-Efficacy. In addition to the 38 items, AEL staff added eight constructed-response demographic items at the end. These demographic questions asked respondents to supply their grades taught, subjects taught, years taught in any school, years taught in present school, employed full or part time, degree and credits earned, gender, and age.

Table 1 displays the Cronbach Alpha internal consistency reliabilities for all four surveys employed in this evaluation. The Teacher Questionnaire Alphas are displayed first in Table 1, for each of its three administrations. The full 38-item Alphas are high at .85 and .93, as are the 12-item Self-Efficacy subscale Alphas at .88 and .93. The 6-item Status subscale Alphas are .83, .89, and .78. Interestingly, the 3-item Autonomous Scheduling subscale has Alphas of .85, .90, and .80. The lowest Alphas are .59, .60, and .77 for the Professional Growth subscale.

School as Community Questionnaire. The second survey was labeled the "School as Community Questionnaire". This survey is AEL's adaptation of the 22 school-wide professional learning community items included in a paper presented by Karen Seashore Louis and Helen Marks at the American Educational Research Association (AERA) Annual Meeting in New York City and subsequently published (1996a, 1996b). In AEL's adaptation of items, references to "Since the beginning of the school year . . ." were dropped and the response options were placed directly under the stem statement. The response option for the stem statements was a 5-point Likert-type scale from 1 = Strongly Disagree (SD) to 5 = Strongly Agree (SA). The five subscales in the instrument are Shared Sense of Purpose, Collaborative Activity, Collective Focus on Student Learning, Deprivatized Practice, and Reflective Dialogue. The number of items per subscale varied from a low of 3 items (two scales) to a high of 6 items (two scales).

Table 1 displays the Cronbach Alpha reliabilities for the total School as Community Questionnaire and its five subscales across three administrations. The full 22-item Alphas were .92, .93, and .90 for the three administrations, respectively. The 6-item Collaborative Activity subscale Alphas were .87, .79, and .84, followed by those for Reflective Dialogue at .89, .87, and .62. The 4-item Collective Focus on Student Learning subscale Alphas were .60, .70, and .75. As expected, the Alphas for the two 3-item subscales are a little lower, with only the pretest Alpha for the Shared Sense of Purpose subscale dipping into the .50s (.57).

School Products and Services Questionnaire. The third survey was labeled the "School Products and Services Questionnaire". This is AEL's adaptation of the "Index of Perceived Organizational Effectiveness" (IPOE) instrument originally developed and published by Paul E. Mott (1972) and then modified for use in schools by Miskel, Fevurly, and Stewart (1979) and more recently by Hoy and Ferguson (1985). The IPOE is an eight-item, self-report instrument in which teachers rate the overall effectiveness of their school on four dimensions (quality and quantity of product, efficiency, adaptability, and flexibility) with two items for each dimension. Respondents select one of five options on a Low (1) to High (5) scale, but the response options/descriptors vary by the item stem. For example, for the first item on quantity of production, the responses range from "Low Production" to "High Production," with three other descriptors between them. Possible scores range from a low of 8 points to a maximum of 40 points; the higher the score on the IPOE the greater the perceived organizational effectiveness of the school.

Table 1:
Alpha Reliabilities for the Four Instruments
and Their Subscales by Administration Time

Instrument Name Subscale Name	Number of Items	Alpha Reliabilities		
		Pretest Administration	End of Institute	Posttest Administration
Teacher Questionnaire	38	.93	.93	.85
Status	6	.83	.89	.78
Professional Growth	4	.59	.60	.77
Self-Efficacy	12	.88	.88	.93
Decision Making	8	.78	.82	.76
Impact	5	.76	.82	.68
Autonomy in Scheduling	3	.85	.90	.80
School as Community Questionnaire	22	.92	.93	.90
Shared Sense of Purpose	3	.57	.78	.86
Collaborative Activity	6	.87	.79	.84
Collective Focus on Student Learning	4	.60	.70	.75
Deprivatized Practice	3	.65	.66	.69
Reflective Dialogue	6	.89	.87	.62
School Products and Services Questionnaire	8	.85	N/A	.91
Control Questionnaire	28	.80	N/A	N/A
Self-Confidence	14	.78	N/A	N/A
Autonomous Behavior	14	.63	N/A	N/A

The IPOE has been used in many studies over the years. Early studies reported high reliablity coefficients; for example, .89 by Miskel, Fevurly, and Stewart (1979). Similar reliability figures were reported by Hoy and Fergurson (1985) and, more recently, Loup and Ellett (1996) reported it to be .85. Table 1 shows that the School Products and Services Questionaire (IPOE) Alpha reliabilities in this study were .85 at pretest and .91 at post test.

Control Questionnaire. The fourth survey was labeled the "Control Questionnaire". This survey is AEL's formatting of the "Internal Control Index" instrument developed by Pat Duttweiler (1984). The final instrument consists of 28 different statements with one key word missing. The response format requires the respondent to choose one of five alternative words to insert into the statement. The five alternative words and their associated letters to insert in the blank space are Rarely (A), Occasionally (B), Sometimes (C), Frequently (D), and Usually (E). For example, the first item in the instrument is: "When faced with a problem I ___ try to forget it." Per Duttweiler's goal to eliminate response set, 14 of the items are reverse scored and all 28 items fit on one page, printed front and back. Duttweiler (1984) completed several reliability and validity studies on the Internal Control Index. The internal consistency reliability for the field-test phase ($N = 548$) was .84 and, for the replication study ($N = 133$), it was .85. As part of the validity checks, two factor analyses were completed. The first yielded two main subscales of Self-Confidence and Autonomous Behavior, while the second produced very similar results. Each subscale consists of 14 of the instrument's 28 items.

Table 1 displays the internal consistency reliabilities (Alphas) for the Self-Confidence and Autonomous Behavior subscales and total instrument as used in this evaluation (single administration only). Data shows the 14-item Self-Confidence subscale Alpha to be .78, the 14-item Autonomous Behavior subscale Alpha to be .63, and the Alpha for the 28-item total instrument to be .80.

Feedback form. Participants were asked to complete this three-page form at the conclusion of the Institute. The first page contained 3 demographic items (name, date, and position), followed by 15 closed-ended items, which participants were to complete by using a scale of 1 (Not at all) to 5 (Very much). The next two pages contained 4 open-ended items each and provided ample space for participants' responses.

Interviews and observations. The AEL evaluator conducted on-site interviews with participants. These structured interviews took place during breaks, lunches, or after sessions were completed each day. Each interview consisted of five open-ended questions; responses were recorded on summary sheets. The AEL evaluator also attended most of the activities and observed both the proceedings and the participants' reactions. Written notes were generated from this activity, and the evaluator met on-site with the presenters during the Institute (days and evenings) to provide formative evaluation information.

Reflective activities. These activities included the "Role-Alike Caucus" and "Team Reflection Log". For the role-alike activity, participants were asked to assemble into one of six role groups (administration, social studies, English/language arts, mathematics, science, and other). Participants were then given a set amount of time to respond as a group to two reflective questions. For the team reflection activity, individual teams were asked to meet briefly following each day's activities (except for the last day) to debrief and think about their needs and concerns and then record their thoughts.

Videotaped presentations. As the culminating activity, each team was asked to make a curriculum unit presentation at the conclusion of the Institute, and each presentation was videotaped. Criteria for assessing this activity were distributed and discussed with participants during the week. The evaluators adopted the Institute's scoring rubric for their assessment of the teams' presentations.

Evaluation Procedures

This section describes how data collection took place for each of the activities described earlier and how resulting data were analyzed.

Surveys. Each of the four surveys were administered on either Monday or Wednesday of the Institute. Participants were given time during the morning sessions to complete the instruments, which the AEL evaluator distributed. On Friday, the Teacher Questionnaire and School as Community Questionnaire were re-administered to participants during the morning session. Each survey was administered to all those participants present at each administration.

The Teacher Questionnaire, School as Community Questionnaire, and School Products and Services Questionnaire were re-administered again in April 1997 to assess participants' changes (growth or decline) in relevant areas. These surveys were mailed to respondents on April 9 (with a cover letter and a self-addressed envelope), and a follow-up notice was sent in May. Of the 30 surveys mailed to participants, 19 usable questionnaires were returned for a return rate of 63%. However, not every returned survey had complete data and, thus, the number of matched pairs for the *t* tests of subscales and total instrument scores varied from 14 to 18.

Using SPSS statistical software program, the AEL evaluator created databases for each of the above surveys. Data were entered by AEL support staff, and were then cleaned and verified before analyses were conducted. The first step was to compute the internal consistency reliabilities (Cronbach Alpha) for each scale and subscale, where appropriate. Next, descriptive statistics were computed for each scale and subscale. The *t* tests by the matched pairs method were computed for each applicable pair of scale and subscale scores. For the Teacher Questionnaire and the School as Community Questionnaire, two *t* tests were completed for each subscale and total scale score (pretest to end of Institute and pretest to posttest). The alpha level was set at .10. Last, effect sizes were computed for each *t* test and Cohen's (1977) scheme for effect size descriptors was adopted.

Feedback form. The Feedback Form was administered by the AEL evaluator to 29 participants on Friday morning at the conclusion of the Institute. Again using SPSS, a database was created and data were entered. After cleaning, descriptive analyses were conducted for the 15 Likert-type items on the first page of the survey. For the next two pages of open-ended responses, another AEL evaluator read the responses and assigned them to appropriate categories or themes.

Interviews and observations. The on-site interviews were conducted by the AEL evaluator during the Institute. A summary sheet was completed for each of the 29 interviews, and these sheets formed the data for subsequent analysis. As well, notes taken for the evaluator's observations during the Institute were reviewed and included in subsequent feedback sessions with the trainers as formative evaluation. These oral formative evaluation data are not included in this report.

Reflective activities. The reflective activities were completed by participants during the Institute. Unlike the previous evaluation instruments, which were designed and administered by the evaluator, the reflective activities were designed and administered by the Institute staff. Then, the completed reflective activity outputs were collected and turned over to the evaluation staff as input to this evaluation. The role-alike activity took place early during the Institute, and completed group forms were submitted to the presenters. These summary sheets served as data for this analysis. Five team reflection logs from Sunday through Thursday also were gathered before the close of the Institute for subsequent analysis.

Videotaped presentations. The participants were asked to make team exhibitions, which were videotaped by Institute staff. These videos were reviewed and rated by the AEL evaluators using a scoring rubric provided by Institute staff and shared with participants earlier.

FINDINGS

This section presents the findings for each of the data collection techniques used in this comprehensive evaluation of the ITI 1996 Summer Institute, preceded by a discussion of the characteristics of the participants, gleaned from the demographic questions on three of the four surveys.

ITI Institute Participants

As stated above, 30 participants from four states attended the 1996 ITI Summer Institute. The majority of the participants (22) were from one county in West Virginia. They represented four high school teams comprised of four academic teachers and one vocational teacher from the county's technical education center. Two of these West Virginia teams also included a building administrator. A fifth team was from a junior high school in Tennessee and included four eighth grade teachers and the principal. Three ITI interns participated in the 1996 Summer Institute, one a faculty member from Radford University (Virginia) and two were curriculum specialists from the Oklahoma Department of Education.

Of the 30 institute participants, 24 were female and 6 were male. Their ages ranged from 24 to 62 years with a mode of 46.00 and a mean of 48.43. In terms of their educational level, one third possessed a master's degree plus 45 credits, 7 had a master's plus 30 credits, 4 had a master's plus 60 credits, and 3 had a master's degree. One participant each reported possessing a bachelor's degree, a bachelor's plus 15 credits, a bachelor's plus 45 credits, an educational specialist certificate, and a master's plus 15 credits. All 30 participants reported working full time in their jobs. With respect to subjects taught, 5 indicated vocational subjects; 4 each indicated math and/or computer, English/language arts, and history/social studies; 3 each indicated combination subjects, other (art, music, etc.), and administration; 2 indicated foreign languages; and 1 participant indicated science. One additional participant did not respond to this item.

Participants reported teaching a total of 14 different grade levels and/or combinations of grade levels. The 9-12 grade-level group had the largest number of participants (11). The 10-12 and 11-12 grade-level groups each had 3 participants in them, while all the others had just 1 or 2 participants. On balance, the group was very experienced at teaching, with a mean of 22.00 years and a maximum of 38.00 years. The minimum years of total teaching experience was 5.00, but the median was 22.50 and the mode was 19.00. The mean number of years of teaching in their current school was 8.57, with a minimum of 1.00 and a maximum of 22.00. The median years of teaching at their current school was 6.00 and the mode was 2.00.

Teacher Questionnaire

Tables 2 and 3 display the results of the three administrations (pretest, end-of-institute, and posttest) of the Teacher Questionnaire to the ITI Institute participants. The six subscale results are presented in Table 2, while the Teacher Questionnaire Total Score results are presented in Table 3. The number of participants with both scores for the *t* tests varied from 16 to 28 for the subscales and was 14 and 23 for the Total Score.

The Status subscale results are displayed first in Table 2.* At the end-of-institute administration, the mean score declined 0.89 to 22.74. The resultant *t* value was 2.22, which was significant at the .05 level. This is one of only two significant *t* values in Tables 2 and 3. The effect size was -0.247, which is "small" in Cohen's (1977) terms. The pretest to posttest score also showed a small decline (0.28) from 23.72 to 23.44. The *t* value was a very small 0.28, nowhere close to being significant. The effect size of -0.066 was "much less than small." The professional growth pretest mean declined 0.14 at the end-of-institute administration. The resulting *t* value was very small at 0.45, which was not close to being significant. At -0.072, the effect size for this first *t* test was "much less than small." The pretest to posttest score increased slightly (0.22) to 17.56. However, the 0.37 *t* value was not close to being significant. The 0.107 effect size was "less than small." The self-efficacy subscale mean score in the first *t* test increased 0.23 to 49.69, while the standard deviation decreased to 4.31. The resulting *t* value of just 0.36 was nowhere close to significance. The effect size of 0.047 was "much less than small." The mean score in the pretest to posttest *t* test increased 1.38 to 50.13. At 0.97, the *t* value was not significant, but the 0.253 effect size was "small" in Cohen's terms.

The Decision Making subscale results are the fourth set of rows in Table 2. In the first *t* test, the mean score increased 1.38 to 26.08 and the *t* value was 2.15, significant at the .05 level. This is the second significant *t* value in Tables 2 and 3. At 0.250, the effect size was "small." The second *t* test increased by 2.00 to 25.59, at 1.64, the *t* value was not significant, but the 0.367 effect size was "small" and the next to largest such value in Table 2. The first *t* test reported no change in scores—up or down. With no score difference, there was no *t* value nor effect size. For the second *t* test on the Impact subscale, there was a 1.18 increase in the mean score to 18.59 at posttest. The 1.31 *t* value was not significant, but the 0.334 effect size was "small." The Autonomy in Scheduling mean score in the first *t* test increased by 0.59 to 8.85. The 1.25 *t* value was not significant, while the 0.164 effect size was "less than small." The second *t* test showed a 1.42 increase in the mean. At 1.71, the *t* value was not significant. However, the pretest to posttest effect size of 0.376 is the largest such value in Table 2, although, according to Cohen's terms, it is labeled "small."

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*Due to rounding, slight discrepancies might occur between the Mean and Mean Score Difference columns.

Table 2:
Teacher Questionnaire Subscale *t* Tests and
Effect Sizes Over Three Administrations

Administration Time	Number of Pairs	Mean	Standard Deviation	Standard Error of Mean	*t* Value	Probability	Mean Score Difference	Effect Size
Status								
Pretest End of Institute	27	23.63 22.74	3.61 4.13	0.694 0.795	2.22	.035[a]	-0.89	-0.247**
Pretest Posttest	18	23.72 23.44	4.23 3.89	0.996 0.821	0.28	.781	-0.28	-0.066*
Professional Growth								
Pretest End of Institute	28	17.50 17.36	1.93 1.75	0.366 0.330	0.45	.659	-0.14	-0.072*
Pretest Posttest	18	17.33 17.56	2.14 1.58	0.505 0.372	0.37	.717	0.22	0.107*
Self-Efficacy								
Pretest End of Institute	26	49.46 49.69	4.84 4.31	0.950 0.844	0.36	.719	0.23	0.047*
Pretest Posttest	16	48.75 50.13	5.45 4.54	1.362 1.136	0.97	.348	1.38	0.253**
Decision Making								
Pretest End of Institute	26	24.69 26.08	5.55 5.20	1.088 1.020	2.15	.042[a]	1.38	0.250**
Pretest Posttest	17	23.59 25.59	5.47 4.78	1.326 1.160	1.64	.120	2.00	0.367**
Impact								
Pretest End of Institute	26	17.15 17.15	3.59 3.77	0.703 0.739	0.00	1.000	0.00	0.000
Pretest Posttest	17	17.41 18.59	3.54 2.72	0.858 0.659	1.31	.210	1.18	0.334**
Autonomy in Scheduling								
Pretest End of Institute	27	8.26 8.85	3.60 3.12	0.693 0.601	1.25	.221	0.59	0.164*
Pretest Posttest	17	7.71 9.12	3.75 2.91	0.911 0.706	1.71	.107	1.42	0.376**

*Effect Size = Less than small. **Effect Size = Small. [a]Significant at .05.

Table 3 displays the results of the three administrations of the Teacher Questionnaire in terms of the Total Score. The possible score could range from 38 to 190 points. For the 23 participants with complete data, the pretest mean increased 1.48 at the end-of-institute administration. At 0.82, the *t* value was not significant and, at 0.091, the effect size was "much less than small." The pretest to posttest mean score rose 8.43 points to 143.71. The *t* value of 1.65 was not significant. However, the effect size of 0.486, the largest such value for the Teacher Questionnaire, was labeled "small" but is very close to the lowest value for an effect size to be labeled "medium" by Cohen, which is 0.500.

Table 3:
Teacher Questionnaire Total Score *t* Tests and Effect Sizes
Over Three Administrations

Administration Time	Number of Pairs	Mean	Standard Deviation	Standard Error of Mean	*t* Value	Probability	Mean Score Difference	Effect Size
Total Scale Score								
Pretest	23	139.39	16.50	3.39	0 .82	.422	1.48	0.091*
End of Institute		140.87	15.42	3.22				
Pretest	14	135.29	17.34	4.63	1.65	.122	8.43	0.486**
Posttest		143.71	11.70	3.13				

*Effect Size = Less than small.

**Effect Size = Small.

School As Community Questionnaire

Table 4 Displays the results of the three administrations of the School as Community Questionnaire to the institute participants. The number of participants with both scores for the *t* tests varied from 18 to 27 for the subscales and was 24 and 18 for the Total Score.

The Shared Sense of Purpose subscale results are displayed first in Table 4. The end-of-institute mean increased 0.22 to 10.11. The resultant *t* value was a low 0.69, which was not close to being significant. The effect size was 0.122, which was "less than small." The pretest to posttest scores showed a very small increase of 0.05 to 10.32. The *t* value was extremely small at 0.09 and was close to unity. The effect size of 0.029 was "much less than small." The Collaborative Activity subscale pretest mean increased 2.38 to 17.77 at end-of-institute. This was the largest increase across the five subscales in the table. The resulting *t* value was 3.11, the largest in the table. This *t* value was significant at the .01 level, the only one in the table significant at that level. At 0.534, the effect size was "medium" and was the largest in Table 4. The pretest to posttest score increased 2.11 for the 19 participants, which was the second largest increase across the subscales. The *t* value was 1.86, which was significant at the .10 level. At 0.487, the effect size for the pretest to posttest subscale technically was "small," but is very close to the 0.500 value needed to be labeled "medium" by Cohen. The Collective Focus on Student Learning subscale mean score in the first *t* test increased 0.34 to 14.96. The resulting *t* value of 0.63 was not close to being significant and the 0.145 effect size was "less than small." For the 19 participants, their mean score increased 0.53 to 15.84, and the resulting *t* value of 0.70 was not close to being significant. However, the effect size of 0.232 was "small" for the pretest to posttest administration.

The Deprivatized Practice subscale results are the fourth set of rows in Table 4. With a possible score of 3 to 15 points, all four scores were less than 7 points. The first *t* test mean increased 0.15 to 6.69 and, at 0.45, the *t* value was not significant and the 0.058 effect size was "much less than small." Interestingly, the pretest to posttest scores were the same at 6.94, yielding no *t* value or effect size. The Reflective Dialogue mean score in the first *t* test increased 0.88 from 18.00 and the *t* value was 1.51, which was not significant. The effect size was 0.171, which was "less than small." Unexpectedly, the pretest to posttest mean dropped 0.42 to 18.63 (although the pretest mean for the 19 participants was the highest for this subscale). Also, both the standard deviation and the standard error of the mean decreased at posttest. At 0.39, the *t* value was very small and nonsignificant. The effect size of -0.107 was "less than small."

Table 4:
School as Community Questionnaire Subscale and
Total Scale *t* Tests and Effect Sizes Over Three Administrations

Administration Time	Number of Pairs	Mean	Standard Deviation	Standard Error of Mean	*t* Value	Probability	Mean Score Difference	Effect Size
Shared Sense of Purpose								
Pretest	27	9.89	1.81	0.347	0.69	.496	0.22	0.122*
End of Institute		10.11	2.46	0.472				
Pretest	19	10.26	2.10	0.483	0.09	.932	0.05	0.029*
Posttest		10.32	2.69	0.617				
Collaborative Activity								
Pretest	26	15.38	4.47	0.877	3.11	.005[a]	2.38	0.534***
End of Institute		17.77	4.17	0.818				
Pretest	19	16.00	4.33	0.994	1.86	.079[c]	2.11	0.487**
Posttest		18.11	4.37	1.003				
Collective Focus on Student Learning								
Pretest	26	14.62	2.35	0.461	0.63	.534	0.34	0.145*
End of Institute		14.96	2.41	0.472				
Pretest	19	15.32	2.24	0.513	0.70	.494	0.53	0.232**
Posttest		15.84	2.39	0.548				
Deprivatized Practice								
Pretest	26	6.54	2.58	0.506	0.45	.655	0.15	0.058*
End of Institute		6.69	2.54	0.499				
Pretest	18	6.94	2.90	0.683	0.00	1.000	0.00	0.000
Posttest		6.94	2.44	0.574				
Reflective Dialogue								
Pretest	26	18.00	5.16	1.012	1.51	.143	0.88	0.171*
End of Institute		18.88	4.79	0.939				
Pretest	19	19.05	3.92	0.900	0.39	.698	-0.42	-0.107*
Posttest		18.63	3.32	0.762				
Total Scale Score								
Pretest	24	64.83	13.48	2.752	2.09	.048[b]	3.96	0.294**
End of Institute		68.79	13.82	2.821				
Pretest	18	67.22	12.37	2.916	0.09	.927	-0.44	-0.036*
Posttest		66.78	17.15	4.042				

*Effect Size=Less than small. **Effect Size=Small. ***Effect Size=Medium.
[a]Significant at .01. [b]Significant at .05. [c]Significant at .10.

The last set of rows in Table 4 display the results for the Total Score, which could range from 22 to 110 points. For the 24 participants, the pretest mean increased 3.96 to 68.79. The resultant *t* value was 2.09, which was significant at the .05 level. The effect size of 0.294 was "small." Unexpectedly, the pretest to posttest mean decreased 0.44 to 66.78. The resultant *t* value was a miniscule 0.09 and was close to unity. The effect size of -0.036 was "much less than small."

School Products and Services Questionnaire

Table 5 displays the results of pretest and posttest administrations of the School Products and Services Questionnaire. The possible score on this instrument ranged from 8 to 40 and 18 participants had both scores. The pretest mean was 28.06 and its standard deviation was 4.64. The standard error of the mean was 1.095. The posttest mean increased 0.39 to 28.44, whereas the standard deviation decreased to 4.30. The standard error of the mean also decreased very slightly. The resultant *t* value was a very small 0.47, which failed to approach significance. The effect size was 0.082, much "less than small" in Cohen's scheme.

Control Questionnaire

Table 6 displays the results of the single administration of the Control Questionnaire. The Self-Confidence possible subscale score could range from 14 to 70 points. Actual scores ranged from a low of 47 points to a high of 66 points. The mode was 61.00 and the median was 59.50. The mean was 57.43, with a standard deviation of 6.55. The coefficient of variation (the standard deviation divided by the mean) was a low 0.114. The standard error of the mean on Self-Confidence was 1.195. The Autonomous Behavior scores ranged from a low of 41 to a high of 65. The modal score was 50.00, 11 points lower than that for the first subscale. The median was 51.50, 8 points lower than that for the first subscale. At 52.03, the mean was 5.40 points less than Self-Confidence. The standard deviation was approximately half a point less at 5.92. Interesting, the coefficient of variation value was exactly the same as above, although the standard error of the mean was a little smaller (1.081).

The last section of Table 6 shows the Total Scale Score statistics for the Control Questionnaire. Here, the possible scale score could range from 28 to 140 points. The actual scores ranged from a low of 91 to a high of 131, only 9 points from the maximum possible score. The modal score was 93.00, and the median was 111.50. The mean was 109.47, with a standard deviation of 10.81. The coefficient of variation was just 0.099, the smallest of the three such values in the table. The standard error of the mean was 1.974, the largest of the three in the table.

Table 5:
School Products and Services Questionnaire *t* Test
and Effect Size Over Two Administrations

Administration Time	Number of Pairs	Mean	Standard Deviation	Standard Error of Mean	*t* Value	Probability	Mean Score Difference	Effect Size
Total Scale Score								
Pretest	18	28.06	4.64	1.095	0.47	.643	0.39	0.082*
Posttest		28.44	4.30	1.014				

*Effect Size = Less than small.

Table 6:
Descriptive Statistics for the Control Questionnaire

Number Respondents	Minimum	Maximum	Mode	Median	Mean	Standard Deviation	Coefficient of Variation	Standard Error of Mean
Self-Confidence								
30	47.00	66.00	61.00	59.50	57.43	6.55	0.114	1.195
Autonomous Behavior								
30	41.00	65.00	50.00	51.50	52.03	5.92	0.114	1.081
Total Scale Score								
30	91.00	131.00	93.00	111.50	109.47	10.81	0.099	1.974

Feedback Form

The Summer Institute Feedback Form was administered on the last day to 29 participants: 23 teachers, 5 administrators, and 1 intern. The overall internal consistency reliability was .74.

The first 15 items asked respondents to rate the extent to which the Institute had met 15 separate evaluative topics. Table 7 displays the response option frequencies and percentages, means, and standard deviations for all 15 items. None of the items received a rating below a 4 on the 5-point scale. In fact, 3 of the items (#7, #11, and #12—all facilitator-related) received consistent ratings of 5 from all participants. Similarly, all 15 means were above 4.75, and standard deviations ranged only from 0.00 to 0.44.

Question 16 asked how respondents would describe the Institute experience to others. Out of the 41 comments generated, almost half (18, 44%) described it as positive (or similar terms); i.e., "A well-planned, carefully orchestrated, flexible workshop." The next frequent theme was motivating/rewarding (8, 22%). In Question 17, participants were asked what ideas, strategies, activities, or resources were most meaningful. A total of 76 comments was provided. The most frequently mentioned topic was team building (15, 20%), followed by the rubrics (10, 13%). Respondents were asked for major strengths of the Institute in Question 18. Of the 54 comments provided, the most frequently mentioned strength was team building (14, 26%), followed by new information/ideas (11, 20%) and organization/implementation (10, 19%). Question #19 asked for recommendations for future institutes. 31 comments were generated for this question. Almost half (13, 42%) focused on adjusting the agenda or schedule. These recommendations ranged from giving participants more free time in the evenings to adding more evening activities, as well as adding more time for discussion.

In Question 20, participants were asked how the Institute had changed the way they thought about ITI. Of the 28 comments, 8 (29%) indicated a positive change, and 5 participants each (18%) mentioned a new belief or reinforcement of ITI ideas and seeing the "big" picture of what ITI comprises. Respondents were asked how they would use what they learned in Question 21. Of the 49 comments, 13 (27%) mentioned incorporating ideas and activities (unspecified) in the classroom, while another 13 focused on team-building with teachers. Eleven of the comments (22%) identified specific activities to incorporate, such as rubrics, problem-solving, hats, cooperative learning, multiple intelligences, assessment, and journaling. Question 22 asked respondents how AEL could continue supporting curriculum integration efforts. Of the 37 comments, the two main suggestions were keeping in touch with participants (12, 32%) and providing new information and resources as available (11, 30%). Finally, Question 23 asked for other comments. Eleven of the 36 comments (31%) were congratulatory. Nine of the comments (25%) mentioned positive aspects of the facilities, while 7 (19%) focused on negative aspects. And, 7 comments (19%) were simply "thank-you's."

Table 7:
Participants' Responses to 15 Evaluative Topics
on the End of Institute Feedback Form ($N = 29$)

Items	Response Option Frequencies and Percentages					Mean	SD
	Not at all 1	2	3	4	Very much 5		
1. Had clear outcomes.	–	–	–	2 6.9%	27 93.1%	4.93	0.26
2. Promoted team building.	–	–	–	1 3.4%	28 96.6%	4.97	0.19
3. Caused me to reflect on my practices.	–	–	–	4 13.8%	25 86.2%	4.86	0.35
4. Caused me to examine some of my attitudes.	–	–	–	7 24.1%	22 75.9%	4.76	0.44
5. Facilitated development of new skills.	–	–	–	1 3.4%	28 96.6%	4.97	0.19
6. Was relevant to my needs.	–	–	–	5 17.2%	24 82.8%	4.83	0.38
7. Was conducted in a positive manner.	–	–	–	–	29 100.0%	5.00	0.00
8. Had activities that were well sequenced.*	–	–	–	4 14.3%	24 85.7%	4.86	0.36
9. Had activities that reinforced content.	–	–	–	5 17.2%	24 82.8%	4.83	0.38
10. Included appropriate examples.	–	–	–	4 13.8%	25 86.2%	4.86	0.35
11. Was conducted by competent trainers.	–	–	–	–	29 100.0%	5.00	0.00
12. Was conducted in a professional manner.	–	–	–	–	29 100.0%	5.00	0.00
13. Had meaningful involvement of participants.	–	–	–	2 6.9%	27 93.1%	4.93	0.26
14. Stimulated me to use the concepts/skills/materials.	–	–	–	3 10.3%	26 89.7%	4.90	0.31
15. Provided materials/ideas that will be useful to me.	–	–	–	1 3.4%	28 96.6%	4.97	0.19

*$N = 28$.

Interviews

The AEL evaluator conducted individual interviews with 29 participants at some point during the Institute—during breaks, lunches, or evening hours. The interviewer first asked how much decision-making authority the respondent had over *what* and *how* material was taught. Seven of the 29 respondents felt they had total control in deciding what was taught. Six more respondents noted they had total control over *what* was taught, as long as it was within state guidelines/curriculum—while 5 others perceived they had no control over what was taught, indicating it was based on state guidelines. Six others said they had a great deal of freedom in selecting what to teach, and an additional 3 said they had limited authority. When reporting how much authority they had in deciding *how* material was taught, the majority (17) said they had total control in this area, 7 said they had a great deal of control, 2 said they had limited authority, and 1 indicated no authority in this area. The second interview question asked respondents to describe ways they were helping students to become independent learners; 46 ways were provided. Critical thinking/analytical skills was most frequently mentioned, by 9 of the 29 participants. The second topic was activities and/or projects, mentioned by 5 participants. Four respondents each described cooperative learning, individualized learning, and computer training. Next, participants were asked how their team members would describe students' learning. Of the 29 respondents, almost half (13) felt their team members would say student learning was positive or average. Another 8 felt team members would say that learning differs by students, according to their individual abilities.

For the fourth question, the evaluator asked participants how they would judge their school team at collaborating on professional-type issues. Almost half (12) of the participants judged their team's collaboration to be excellent or very good. Seven judged the collaboration to be good. Four other participants felt their teams were learning to collaborate. Last, the evaluator asked participants to rate their school faculty on readiness and willingness to accept change. Almost half of the respondents (13) noted it would be difficult, citing reasons such as "old" faculties, constantly hearing about new things, lack of unity, negative attitudes, skepticism, and resistance. Seven participants felt about half of their faculty would accept changes, with several noting that their schools had implemented so many changes lately that it may impact teachers' willingness to try anything else. Alternatively, 7 other participants felt the majority of their faculty were ready and willing to implement school change.

Role-Alike Caucus Sheet Reflective Activity

For this activity, participants were to assemble in role-alike groups. The six role groups included administration, English/language arts, mathematics, science, social studies, and other (including family/consumer science, foreign language, marketing, music, and vocational education). For each group, participants were to select a facilitator, a timekeeper, and a recorder, and were to answer two questions.

The first question was, "What to you seems most promising by way of new approaches to teaching and learning?" Looking at responses across roles, five of the groups mentioned learning styles and strategies (including higher-level thinking, group learning, questioning techniques, cooperative learning, and hands-on learning), and four groups mentioned utilizing new technology. Three groups mentioned increasing student interest and participation, and two groups each mentioned applying learning to daily life/real world, utilizing school to work, and improving communication skills.

The second question was, "What special opportunities and challenges are associated with collaborating with others in designing interdisciplinary studies?" Looking at responses across groups, several issues seem to be prevalent. Similar challenges included time restraints, scheduling and structure issues, and persuading staff to become risk takers. Similar opportunities included collaboration, networking, and sharing resources and ideas.

Team Reflection Logs

In this activity, the six teams were asked to complete a Team Reflection Log at the close of each day's sessions (except for the last day). The items for each log were tailored to the content of the day's events. The sixth team, composed of interns, only completed a log for Sunday, which is not included in the following analysis.

Sunday. This daily log asked each team for the following information: Which of today's activities helped set the stage for work at this Institute? What can we do/provide/change to better meet your team needs and interests? What are your team's "next steps" in designing interdisciplinary teamed instruction? Four adjectives to describe our feelings. Other things we'd like to say.

When responding to which of the activities helped set the stage for work at the Institute, clearly, the "hands" activity seemed to be the definitive activity to begin the Institute. When asked what could be done to better meet team needs and interests, each team had a different response from "more time" to "two copies of each handout." The third item asked teams what their "next steps" were in designing interdisciplinary teamed instruction. Responses ranged from Team A, "learning how to design and plan a lesson," to Team D "We don't know yet—we need to see models of successful ITI,"and, Team E mentioned "implement strategies you teach us, find out pilot area for integration for our school." In providing adjectives to describe their feelings, the five teams were similar in their feelings of being a little wary of what was taking place, while at the same time trying to stay open-minded and positive about the outcome. Finally, when asked for other comments, Team A replied, "We are not negative. We are realistic about problems we have no control over to implement the program." Team B asked for "more literal questions, more clarification." Team C said, "This session was a great kick-off. It was well-paced. The leaders are easy to relate to/approach." Similarly, Team D replied, "You are very organized. You seem very knowledge[able]." Team E did not provide comments for this item.

Monday. Reflective log items for Monday included: Which of today's activities best helped you prepare for your team role and responsibilities at the Institute? What can we do/provide/change to better meet your team needs and interests? What are your team's "next steps" in developing your capacity for teamwork? Four verbs to capture our feelings. Other things we'd like to say.

Two activities that best helped them prepare for their team role and responsibilities elicited the six "hats" and mousetrap vehicle construction most often. When asked what could be done to better meet team needs and interests, two teams remarked about adjusting the schedule while the others were idiosyncratic. In identifying their next steps in developing teamwork capacity, two teams mentioned steps to become a better team during the week while the other three teams stated aspects that dealt with units/curriculum in the upcoming school year. When asked to list four verbs that captured their feelings, analysis of the responses indicates that it seems that all teams were actively involved in collaborative development activities. Finally, when asked for other comments, responses ranged from "thanks," "great organization," to "this is frustrating."

Tuesday. The items included: Which of today's activities best prepared you to make decisions about interdisciplinary teamed instruction? What can we do/provide/change to better meet your team needs and interests? What are your team's "next steps" in terms of designing an interdisciplinary course or unit? Four nouns that sum up our feelings. Other things we have to say.

In response to the first question, the "fertile themes" article was mentioned most often followed by a set of individual responses. When asked what was needed to better meet team needs and interests, all responses were positive about the institute and the assistance provided. In describing next steps for designing an interdisciplinary course or unit, four teams named adding activities to the unit and the other team wrote "children input." In listing four nouns that summed up team feelings, all teams seemed to be "in gear" as the creative process continued. When asked for other comments, Teams A and D said they were "beginning to see the light," while Team B said "thanks for the evening off." Team C noted "we see progress today" and Team E replied, "You, by the way you run the workshop into 90 minute blocks of time, have done a wonderful job of modeling how to efficiently use the time on block scheduling. You have changed activities often enough to keep our interest."

Wednesday. These items included: Which of today's activities best helped you define active learning and authentic tasks? What can we do/provide/change to better meet your team needs and interests? What are your team's "next steps" in terms of designing challenging and engaging tasks? Four words to describe our feelings today. Other things we have to say.

When asked which activities best helped them define active learning and authentic tasks, three of the five teams mentioned the videotape of classrooms. When asked what was needed to better meet team needs and interests, more time was mentioned by two teams and the other responses were idiosyncratic. In identifying next steps for designing challenging and engaging tasks, Team A mentioned "reflect on theme—revise and refine as needed." Team B listed "student input, group

planning," while Team C said "fine tune our project." Team D noted a need to "review closely today's plans to develop the tasks" and Team E said to "design staff development in int. curriculum for faculty." In providing words that described their feelings, responses indicated that, while team energy seemed to be waning, each team was close to a final product. Other comments were all positive except one that expressed concern about the Friday presentation.

Thursday. These items included: Which of today's activities best helped you connect learning and assessment? What can we do/provide/change to better meet your team needs and interests? What are your team's "next steps" in terms of building assessment into instruction rather than adding it on? Our rubric for today's program is. Other things we'd like to say.

When asked which activities best helped the team connect learning and assessment, by their responses the rubric activities helped all teams connect the concept of learning with assessment. In responding to the item asking what could be done to better meet team needs and interests, two teams made positive assertions, two teams asked for copies or a copy machine, and the other team made an idiosyncratic remark. In describing next steps for building assessment into instruction (rather than adding it on), Team A said, "We want to plan to use more authentic assessment rubrics and less traditional methods." Team B noted, "After administering the initial questionnaire to students in Sept., we plan to have students generate guidelines for the interviews of family members." Team C said they would "continue work at home with faculty and other team members [and] try to integrate unit with other teachers and integrate the assessment." Team D's next steps were to "reevaluate task, adjust task, agree." And, Team E said, "Have students develop their own rubrics and use several alternative assessments (w/ rubrics) in each grading period." When describing their rubric, four of the teams seemed delighted with their final rubrics, Team A didn't seem to be quite as pleased. In providing other comments, all teams made positive remarks and three teams included a "thanks" or "thankful" comment.

Videotaped Presentations

All six teams developed final presentations and presented them on the last morning of the Institute. These "culminating exhibitions" were to capture and convey three key concepts: (1) Reflect on your learnings and experiences at this Institute; (2) What key messages will you bring back to share with colleagues; and (3) How has your work together this week put a mark on how you view your role as teacher in the learning process? Teams could select one of the following themes for their presentation: TV news broadcast, TV sitcom, home page on the internet, TV commercial, TV/radio talk show, magazine, courtroom trial, game show, mystery theater, or broadway musical.

Each team's videotaped presentation was reviewed by evaluators and assessed using a "Holistic Rubric Based on Clustered Activities." This rubric included four levels: novice, apprentice, practitioner, and expert.

The six teams' culminating exhibitions varied widely in their format, length, and quality, although they were uniformly entertaining and obviously fun for both presenters and the audience. In terms of the format for the team presentations, two were broadway musicals, one was a TV musical (because of the addition of an ITI commercial), one was a TV news broadcast, one was a TV shopping network, and one was a TV game show ("The ITI Feud"). The shortest presentation was just 2 minutes 5 seconds, while the longest was 13 minutes. All of the presentations included some type of visual aid or prop such as handmade signs, pieces of a large puzzle, large maps, teaching aids, or overhead transparencies. The presentations varied in their "smoothness," probably reflecting more or less rehearsal time or lack of experience in acting and/or singing. However, the chosen format, timing, or quality appeared to not hinder the audience from enjoying some teams' presentations and joining in singing songs or repeating verses when requested.

Charged with conveying three key concepts in the presentation, the six teams selected a variety of concepts, but there was remarkable similarity with one concept. Specifically, the concept of multiple intelligences was included in five of the six team presentations, and it dominated the time for two of those teams. Most teams used different colored hats to reflect different intelligences; either real hats or those made of construction paper or drawn on overhead transparencies. Four concepts were mentioned or portrayed in at least two presentations: teamwork, interdisciplinary units, assessment/rubrics, and facilitation roles. Other concepts in the presentations included "table talk" rules, "hands of traits," transfer of learning, thinking of teaching and learning differently, and elements of a good teaching unit. The evaluators could not identify a third key concept in one team presentation, which was the lowest rated exhibition.

Of the six presentations, two were judged to be at the Expert level, three at the Practitioner level, and one at the Apprentice level. Overall, team members seemed to be interested in and knowledgeable of the content of the 1996 ITI Summer Institute.

CONCLUSIONS

A number of conclusions can be drawn from the findings presented earlier. These conclusions are presented by type of data collection, followed by overall conclusions.

Teacher Questionnaire. We conclude that the 1996 ITI Summer Institute had some effect on the Self-Efficacy, Decision Making, Impact, and Autonomy in Scheduling subscales after a period of 1 year. For the Total Scale, the Institute seems to have had some effect, which was almost moderate after 1 year. The Institute had little effect on the Status and Professional Growth subscales after 1 year.

School as Community Questionnaire. We conclude that the 1996 ITI Summer Institute had a moderate effect on the Collaborative Activity subscale and some effect on the Total Score by the end of the Institute. The Institute had some effect on the Collaborative Activity and Collective Focus on Student Learning subscales after a period of 1 year. The Institute had little effect on the Shared Sense of Purpose and Reflective Dialogue subscales and the Total Score after 1 year. The Institute had no effect on the Deprivatized Practice subscale after 1 year.

School Products and Services Questionnaire. We conclude that the 1996 ITI Summer Institute had little effect on the Total Score after a period of 1 year.

Control Questionnaire. We conclude that the 1996 ITI Summer Institute teachers scored higher on the Self-Confidence subscale in comparison to the Autonomous Behavior subscale. And, when the subscales were combined, the teachers scored moderately high on the Total Score.

Feedback Form. We conclude that participants felt the 1996 ITI Summer Institute greatly met its intended outcomes. They found the Institute to be well planned, informative, motivational/inspirational, and worth the time and money invested. The most meaningful Institute activities for participants were team building, assessment rubrics, and multiple intelligences; major strengths were team building, information provided, and the organization/ implementation. The Institute positively changed participants' thinking, resulting in increased belief in and reinforcement of ITI principles, and heightened awareness of its potential uses. Furthermore, participants were eager to incorporate their new knowledge back in their respective schools via rubrics, multiple intelligences, cooperative learning, and team building.

Role-Alike Caucus Activity. We conclude that participants of the 1996 ITI Summer Institute felt the most promising new approaches to teaching and learning included technology and learning styles and strategies. These styles and strategies included higher-level thinking, questioning techniques, group learning, cooperative learning, and hands-on learning. We also conclude that collaborating to design interdisciplinary studies brings about opportunities to those involved

including collaboration, networking, and sharing new resources and ideas with others. And, conversely, this collaboration invokes challenges such as time restrictions, scheduling problems, and persuading others to become risk takers.

Interviews. We conclude that most participants of the 1996 ITI Summer Institute felt a great deal of freedom in deciding what and how curriculum is taught in their respective schools. Participants also advocated using strategies such as critical thinking and analysis skills, activities and projects, cooperative learning, and computer training to help students become independent learners. The majority of Institute participants described student learning in their respective schools as positive or average, with individual achievement levels differing by student. Most teams felt that their level of collaboration was good, if not excellent. About half of the participants felt their respective school faculties were ready and willing to implement school change. Another fourth felt that about half their faculties were ready at this point, but the remaining fourth felt implementation would be difficult at the present time.

Team Reflection Logs. We conclude that, as the 1996 ITI Summer Institute progressed, participants moved from learning and gathering information to clarifying roles and collaborating to designing activities to reviewing and revising and, finally, to integrating the unit. As a result, their emotions ranged widely from curiosity, apprehension, and anticipation at the beginning to enthusiasm and understanding midway through to exhausted, relieved, and productive at the conclusion of the Institute. The Institute served as a positive modeling experience for participants, and they felt a sense of accomplishment upon mastering assessment rubrics. Further, participants felt the most beneficial activities of the Institute included multiple intelligences, rubrics, the mousetrap vehicle, and jigsaw.

Overall Conclusions. We conclude, from the triangulation of the data garnered from the mixed-method approach, that the 1996 ITI Summer Institute had the greatest impact on participants in the following areas: collaboration, cooperative learning, assessment rubrics, multiple intelligences, and team building. Participants were overwhelmingly positive in their valuation of the Institute, which strengthened their belief in and commitment to ITI concepts and practices. Finally, after reviewing the outcomes of this comprehensive evaluation, we conclude that the quantitative instrumentation utilized may not have fully captured and documented institute effects.

RECOMMENDATIONS

Several recommendations are offered, based upon findings and conclusions presented earlier.

We recommend that the program continue offering ITI summer institutes to interested educators. Suggested improvements for future institutes might include more explanatory content, more time for individual activities, and slight scheduling adjustments. Also, we recommend that the program continue supporting curriculum integration efforts by keeping in touch with participants and providing new resources when available. One approach for this communication and information provision that is already being implemented by ITI staff is the use of their electronic ITI listserv, which connects interested educators from around the world.

We recommend that the program continue evaluating such institutes, with both qualitative and quantitative methods. We do not feel the need, however, for such an intensive, comprehensive evaluation effort as presented in this report. The extensive evaluative methodology did not seem to be efficacious, in that the amount of information gained did not seem to be worth the prodigious amount of time spent gathering and analyzing data. Further, the utility of the three quantitative instruments used in this evaluation is questionable, since these surveys did not specifically assess the concepts and constructs undergirding the ITI activities and philosophies. We recommend that staff locate and secure other relevant instrumentation for future endeavors. And, staff might even consider alternate ways of focusing evaluative efforts to better document ITI's ultimate impact on student outcomes. Staff might want to investigate in depth why some schools succeed in their ITI endeavors and report continuing implementation, while others apparently do not demonstrate similar success. One such approach might be site visits at selected ITI schools whose faculty have participated in previous summer institutes.

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Appendix

Institute Agenda

ITI Institute Agenda

Sunday

Theme: Introductions

(Introductions to AEL, the Institute and facilitators. Getting acquainted with our own team members, and meeting the other teams.)

3:00 p.m. - 5:00 p.m.	Registration and Check-in--Norwood Hall
5:00 p.m. - 6:00 p.m.	Dinner--Dalton Hall
6:00 p.m. - 8:30 p.m.	Welcome Overview of Institute and Expectations Introductions Team Roles, Team Needs, Networking, Journaling (Commonwealth Room, Heth Hall)

For the remainder of the week, all meals are in Dalton Hall and all working sessions are in Heth Hall.

Monday

Theme: Team Roles and Responsibilities

7:30 a.m. - 8:30 a.m.	Administrator Breakfast
8:30 a.m - 10:15 a.m.	Developing Teams: Roles, Rules, Relationships, Results
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 12:00 a.m.	Tools to Support Teamwork Concurrent Sessions: Conflict Resolution (Cascades) Tools for Testing Consensus (Claytor) Group Roles and Functions (New River)
12:00 p.m. - 1 p.m.	Lunch
1:00 p.m. - 4:00 p.m.	Team Exploration and Debrief
4:00 p.m. - 5:00 p.m.	R & R
5:00 p.m. - 6:00 p.m.	Dinner
6:00 p.m. - 7:30 p.m	Team Planning and Reflections
7:30 p.m. - 8:30 p.m.	Ice Cream Social

Tuesday

Theme: Integration Models and Processes

Designing and developing powerful and meaningful learning activities in support of an integrated unit.

7:30 a.m. - 8:30 a.m.	Administrator Breakfast
8:30 a.m. - 10:15 a.m.	Five Stages of Integration Reviewing and Rating ITI Examples
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 12:00 a.m.	Discovering "Fertile" Themes
12:00 p.m. - 1:00 p.m.	Lunch
1:00 p.m. - 2:00 p.m.	Team Applications: Unit Design Generating Learner Goals Identifying Powerful Learning
2:00 p.m. - 4:00 p.m.	Team Planning Time: Beginning the Unit Development-- Selecting a Theme Framing Essential Questions Designing Powerful Learning Experiences
4:00 p.m. - 5:00 p.m.	R & R
5:00 p.m. - 6:00 p.m.	Dinner
6:00 p.m. - 7:30 p.m.	Evening Session Videos. Discussion. and Reflection

Wednesday

Theme: Building Activities That Link with Assessment

A well designed activity IS an Assessment--linking learner activities with the culminating performance.

7:15 a.m. - 8:00 a.m.	Administrator Breakfast
8:00 a.m. - 9:15 a.m.	Learning Principles and Authentic Tasks
9:15 a.m. - 10: 30 a.m.	Concurrent sessions: Cooperative Learning (Clayton) Problem-Based Learning (New River) Multiple Intelligences (Cascades.

10:30 a.m. - 10:45 a.m.	Break
10:45 a.m. - 12:00 a.m.	Concurrent Sessions: Cooperative Tasks (Claytor) Community-based Learning (New River) Writing to Learn (Cascades)
12:00 p.m. - 1:00 p.m.	Lunch
1:00 p.m. - 2:00 p.m.	Structuring a Powerful Learning Experience
2:00 p.m. - 4:00 p.m.	Team Planning: Incorporating Authentic Tasks into Your Unit Team Reflections
4:00 p.m. - 6:30 p.m.	R & R
6:30 p.m. - 8:30 p.m.	Institute Picnic on the Lawn

Thursday

Theme: Focusing on Performance

7:30 a.m. - 8:30 a.m.	Administrator Breakfast
8:30 a.m. - 12:00 p.m.	Understanding Alternative Assessment
9:30 a.m. - 10:15 a.m.	Constructing Scoring Rubrics
12:00 p.m. - 1:00 p.m.	Lunch
1:00 p.m. - 4:00 p.m.	Team Planning Time: Construct a Rubric to Assess Student Performance Construct a Rubric to Assess Unit Performance Team Reflection
4:00 p.m. - 5:00 p.m.	R & R
5:00 p.m. - 6:00 p.m.	Dinner
6:00 p.m. (as needed)	Team Planning: Prepare Team Exhibition

Friday

Theme: Culminating Performances

7:30 a.m. - 8:30 a.m.	Administrator Breakfast:
8:30 a.m. - 9:00 a.m.	Planning for Re-entry
9:00 a.m. - 9:30 a.m.	Team Action Plans
9:30 a.m. - 10:15 a.m.	Team Exhibitions
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 11:15 a.m.	Team Exhibitions (continued)
11:15 a.m. - 12:00 p.m.	Presentation of Certificates
	Program Evaluation

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