

**SKILLS ACROSS THE CURRICULUM:
AN INTEGRATED CURRICULUM-INSTRUCTION
PROCESS FOR DEVELOPING 21ST CENTURY
SKILLS***

**BY
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Introduction

The creation of an integrated curriculum approach is not an easy task. School cultures tend to emphasize the individual nature of teaching, yet the design of an integrated curriculum comes with shared curriculum visions and a consensus on key learnings, outcomes, and instructional emphases across the curriculum. A focus on content integration is often difficult because many teachers feel a strong need to emphasize excellence without sacrificing any content within their subject area.

Because there is likely to be an underlying, implicit school-wide consensus that the teaching of skills is important, and that everyone shares in making skill learning happen, skill instruction can often provide a basic framework for curriculum integration. This type of integration, however, must originate from the insights and beliefs of the school staff, as they develop consensus and agreement on key skills and on the nature of the integration projects, based on the culture and context of the school situation.

The *Integrated Skill Development Process (ISDP)* is an effort to help school district staff form a consensus as to the key skills that students must master for living in today's and tomorrow's world. Representatives of the staff and key administrators form a group that dialogues, debates and draws conclusions about key skills, with ongoing input from the rest of the faculty. Once the skills are developed and shared, the process enables the staff to create projects and programs that facilitate the development of these skills across the curriculum. The result is a powerful school based process that fosters clarity of outcomes, analyses of school practice, and curriculum integration. The process fosters collaborative, interconnected approaches to curriculum development, and may ultimately lead to strengthened, articulated, interdisciplinary curricular approaches at all levels.

Origins and Assumptions of The ISDP

A number of years ago, the Bucks County Intermediate Unit, a regional Educational Service Agency in Bucks County, PA, began a collaborative venture with its thirteen school districts called the Integrated Skill Development Process (ISDP). The multi year project proposed the development of pilot programs with schools and districts that focused on an interdisciplinary approach to skill development. The process is based on the belief that the learning of key skills, some of them newly emphasized in a knowledge and technologically based world, are critical for 21st century living. For example, the P21 project has identified a number of key skills that students must develop in order to live well and do well in a 21st century world, including communication, critical and creative thinking, collaboration, information literacy, and technological expertise. Many educators believe that these and other critical skills should be an important focus for school-wide instruction, and schools need a consensus on the important skill outcomes in order to strengthen skill instruction across the curriculum.

Although nationally there is an emphasis on skill instruction, often a school's curriculum does not promote the accumulation of experiences necessary for long-term skill development. Only in some areas, when instruction is comprehensive and cumulative (such as systematic basal text instruction from a series that supports cumulative learning), is there a focus on cumulative skill development. Discrete worksheets, and lack of school consensus on key skills hinder the cumulative development of skills on a long-term basis. The ISDP tries to overcome the lack of coherent development of skills by creating a clear and accepted school or district wide consensus on key skills, leading to an articulated skills program across the curriculum.

The project calls for teams of key school personnel to meet regularly, from five to seven afternoons each year. During the first year the group builds a shared consensus on a highly selective set of skills that become key (but not the only) school outcomes. The skills are continually reviewed by all staff and revised based on their input. Once selected, recommendations for implementing an integrated approach in many subject areas are developed, along with plans for gradual curricular implementation. Gradually, over several years, an integrated approach to skill development is instituted based on these recommendations.

The Integrated Skill Development Process (ISDP)

Initially, four schools from two Bucks County districts agreed to participate in this process, one elementary, two middle schools, and one senior high school. In each school, the principal agreed to participate and to release key staff members for five to seven half -day sessions during the first year of the project. The elementary team consisted of representatives from each grade level K -6, along with the principal, reading specialist, and librarian. The middle and senior high teams consisted of subject area representatives, reading teachers and the principal.

The process allows for open dialogue and discussion through a series of phases explained below. The process is enhanced through readings from a variety of sources and the examination of instructional materials, where appropriate. The phases include the following:

Phase I: Exploration Of Skills

During this phase of the project, the group members explore their views of skill development, read articles and other materials that help to define critical skills in a 21st century world, and then brainstorm and define key skills to be given priority in the school. Discussion and dialogue are intense during these initial meetings. After the facilitator provides some national data and the group members read about skill achievement and future skill needs of students, members discuss and explore their views on the importance of teaching skills and whether skills should be taught through discrete, separate instructional approaches or through a holistic, integrated curriculum approach. Group

members compare and contrast their views on these issues, and to begin to explore ways to create a more cumulative, integrated approach to the teaching of skills.

The above discussions determine whether there is general agreement among the group members on the importance of skills instruction and their integration into the curriculum. Without this agreement, it is impossible to proceed to the next task, and the principal and group members must decide whether or not to continue this process. If there is agreement to continue, then the group members begin a new task - to brainstorm a list of skills that they believe students should be able to perform when they leave their school. As they work in small groups, their task is to make the list as long as possible, without comment or judgments. Lists are then combined into one long list and examined for duplication. Occasionally, if critical skill areas seem to be missing from the list, the facilitator asks the group to reconsider the list of skills and decide whether or not to add to it. Readings and resources are referred to and/or provided when questions arise and clarification is needed.

Figure one illustrates a beginning list of brainstormed skills from one of the middle schools in the project.

[Insert Figure One here]

Phase II: Selecting Key Skills

In order to provide a set of a few significant skill areas, participants are then asked to categorize the skills. As the lists are categorized, key skill areas are defined and analyzed. As this process unfolds, readings about key skill areas are provided if necessary. In one case, after the list of key skill areas were created, members of the group were asked to take responsibility for collecting more information and providing an initial definition for discussion. The resulting lists are continually refined and shared with other faculty members for their review and input. The outcome of the groups' efforts at each school were a clear and highly sophisticated set of from five to ten key skill areas for school wide development, such as logical thinking, inquiry, problem solving, research, organization and study, writing, interpretation, life skills, oral communication, creative problem solving and others. For example, the list of beginning skills, illustrated in figure one, was honed and polished by the same middle school staff into a clear and concise list of ten key skill areas, as illustrated in figure two.

[Insert Figures 1 and 2 here]

Phase III: Comparing Ideal Visions and Actual Practice

Once the critical list of skill areas are developed, schoolwide data on current instruction for each area are collected for each subject, and the group develops a data-based analysis of skill instruction for the selected skills. For example, the high school team analyzed at

FIGURE ONE
A BEGINNING LIST OF BRAINSTORMED SKILLS
BY A MIDDLE SCHOOL FACULTY IN BUCKS COUNTY, PA

Measurement Skills

Lab Functioning-Small Group Work

Find topic and main idea of reading selection in content area

Word Attack skills -structural analysis skills

Test taking skills

Independent study skills (e.g. review for ten minutes)

Cursive writing skills (for some students)

Writing in full sentence answers

Outlining

Notetaking

Identifying important words -- pick out meaning

Use card catalogue

Reader's guide

Reference skills

Problem solving skills, decoding

Preview and analyze chapters -highlights, concepts, what's it about

Use of SQ3R (or comparable approach)

Make inferences

Difference between fact and opinion

Computer skills

Writing research paper -doing all the parts

Caring and cooperation skills

Socialization skills

Graphing, using maps, charts, cartoons

Self-discipline

Use text effectively on captions and pictures

Following directions

Listening skills

Drawing conclusions with evidence and reasons

Vocational skills

Brainstorming

Making predictions

Imagery

FIGURE TWO
BUCKS COUNTY MIDDLE SCHOOL
FINAL LIST OF KEY SKILL AREAS

FIVE PRIMARY STUDY SKILL STRATEGIES:

Effective use of the SQ3R Method of study (or a variation). The SQ3R strategy helps students to organize their study of text and other materials, and to make study more meaningful.

Outline and Take Notes. Students will learn specific methods for outlining and notetaking.

Active Listening. A variety of strategies will be shared with students to help them actively listen in lectures, discussions, etc.

Memory and Organization Techniques. Students will increase their capacity to remember material, in part through better techniques for organizing material using meaningful strategies.

Manage Time Effectively. Students will learn to use techniques that help them to manage their time, especially the WHAT technique that is currently taught and used in seventh grade.

FIVE ADDITIONAL KEY SKILLS

Write Research Reports. Students will be able to effectively conduct and write research through a variety of subject areas.

Use Critical Thinking/Problem Solving Skills. Students will be able to effectively think critically (classify, compare, contrast, use logic, etc.) and to solve problems (understand problem situations, explore alternatives, determine solutions, etc.)

Interpret and Develop Graphs, Charts, Maps, Cartoons. Students will be able to use a variety of interpretation skills in all subject areas.

Use Writing Skills. Students will be able to write essays, stories, poems, and so on through a variety of assignments and tasks in all subject areas.

Use Oral Communication Skills. Students will be able to communicate with each other and with teachers through question/answer techniques, discussions, small group learning, and other strategies.

which grade levels, and in which subjects, research skills were being taught and utilized. At the same time, the group develops an ideal vision for the teaching of each skill area in their school, such as the teaching of research skills and the writing of research reports at an ever more sophisticated level through each of the high school grades and subject areas. These two, placed side by side, help the group to further refine their understanding of the skill areas and prepares them to make recommendations for implementing an integrated approach to the teaching of skills.

Phase IV: Recommendations For Change and Beginning Assessment Analysis

At the end of the first year of the project, based on the group's perceptions of the gaps between ideal visions and actual practice, each school develops a set of practical recommendations for changing the curriculum and assessment processes to promote skill integration. Because skill development is based, in part, on the shared perceptions and needs of the school community and the school culture, leadership, and general situational context, the recommendations are generally varied and diverse. In the pilot schools, the implementation plans ranged from the development of a school wide thematic unit in the elementary school to a plan for coordinating the teaching and assessment of study skills for seventh grade students. For example, one school planned a series of staff development sessions for the entire faculty around several identified skill areas. In another, a focus on the "writing process" approach was strengthened and expanded. As recommendations were developed, they were shared with the entire faculty in the school for comments and reactions, and changes were made based on this feedback. Efforts were made to begin implementing the recommendations during the second year of the project, and the results are described in the next section.

An important part of this phase is the beginning discussion about how to assess both formative and summative development of identified skills. The concept of "cornerstone" assessments – school or district-wide summative assessments – should be introduced and discussed. Ways to assure that all students have developed identified skills should be examined and explored, and, where possible, summative performance tasks should be identified. For example, if effective writing skills are identified as a key skill, the group needs to examine how should the district summatively assess whether these skills have been developed. Formative assessments that determine how well students are moving towards successfully implementing identified skills also need to be explored.

The Results Of The Project

The project's results have been diverse and in some cases, quite far reaching. Each school arrived at a shared, agreed upon consensus of key school-wide skill outcomes, a basic prerequisite for curriculum skill integration. During the second year of the project, the elementary team members designed a school-wide thematic unit called "Folklore and

Legends". Representatives from the integrated skill development committee met with teachers at every grade level and together designed thematic projects and activities that integrated the skills. Several school wide events also occurred, including a folksong assembly and a day-long thematic writing fair.

A second elementary implementation project revolved around the teaching of study skills. The elementary team continued to refine and identify key study skills, culminating in the selection of four study skills- time and materials management, organization and memory, research and test taking skills - for integration into the K-6 curriculum and assessments. The group created examples of implementation activities at each grade level, and the language arts curriculum was analyzed to determine where the teaching of these skills took place, and where were the gaps, so that these gaps could be addressed. In one of the middle schools, the representatives of the integrated skills group were formed into a team by the principal to work with the same group of seventh grade students. Their key skill outcomes formed a common bond among team members and they immediately used their planning time to design ways to integrate study skills across the curriculum and to assess for their successful application by all students.

In another school district, the integrated skills committee consisted of several faculty members chosen to teach in a newly built middle school. The development of a shared set of common skills is helping the school design ways to teach a core set of skills to all students during an activity period, with the skills to be reinforced in each of the subject areas and through interdisciplinary units.

Finally, the high school staff focused on the collaboration of ninth grade social studies and English teachers in the teaching of research skills and the writing of research reports.

Conclusions

The Integrated Skill Development Process (ISDP) is designed to promote a shared school or district vision on key skills for 21st century living, along with a plan for integrating these skills across the curriculum. While lip service is frequently given to the coordinated teaching of skills in many schools, the reality is often more like a mosaic patchwork of ill defined, discrete skills taught separately by different teachers. Thus, many students miss the power of continuous instructional approaches that create significant skill development over time. The ISDP process is designed to help schools develop a skills consensus so as to focus skill instruction on key skills across the content areas and grade levels. When disciplines together, over time, emphasize the mastery of a selected set of key skills, students are able to see connections and relationships across subjects.

The articulation of key skills across the curriculum enables students to develop the "learning to learn" skills and habits of mind so necessary for future learning. Through this process, most teachers develop an implicit understanding of the importance of developing critical skills in students, which makes it easier for them to accept the integration of skills

across the curriculum and to work collaboratively, increasing their willingness to create content based interdisciplinary approaches in the future.