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ABSTRACT

Project SCANS (Secretary's Commission on Achieving Necessary Skills) Integration is a 5-year initiative to explore how well all high school instructors would be able to integrate competency-based instruction in designated work-related competencies into their courses and rate students' mastery of the competencies. Three teachers from each of 14 curricular areas attended a 1-week workshop and 1-week institute on competency-based approaches to achieving necessary skills. During the following year, the teachers achieved consensus on three competencies per SCANS category. The original teachers shared their experiences in a 2-day workshop, and one teacher from each discipline acted as a mentor to three newly selected teachers. The teachers then pilot tested the program during the 1993-94 school year. In a systematic formative evaluation of Project SCANS Integration's pilot test year, an external reviewer used program-specific instruments to interview 19 administrators, 54 teachers, and 36 students and to structure classroom observations at 20 schools. The preliminary evaluation findings were discussed with an evaluation cadre of 13 SCANS teachers and synthesized into a best practices handbook. (Appended are the following: SCANS performance checklists, pilot test log, evaluation instruments, cognitive learning theory table, and SCANS best practices handbook.) (MN)

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PROJECT SCANS INTEGRATION

Formative Evaluation Report

Submitted to the
Education Division
Department of Defense Dependents Schools
Europe

by

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PROJECT SCANS INTEGRATION

Project SCANS Integration is a Department of Defense Dependents Schools (DoDDS)-Germany program initiative currently being implemented. DoDDS initiated the program in 1992 and expects to experiment with this over the next 5 years. The Secretary's Commission on Achieving Necessary Skills (SCANS), Department of Labor publication, June 1991, clearly enunciates what is viewed as the expectations employers have for themselves and for future high school and beyond students who eventually seek work. Project SCANS integration was designed to explore how well all high school instructors would be able to integrate opportunities to learn and earn the desired competencies into their courses and how well the competencies could be rated and recorded for their students. DoDDS is discovering some successful answers to those questions.

Under the direction of Dr. Mahlon Porter, Assistant Chief, Education Division, DoDDS-Germany (now DoDDS-Europe) has been directing multiple school improvement efforts toward outcomes-based instruction and assessment which is compatible with competency-based programming. Planning assistance has been provided by Dr. Ray Ryan and Sandra Pritz, Center on Education and Training for Employment (CETE) in the College of Education at The Ohio State University. An experimental project in Competency-Based Vocational Education (CBVE) which has been implemented over the past 5 years in several DoDDS-E high schools has yielded an initial positive thrust. A computer-assisted program which was deemed critical to the necessary recording functions was designed to be used by any teacher. DoDDS-E then went on to begin experimenting with SCANS outcomes in all 14 curricular areas involving any course, but specified beginning at the 11th and 12th grade levels. The computer program was used to support this effort.

Education Division Coordinators began by working with 42 teachers (3 each from the 14 curricular areas) who were willing and able to participate in the experiment. The initial group and 42 additional teachers selected the second year to make up the experimental group for purposes of the formative and substantive evaluations to follow, and it was hoped that they would be able to lead others in the program after the experimentation period. Teachers were selected from the following disciplines:

Academic and performing arts group
- Arts/Humanities
- Foreign Language
- Language Arts
- Mathematics
- Music
- Science
- Social Studies

Career/Vocational group
- Business
- Computer
- Cooperative Work Experience
- Health/Physical Education
- Home Economics
- JROTC
- Technology

The initial group of teachers began their work in a May, 1992 week-long workshop conducted by Sandra Pritz. The teachers began to identify functional competencies from the curriculum content in their discipline. They also began a systematic listing of where in their courses each of the SCANS competencies might be learned.

In June, 1992, the group traveled to The Ohio State University for a one week institute conducted by CETE on "A Competency-based Approach to Achieving Necessary Skills." Dr. Ted Sanders, Ohio Superintendent of Instruction and Gloria Conn, a SCANS Commissioner, addressed the participants, and topical presentations were made by CETE staff and a panel of businesspeople. During this week, the group discussed which competency statements they felt they could all, in common, subscribe to as a core for experimentation in the pilot year.

Over the course of fall, 1992 and winter, 1993, the teachers achieved consensus on the three competencies per SCANS category (within the headings of Employability Skills and Interpersonal Skills) that they would all address and that would appear on performance checklists used for assessment and on the SCANS certificate (see Appendix A) for each student able to earn them by graduation. These were "loaded" onto their computer software along with as many additional subject area competencies as each teacher desired for pilot test purposes. These subject area competencies are also added to the certificate as earned. In a February, 1993 workshop, Sandra Pritz introduced a teacher log instrument for data collection in the spring semester trials (see Appendix B). The initial group of teachers shared their experiences and the data generated in a two-day May workshop. Initial reactions of students and teachers to the integration of SCANS competencies were clearly positive and encouraging, and they provided helpful ideas and input to share with a new group of teachers.

One teacher from each discipline was selected to act as a mentor to three newly selected teachers from each discipline in a subsequent three-day orientation session, guided by Sandra Pritz. This new group attended a June, 1993 Summer Institute in Columbus, Ohio conducted by Ray Ryan and Sandra Pritz. The teachers' objectives were to extend the definition of competencies for SCANS categories and to identify functional competencies for additional courses in their curriculum. Dr. Arnold Packer, Director of the SCANS/2000 program, worked with the group, as did Gloria Conn. These teachers then pilot-tested the program in one or more of their classrooms during the 1993-94 school year. Although all teachers were operating from the same framework established by the group, and they had the same staff development experiences, they were encouraged to try out the program in any way they felt would work best in their own classroom and school.

Enthusiasm for the SCANS Integration Project has run high since the inception of the project. Teachers have been involved in dialogue about strategies for successfully implementing the program to assist students in understanding and preparing for their future work through achieving outcomes in their educational program. Teachers have been open and articulate about their recognition that changes in instructional delivery and assessment are implied by the program, and they have known from the outset that they have the freedom as well as the responsibility to determine what those changes should be.

METHODOLOGY AND PROCEDURES

For several reasons, the project planning team felt that a systematic evaluation should be conducted for the 1993-94 school year pilot test. To the best of the team's knowledge, this particular model for applying the findings of the SCANS Commission has not been designed and implemented elsewhere, so it seemed important to document what happened in the

experimental phase so as to be helpful to others pursuing similar goals. These baseline data might also be folded into a major research effort at a later date.

A systematic evaluation effort was considered critical from a formative viewpoint as well. With a concept so new and experimental, it was judged important to check to find out if the process and outcomes seemed worth the effort and to merit its continuation. Further, teachers participating relatively independently on such an effort at multiple sites need an opportunity to know what others are doing and how well it is working. Then they can improve their own implementation by incorporating some of the ideas of others and some of the recommendations of an evaluation team with an external perspective. This information is valuable to program administrators so as to modify their leadership and guidance of the program appropriately. It was considered desirable for this program, which involves a number of the principles of authentic assessment of student performance, to have its own processes and products authentically and continuously assessed.

At the first staff development session, the teachers opting in were told by Mahlon Porter that they were embarking on a project with a total quality management (TQM) component, following the W. Edwards Deming principles of continuously improving processes. These include focusing on the integrity of the process leading to outcomes and by refining the process, increase the likelihood that the outcomes will be of high quality. Discovering how to refine the process requires collecting and analyzing data about how the process is currently working and then making improvements. Accordingly, the original plan included a continuous monitoring and facilitation of improvement by the external consultants, and this has gradually moved toward a more formalized formative evaluation of progress.

For these reasons, the April, 1994 review of the DoDDS SCANS Integration Project Implementation was conducted according to the CIPP (Context-Input-Process-Product) model (Stufflebeam and Guba, 1970), designed for measuring programs independently in comparison to their stated goals and for emphasizing formative program recommendations. The CIPP model provides a means for clarifying program goals and objectives, asking a series of research questions about them, observing whether the goals have been achieved, and producing information that can be used by program decision makers to improve a program's capacity to achieve its goals.

Activities focused on collecting program data from several points of view. Accordingly, the staff of the external reviewer, World Class Associates (headed by Dr. Ray Ryan) developed program-specific instruments with which to collect interview data from administrators, teachers, and students and to structure classroom observations (see Appendix C). These followed a pattern similar to the teacher log introduced previously, and teachers were asked to fax their logs to the evaluators in March. Review of these logs gave the evaluators a "jump start" on the teacher interviews, which saved considerable time and allowed the evaluators to visit all participating schools in the region. Beginning on April 18 and continuing on school days through April 29, school visits were made by Sandra Pritz and Bonnie Coe (PhD Candidate, University of Dayton). The schedule was set up with the idea of visiting every school with a teacher participating in the project, interviewing the principal and each of the teachers, and observing SCANS classes and interviewing students as possible. In actuality, every school was visited, but not every administrator and teacher was

available (due to such factors as illness and being away on staff development activities). The data were compiled from the following sources:

- Schools 20
- Administrators 19 (two at one school)
- Teachers 54 (plus one who was participating without the training preparation)
- Students 36 (plus five groups of students or whole classes in discussion)

In June 1994, Sandra Pritz discussed preliminary formative evaluation findings over a two day period with a group of 13 SCANS teachers designated as an evaluation cadre. Working together, the group drafted a Best Practices Handbook (a prelude to a manual to be developed over the next year), which is to be used to share information among those participating and those newly joining the SCANS project. Some of the group's synthesis of the evaluation information is referred to in this report. All findings will be discussed in terms of salient project-related questions of context, input, process, and product.

CONTEXT

How Have the Program Goals Been Defined?

The major program goal was enunciated by Mahlon Porter first when he asked teachers if they wanted to opt into the project and then in the first staff development session, namely to provide more effective education relative to student preparation for success in the work force by using the SCANS Commission findings. The vision was presented as an adventure, to learn through exploration and experimentation how best to--

- Integrate competencies from the SCANS recommendations into every course taught in middle and high school grades and then into elementary levels

- Identify functional content area competencies in each course that can be included in student progress reports with SCANS competencies as teachers wish

- Manage the recording and reporting of competencies through computer assistance

- Design certificates of competency which students may use as part of a portfolio to present to college registrars and prospective employers

The ultimate objective was then stated to be: to find out if students find the program meaningful and will respond.

Is There Congruence on the Goals for Teachers, Administrators, and Students?

Virtually all teachers, administrators, and students gave responses about program goals that were aligned with the general target area, and these responses tended to be given

confidently and without hesitation. With only a couple of exceptions, all involved with the program feel that they know what they are trying to do.

Teachers' responses showed the highest degree of concentration, with the greatest frequency on the following two categories:

- Prepare students for work; prepare students with the skills business wants
- Relate classroom activities to the work world; help students realize the applicability of their school work

Other responses expressed often were:

- Help students gain an awareness of the skills required for work, employers' expectations
- Give students a way to show competencies to employers
- Develop teamwork, social skills, interpersonal employability skills

Administrators gave more diverse responses, with a wider range of ideas and at a higher level of generality, as would be expected, because with one exception, it was teachers that had the opportunity to dialogue about goals in their program staff development activities. Teachers gave more multiple responses, often relating three or more goals. Further, administrators tended to be at an awareness level and were being supportive without much direct involvement, so their responses would be expected to be less specific. They tended to relate the SCANS project goals to the "big picture," which is consistent with their administrative role. The most frequent types of responses are as follows:

- Identify what students know and can apply; assess real competencies, use competency-based assessment for accountability
- Tie employability into other DoDDS efforts such as Goals 2000 and the School Improvement Program

Several also said--

- Prepare students for work
- Help students to see that they are able; reinforce a positive self-concept

Students also gave diverse responses related to goals, but all but one have the basic idea. Frequent responses were:

- Gain skills
- Prepare for work and to meet employer expectations

- Identify (document) what we can do and have accomplished

No parents were interviewed in this evaluation, but several teachers had either sent home information about program goals in a letter or had included it in Parent Night information.

What Are the Beliefs About SCANS Competencies Promoted by the Program?

The teachers involved in the SCANS project, at least those interviewed, are unanimous in voicing their belief that the SCANS competencies reflect what business and industry wants and will be expecting of their students in the workplace. Although this belief is highlighted for some by particular competencies that they have chosen to emphasize (e.g., teamwork), all teachers currently in this program are making changes based on this belief, some large and some small, in their classroom instruction. A number of teachers referred to the significance for them of hearing firsthand from business people at the summer institutes at The Ohio State University.

The teachers have not been told in staff development sessions that they must change their curriculum or their approach to instruction in order to participate in the SCANS project. However, at these sessions they have been engaged in dialogue based on input about competency-based education, authentic and performance-based assessment, and cooperative learning. They have shared information about their early experimentation with the project. They have also spent time learning to use software specifically designed to assist them in logging competencies earned by students and in printing certificates at the end of each course.

Given the above, it is interesting that a number of the beliefs that have emerged go beyond the competencies themselves to the teaching principles that would promote the competencies. Some of the following are drawn from the draft Best Practices Handbook:

- A gap has existed between employer expectations and an awareness of those expectations by both students and educators; therefore, it is important for educators to define expectations about employability and interpersonal competencies and prompt student exploration of them.

- Teachers should retreat from being the sole source of information in the classroom and delegate more responsibility to students for their own learning.

- Performance-based forms of assessment are imperative to draw conclusions about competencies earned; student self-evaluation and interactive assessment are helpful, as is continuing rather than one-time assessment.

- The mastery of SCANS competencies and other curriculum objectives can be supported by selecting supplemental instructional materials from authentic sources and implementing cooperative learning strategies.

- An interdisciplinary approach is beneficial for students to recognize and practice broader application of skills than in one course.

The evaluators heard these beliefs espoused and judge that the beliefs have found acceptance among those interviewed. Those beliefs have been very actively implemented by some teachers, and less actively by others, as would be expected and as will be discussed in other sections of this report.

These beliefs are supported by current theory and research on teaching and learning (see, for example a listing of implications from Cognitive Learning Theory in Appendix D). They would, if thoroughly and consistently implemented, constitute a blueprint for educational reform. Many people interviewed noted how nicely the SCANS project fits with and complements all other educational reform projects being undertaken by DoDDS.

Is the Program Compatible with the Needs and Characteristics of Students?

Certainly the compatibility of the program with the needs of students is assured in a basic way by the congruence of the program principles and beliefs with current teaching and learning theory. Beyond that, the question needs to be asked because this program places workplace preparation at the core of educational instruction, and that has been a point of contention over the years in terms of the central purposes of schooling.

The DoDDS student population reflects the entire demographic range; DoDDS educators have needed to be concerned about dropout prevention and education of the disadvantaged as well as strong college preparation and challenging the gifted, as well as all points along the spectrum. The evaluators probed for information about how well the program meets this range of needs.

Concerning the issue of student retention and engagement, a number of teachers brought up the strong positive motivational factor of applied learning, students recognizing the relevance of their learning to their future at work, and the reinforcement of small tangible success steps (earning of competencies) as a means to further success and a positive self-image. Some administrators and teachers saw these as the goals of the program. At least three teachers reported strong positive behavioral changes they attribute to the program in students who were considered troublemakers, so that one teacher said this program would be worthwhile if only as a high risk intervention strategy. Some teacher comments include:

- I've seen a fantastic change in those who have been loud, disrespectful, and late to class. Now those behaviors have improved to the point that one has become a teacher's assistant.
- Some of the most passive students have become the most contributing members.
- I had thought this would be a tough class, and SCANS has helped them take responsibility. I've had NO discipline problems, which is quite amazing.
- I never hear "why do I have to learn this" anymore.

For students planning to go to college, many of whom are involved in Advanced Placement (AP) courses, the program seems just as suitable. In fact, several teachers have chosen to

implement the SCANS program in an AP course as well as in "regular" courses. When asked about if the effort detracted from AP exam preparation or learning of a large volume of course content, the teachers said:

- I do not have to depart from my curriculum. The expectations are the same for AP students. A college registrar expects some of the same things that an employer does.
- They'll do better on their AP test. For example, they have talked about focusing and prioritizing.
- I started attaching SCANS certificates to college recommendations. Now students ask me if I remembered to include the certificates with their recommendation.
- All students are spellbound when I talk about the workplace.
- Some top students are loners who know the world is waiting for them because they have all the answers. It was hard to sell the program to them, but they've needed it.

One teacher has elected not to use SCANS with her college-bound class, and several others voiced concern about covering content. These happen to be teachers who have not been chosen to include subject area competencies in the program, but have worked on SCANS competencies as somewhat separate from the subject matter.

Administrators were positive overall on these points, as were students, and the few students who reported discussing it with their parents said that they were supportive about it serving their future, college and beyond. The most telling student response concerning meeting their needs may be that, when asked for their recommendations for program improvement, the almost invariable answer was to extend the program to all classes and all students.

Are Operational Objectives Clearly Delineated?

Although program goals and objectives have been defined as described, only a few operational objectives have been specified. This leaves maximum latitude for teachers to experiment with how they want to operate to achieve the overall goal. This is explicitly **not** a program that asks or requires a predetermined step-by-step procedure, and teachers were challenged to create their own procedures and then share them with others.

Major guideposts were available for the participants as follows:

- group consensus on a definition for each of the interpersonal and employability skills and the three performance criteria for each competency to be addressed across all content areas.
- functional content area competencies generated for selected courses by content area groups of teachers and their coordinator, for optional use

- Compass computer software for monitoring and recording functions and for printing student certificates
- A sample certificate
- SCANS-related document resources and staff development

Discussion of the sufficiency of these inputs follows in the next section of the report.

INPUT

Are Program Materials Consistent with the Program Philosophy and Stated Goals, and Do They Work?

Because all program materials were developed by the participants specifically for use in this project, they are closely aligned with the program philosophy and goals. All participating teachers have taken part in this process, and the evaluators consider it significant that all teachers considered the SCANS competency definitions a "given" and made no negative comments about them, with one exception. (The Systems Usage Competency was reported by a few teachers to be difficult to both understand and to incorporate in instruction). In addition to an ownership factor, teachers may feel contented because they have been encouraged to add additional items to the performance checklist for the competency if they so choose. (The evaluators did not ask specifically if they had done so, but did not see any that had been extended.) Further, teachers have been given latitude as to which of the c mpetencies they introduce to students, when, and how. So, they are "working" well for the teachers who are actively involved, and they have been at the core of very impressive ways that teachers are changing their instruction to achieve the program goals.

Considerable variance exists in the degree of satisfaction and adoption of the group-generated content area functional competencies, but those were always intended to be optional and illustrative of the development process. Teachers were also encouraged to develop their own, but not required to do so. Most teachers who are successfully implementing the project have found ways to integrate the SCANS competencies with their ongoing curriculum rather than simply using the competencies as vehicles for classroom management or for general discussion.

An example is provided by two computer music teachers, one of whom feels that he has been too general in his approach, has not worked on any content area competencies, nor an interdisciplinary tie, and has not seen any evidence of value added for his students. The other music teacher has developed content area competencies and has had students write, arrange and copyright music compositions while working on technology usage, computer usage, resourcing, and systems usage competencies. Then in cooperation with an art teacher, students composed original music for an original art animation, taking responsibility for the entire process from story board through performance. Not surprisingly, this teacher sees a great deal of value added for his students in terms of the relevance of their education.

Is the Record-Keeping System Complete, Simple, and Effective?

The Compass software that was originally used for the DoDDS Competency-Based Vocational Education program was adapted for use in the SCANS project, and it was thought to be workable for the pilot test. However, in spite of countless hours of dedicated trouble-shooting and modification, and additional hours of trials by participating teachers, the software proved to be a major frustration for all but one of those who continued to try to use it as it continued to be modified. The evaluators encountered vehement negative responses on this topic--that the software was neither simple nor effective and was perhaps far too complete for the designed purpose. Once the conclusion was abundantly clear, the evaluators turned their attention to what had been accomplished in spite of the software problem.

Certainly it is a testimony to resourcefulness that two other software models were designed by teachers along the way and also that the majority of teachers were able to proceed with the heart of the program in spite of lacking as convenient a method of documentation as envisioned. Nevertheless, a few teachers claimed to be so disillusioned with the software problem that they gave up program activities, and several more postponed beginning activities in the expectation that the problem would be solved.

One of the benefits of a formative type of evaluation is that findings can be acted upon positively. While the findings on the software issue were preliminary, they were so overwhelming that the program director acted immediately and took steps to correct the problem between the data collection period and the writing of this report. By decision of an especially convened task force, two options will now be available--one of the simple-to-use software models (A: COMPT) that emerged and that will allow teachers only to document competencies and print a certificate, or second, a much stripped-down version of Compass which will also allow teachers to add competencies to the system and to generate reports that include data from the DoDDS Student Information Management System. It is anticipated that these options will reduce/eliminate the anxiety teachers were feeling about the computer documentation of the program and will allow for dedication of renewed energy to the substantive elements of the program, some of which are the process changes, to be discussed next.

PROCESS

The processes by which the program has been implemented are documented in the Best Practices Handbook (Appendix E) developed by a member of the evaluation team working with the evaluation cadre of teachers. The handbook details many of the operational procedures, instructional strategies, curriculum integration efforts, and assessment techniques used, but is not exhaustive in the examples given. This section includes evaluative comments on these program components.

Are Records Kept that Reflect Stated Goals?

The performance checklists that were developed in the initial phase of the program have proven to be powerful tools in establishing visible objectives in consonance with program goals, aligning instruction with them, assessing competency (both student self-assessing and teacher assessing), and as a recording device. Because these performance checklists were developed with the SCANS report as the primary reference, they reflect the stated goals directly. Due to the teacher groups having processed the definitions and competencies within each SCANS category, the checklists also reflect virtually all the various subgoals mentioned in the context section of this report. Further, all statements on the checklist were required to be observable and measurable functional objectives so that they provided concrete targets.

One of the beneficial effects that the evaluators saw from the extensive use of the performance checklists is that the students were expected to be responsible for keeping and working from a copy of the checklists related to the competencies undertaken. This was often the copy with the teacher's signature certifying demonstration of that performance, obtained after student self-assessment. Some teachers required more detailed performance specifications than others. For example, on some checklists the evaluators saw a written description of the activity that had been conducted to demonstrate each item on the list. In some cases these were initiated by the students and approved by the teachers after discussion, and in other cases they were suggested by the teachers. It should also be noted that in a few classrooms, teachers caught students in the act of demonstrating a competency and awarded it on the spot, with discussion at that point, rather than to set the stage for purposeful work toward the competency.

All actively involved teachers had some method of logging the competencies earned, either by a duplicate copy of the performance checklists, an entry in the class gradebook, or by entry to the computer system. It was fortunate that there were relatively simple and straightforward alternatives for recordkeeping for the many teachers who were not able to manage the computer software.

Are Students Progressing as Anticipated?

It should be stated that no target numbers were established for the pilot test, either for students earning competencies or for number of competencies earned. The intent was to find out if students would be motivated to work to earn competencies and if they would be able to earn them according to standards acceptable to their teachers. No attempt was made to standardize what was considered acceptable performance on a competency from one teacher to another. The obvious outcome is that some teachers were "easier" or "tougher" in awarding competencies, just as with the traditional grading system.

In all classrooms in which the SCANS program was actively implemented, no student was unable to earn competencies, according to both teacher and student report. Students report being interested in working toward competencies according to teachers, and this was confirmed with the students interviewed, except for the one student who thought it should

be obvious that she was already fully competent in everything, and a second who is resistent and does not want to work on it.

Aside from the progress measured by earning competencies, many (roughly two-thirds of those actively involved) teachers saw student progress in terms of initiative and responsibility, increased teamwork and organization, documentation of work, and/or general engagement. A few teachers reported that other teachers had commented on changes in student behavior [e.g. (Name) is showing more responsibility. (Name) is not so headstrong and feisty.] Some isolated teacher comments include:

- I have feedback that students are thinking about the future.
- There's more focus on cause and effect.
- They are thinking beyond the classroom.
- I want to explode, because they are so much more involved in decision-making and learning. They have better attendance and greater purposefulness of attitude (so do I). They have more mutual respect.

A number of teachers were unable to cite evidence of value added, but felt generally positive and expected to see evidence as the program develops. As might be expected, teachers who have been the most actively engaged themselves are the ones who are seeing the greatest evidence of student progress. In cases of half-hearted implementation, evidence of student progress is scanty. Because of the nature of the program implementation in the pilot test period, there is not consistency among teachers in either the methods or the intensity of implementation. Teachers who have not seen results were often aware that they had not been fully involved themselves, and a number asked for more structure and help from others. (The Best Practices Handbook was developed in response to this type of report, and a cadre of leaders/helpers is planned.)

How Has the Teaching Process Changed?

Without question, the single most notable change has been from whole class to more small group instruction with more active student participation. Although this change was not mandated in any way, it was an outgrowth of teachers' recognition that students would need to be involved in the kinds of activities that would allow for the observable and measurable competencies to be earned. Thus, they have introduced more project work and have encouraged students tc organize their own work to find their own resources.

For teachers who were already moving in this direction in their teaching, perhaps because of other DoDDS initiatives such as cooperative learning, this shift was less dramatic. And most have not found the change to be easy. However, the following examples describe some of the changes:

- I had to work to find opportunities to learn to work together. Now I find it fun. My philosophy has changed dramatically in the last four years. Content is not what is important in the big picture. Students must see that we're convinced it is not in

their best interests to have boxed learning. None can go on unless all are successful, and now students invite each other's success. (Spanish I and II)

- I have changed the type of activities from individual design projects to group-oriented design projects where the students have to manage their resources and collaborate on developing a design and presenting it to a panel of experts. (Technology)

- I have incorporated group activities into every course, and it's been really great. I had never done it before. In one class, I even did that for part of the final exam. and the students want to do that again. (Mathematics)

- The old way was to challenge them by making it technical and inaccessible. I've revised absolutely everything I used, and I feel less stressed. I'm learning more than they are. It's fun and invigorating. (Health)

These teachers are not the majority by any means. They are the ones who prove the comment of one that "if you are invested in it, it will work."

For some teachers, the main change in their teaching is to place more emphasis on application and on discussing the needs of the workplace. The concept of managing the classroom more like a simulated workplace has been helpful, and relating both content and behavior to what would be true for the workplace. "If they whine, I use employment as the example," was one comment. Another teacher asks one student to be prepared to act as the supervisor each day and to give the class a presentation on the activity for the day and how they should organize to accomplish it.

Are the Resources Being Used and Are Others Needed?

Aside from the computer software resources input, which remains to be capitalized upon, the major resource has been in teacher time and staff development. In the evaluators' judgment, overall most teachers have used these rather fully in their own classroom. Some teachers had delayed their activities but appear to be involved now.

The types of resources requested by many are people-related. Teachers want more opportunities to share information and to know what strategies others are using successfully. Several spoke of feeling isolated. However, clearly the possibilities for sharing and teacher teamwork within each school have not been sufficiently plumbed. All but two schools have at least two SCANS teachers, and the range goes up to eight at one school where the principal has been especially supportive and had been involved in the training himself. In only five schools was there evidence of real teamwork and support, and in those cases it contributed greatly to the teachers' ability to implement the program successfully, according to the teachers themselves. Teachers who had not gotten together to share often cited having inadequate time and wishing that they could share with others teaching in the same subject area.

Another underutilized resource may be the administrators. Although across the board administrators expressed positive feelings themselves and teachers generally agreed that their administrator was supportive of the program, few are very actively involved. The administrators, as a group, are at the basic awareness level, and some expressed an interest in being more actively involved. One administrator is a stellar role model about how that can happen. She sees the SCANS program as an excellent way to measure skill development and validate student outcomes, and she decided that students working on a summer hire program (at the American Embassy) could have their work linked to SCANS. A performance evaluation form was developed, and student progress was documented by it. The SCANS competencies were also used as criteria to select the school's "student of the year." She says, "We are ready to go full force."

To What Extent is Program Development Congruent with the Goals and with Research on Instructional Effectiveness?

The program processes are, interestingly, demanding that teachers perform exactly the same competencies that they are helping students to gain. Teachers across all the disciplines recognize the applicability of the competencies to their students' future needs and to their curriculum, although some have been much more successful than others in integrating it fully into their subject area content. This seems to be a function of teacher creativity and resourcefulness rather than of subject area.

The evaluators have detected no program activities that deviate from the goals, although some teachers concentrated too heavily on the computer logging system, to their own disadvantage. The goals are very much synchronized with research on instructional effectiveness, so the program activities are also.

There has been an occasional situation in which a teacher realized belatedly that some of the competencies, such as integrity, are most suitably awarded only after an extended period of consistent performance in which a pattern of behavior emerges. Premature award turned out to be instructionally ineffective. It will be important to help students discriminate between one-time performance of a skill, such as successful application of a piece of computer software, and consistent behaviors such as integrity.

The instructional effectiveness of curricular integration across disciplines has been used effectively by a distinct minority of the teachers, and this is an area where sharing of strategies may be especially beneficial in the future. Additional interdisciplinary emphasis would also encourage more teacher teamwork. Some examples that deserve to be shared include:

- teachers who encourage students to work on competencies beyond their own classroom; students may take the performance checklist to another teacher and negotiate a method for earning it, then negotiate its acceptance with the first teacher.

- an English teacher who had students write narrative for their individual portfolio and then work on a cover and illustrations in their Graphic Arts class. One student then took the design to computer class and generated it from the computer.

- a chemistry and physical science teacher team that teaches once a week with a TST (study of teaching) specialist to involve students in interdisciplinary projects (e.g., design for living on an island that will be feasible 200 years hence).

It is recommended that those who are involved in interdisciplinary efforts be recruited to the cadre of leaders to assist others in similar efforts.

PRODUCT

The product elements of this program can be regarded as evaluative conclusions. However, the program is still in an experimental and evolutionary phase, and no very firm outcomes can be specified. It is hoped that long-term research will be possible as the program develops.

What Are the Perceptions Re Teachers' Progress Toward Program Goals?

Of the 55 teachers interviewed, only 3 were not making satisfactory progress toward program goals, excluding the software-related goal. One of those reported progress, but the evaluator could find no evidence to substantiate it. The other 52 perceived themselves as "on target" and the evaluators judged them to be making progress as well. That means that the teachers have found ways to integrate the SCANS competencies in at least one course and that, if they wished, they also integrated functional content area competencies in the course and issued certificates for the competencies earned. However, there is a considerable range, and the gap between the "stars" and the others is wide enough that it would be important to provide the strong support and additional direction that many are asking for.

What Are the Outcomes for Students?

As indicated previously, it is most encouraging that all students of actively participating teachers were able to earn competencies and that all but a few felt motivated to do so. In addition, teachers report that student performance has improved in the numbers of other ways enumerated.

When asked if there was evidence of students applying SCANS competencies outside class or outside school, teachers did not have much information. However, the evaluator saw one member of the evaluation cadre in June who reported that she was surprised to get several calls at the end of the school year from parents who wanted to tell her how positive the program had been for their son or daughter.

When a class group of students were asked about using these competencies outside class, the response that seemed to have consensus was that if a person becomes more responsible,

that doesn't stop when he goes to another class, but automatically transfers. When asked in what way their SCANS course differed from others, they indicated being "more prepared and more organized." The interviewer asked, "Who's responsible for that?" and the emphatic reply was "We are!"

In more than one class discussion, students placed considerable emphasis on helping each other to learn and the benefits derived for each party. In a small group setting, students felt able to stop when necessary and get something explained by another student and never feel lost or way behind. A number of students reported learning "better" in various ways.

Students interviewed generally expressed positive feelings about the program and wished it could be extended to all courses. (One student said that she knew that was unlikely because it required a lot of change and most teachers don't want to change.) One particularly effective vehicle for students in the classes in which teachers chose to use it has been development of a portfolio that reflects competence, and this success was clearly linked to the SCANS program, rather than isolated to portfolios. When the evaluator and Dr. Porter visited one class, students eagerly lined up to show them their portfolios, and each student wanted to show it to both visitors, not only one.

To What Extent Are There Indicators of Program Effectiveness and Potential for Continuation/Expansion?

The solid conclusion is that there are numerous indicators of program effectiveness. This particular set of components links numerous aspects of sound teaching and learning practice, and many of the teachers involved have used considerable dedication, resourcefulness, and creativity to lead the way in demonstrating strategies for successful implementation.

Now that the computer software program issue is potentially solved, the program is in a good position for both continuation and expansion. All but one or two teachers who will be assigned to high school positions next year say that they are definitely planning to continue the program. Much has been learned by these teachers in the pilot test phase, and all will benefit from the sharing of information.

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A. SCANS Certificate and Performance Checklists

SCANS CERTIFICATE OF COMPETENCIES

THE STUDENT CAN:

GENERAL EMPLOYABILITY

INFORMATION PROCESSING
1. Select and evaluate information.
2. Select ways to organize information.
3. Interpret and communicate information.

COMPUTER USAGE
1. Use word processing; communications.
2. Use a graphics program; multimedia.
3. Use a spreadsheet program; database.

TECHNOLOGY USAGE
1. Set up appropriate machines/equipment.
2. Produce a product using technology.
3. Maintain and troubleshoot technology.

RESOURCING
1. Schedule time to meet task/project deadlines.
2. Select appropriate human and material resources.
3. Allocate human and material resources to complete a task/project.

ORAL COMMUNICATION
1. Deliver messages with clarity.
2. Follow oral directions.
3. Participate in group discussions.

WRITTEN COMMUNICATIONS
1. Organize thoughts into expressive written form.
2. Proofread, edit, and revise written documents.
3. Use correct grammar and spelling in written communication.

READING
1. Investigate meaning of unknown words.
2. Extract the main ideas of messages.
3. Identify relevant details, facts, and specifications from reading.

MATHEMATICS USAGE
1. Use measuring tools and systems.
2. Use basic computational skills.
3. Use graphic formats to display and obtain information.

SYSTEMS USAGE
1. Identify the system and its purpose.
2. Monitor and improve performance.
3. Adapt to situational change.

INTERPERSONAL

LEADERSHIP
1. Organize group work.
2. Involve all group members.
3. Set positive example for others.

GROUP DYNAMICS
1. Contribute ideas, suggestion, and effort for completion of group tasks.
2. Solve conflict in positive ways.
3. Cooperate as a member of a multiethnic, mixed gender team.

PROBLEM SOLVING
1. Identify and define problems/issues.
2. Generate and select from alternative strategies to solve problems.
3. Consider the consequences of actions.
4. Make informed decisions.

RESPONSIBILITY
1. Display punctuality and regular attendance.
2. Complete assigned tasks on time and meet deadlines.
3. Take care of materials and equipment; respect the property of others.

SELF CONFIDENCE
1. Display confidence in self and work.
2. Demonstrate initiative.
3. Assess/evaluate criticism.

SELF MANAGEMENT
1. Exhibit self control.
2. Work without close supervision.
3. Evaluate and monitor personal performance.

INTEGRITY
1. Exhibit trustworthy behavior.
2. Respect rights and property of others.

SOCIABILITY
1. Compromise.
2. Exhibit sensitivity to the attitudes, values, and feelings of others.

Instructor's Rating
Interest Demonstrated in the Subject Area ABOVE AVERAGE ___ AVERAGE _____

Aptitude Demonstrated for the Subject Area ABOVE AVERAGE ___ AVERAGE _____

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Leadership

The student demonstates competencies in leadership through the organization and coordination of group and individual tasks. The student employs effective communication and listening skills to persuade and motivate others to accomplish goals. The student demonstrates a sensitivity toward individual ideas and beliefs and will generate credibility through competence and integrity.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Organize group work.	
	2. Involve all group members.	
	3. Set a positive example for others	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Group Dynamics

The student organizes tasks and assumes different responsibilities as a contributing group member. Through positive interaction with respect for group diversity, the student negotiates, compromises, and reaches consensus when working toward a common goal. Group dynamics emphasizes process rather than product.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Contribute ideas, suggestions, and effort for completion of group tasks.	
	2. Solve conflicts in positive ways.	
	3. Cooperate as a team member.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Problem Solving

The student recognizes and defines the problem, generates alternative solutions, chooses the best alternative, and devises and implements a plan of action. The student considers the consequences of these actions and makes informed decisions.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Identify and define problems/issues.	
	2. Generate and select from alternative strategies to solve problems.	
	3. Consider the consequences of actions.	
	4. Make informed decisions.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Responsibility

The student initiates and/or completes tasks consistently; and exhibits regular and timely attendance and is prepared to work and learn. The student demonstrates a high level of effort and perserverance towards reaching goals. The student takes care of materials and equipment, respects the property of others and completes tasks on time.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Display punctuality and regular attendance.	
	2. Complete assigned tasks on time and meet deadlines.	
	3. Take care of materials and equipment; respect the property of others.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Self Confidence

The student believes in own self worth and maintains a positive view of self. The student demonstrates knowledge of own personal strengths and limitations, displays initiative, is aware of impact on others, and responds to constructive criticism.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1.Display confidence in self and work.	
	2. Demonstrate initiative.	
	3. Assess/evaluate criticism.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Self Management

The student sets realistic goals, organizes resources, prioritizes tasks, and monitors own progress. The student evaluates information and motivates self in assessing progress toward completion of goals.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Exhibit self control.	
	2. Work without close supervision.	
	3. Evaluate and monitor personal performance.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
INTERPERSONAL COMPETENCIES

Integrity

The student consistently chooses an ethical course of action and displays a pattern of trustworthy behavior.The student respects the rights and property of others; accepts responsibility for their own actions; and understands the impact of abiding by or breaking the rules and regulations.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Exhibits a pattern of trustworthy behavior.	
	2. Respect rights and property of others consistently.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
GENERAL EMPLOYABILITY COMPETENCIES

Sociability

The student demonstrates understanding, friendliness, adaptability, empathy and politeness in new and on-going group settings, and responds as the situation requires. The student cooperates as a team member and negotiates to arrive at a decision, demonstrates positive ways of solving conflicts, and relates to diverse groups.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation:

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Compromise/Reach consensus	
	2. Exhibit sensitivity to the attitudes, values, and feelings of others.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist
GENERAL EMPLOYABILITY COMPETENCIES

Information Processing

Students will identify the purpose for their information search and develop an effective plan for the collection of relevant information using appropriate resources. Students will locate, select, and evaluate information in an organized manner in order to create clear and concise oral, visual, or written communication.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Select and evaluate information.	
	2. Select ways to organize information.	
	3. Interpret and communicate information.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date_____

SCANS Performance Checklist

GENERAL EMPLOYABILITY COMPETENCIES

Computer Usage

The student demonstrates proficiency in the use of computer technology by selecting appropriate programs to fit the needs of the desired outcome. Student operates, manipulates and integrates word processing, graphics, spreadsheet and data base software programs for written communication and graphic representation.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Use word processing program.	
	2. Organize data using a spreadsheet program.	
	3. Represent data with a graphics program.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist

GENERAL EMPLOYABILITY COMPETENCIES

Technology Usage

The student selects, sets up, and uses a variety of technological tools. The student identifies and analyzes situations to circumvent, troubleshoot, and solve problems in the respective technologies used.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Set up appropriate machines/equipment.	
	2.Produce a product using technology.	
	3. Maintain and troubleshoot technology.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date_____

SCANS Performance Checklist
GENERAL EMPLOYABILITY COMPETENCIES

Mathematics Usage

The student approaches practical problems by choosing appropriately from a variety of mathematical techniques and uses data to construct logical explanations for real world situations. The student expresses mathematical concepts orally and in writing and understands the role of chance in the occurence and prediction of events.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Use measuring tools and systems.	
	2. Use basic computational skills.	
	3. Use graphic formats to display and obtain information.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist
GENERAL EMPLOYABILITY COMPETENCIES

Oral Communication

The student organizes ideas and communicates with clarity oral messages matched to the audience and situation. The student demonstrates listening with congruent feedback to verbal and non verbal messages.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Deliver messages with clarity.	
	2. Follow oral directions.	
	3. Participate in group discussions.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:____Finish Date____

SCANS Performance Checklist

GENERAL EMPLOYABILITY COMPETENCIES

Resourcing

The student plans and utilizes time, money, materials, facilities, and human resources. The student selects appropriate resources and uses them efficiently to complete the task or project.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Schedule time to meet task/project deadlines.	
	2. Select appropriate human and material resources.	
	3. Allocate human and material resources.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist
GENERAL EMPLOYABILITY COMPETENCIES

Written Communication

The student employs the writing process to produce effective written communication for an intended audience. The student composes, creates, and records information completely and accurately to communicate thoughts, information and messages.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Organize thoughts into effective written form, i.e. letters, directions, manuals, reports, proposals, graphs, flow charts...	
	2. Proofread, edit, and revise for correct information appropriate emphasis, tone, form, grammar, spelling, and punctuation.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date__/__

SCANS Performance Checklist

GENERAL EMPLOYABILITY COMPETENCIES

Reading

The student interprets the meaning of written communication; identifies and explains the main idea and relevant details; ascertains the meaning of unknown vocabulary; and judges the accuracy, appropriateness, and plausibility of written communication.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Investigate the meaning of unknown words.	
	2. Extract the main ideas of messages.	
	3. Indentify relevant details, facts, and specifications from reading.	
	Instructor	
	Finish Date	

Name:_____Period__Start Date:_____Finish Date_____

SCANS Performance Checklist

GENERAL EMPLOYABILITY COMPETENCIES

Systems Usage

The student explains how current social, organizational, and technological systems work and operates effectively within them. The student explains how a system's structures relate to goals; responds to the demands of the system/organization; locates appropriate resources and where to get resources; and functions within the formal and informal codes of the social/organizational system.

Directions: Check your skills with the following criteria.
When you feel able to perform the skills, ask your instructor for evaluation.

Student SelfCheck DID YOU...		Instructor Checklist DID THE STUDENT...
	1. Identify the system and its purpose.	
	2. Monitor and improve performance.	
	3. Adapt to situational change.	
	Instructor	
	Finish Date	

B. Pilot Test Log: Points for Reflection

PROJECT SCANS INTEGRATION
Points for Reflection in Spring '93 Try-Out

Instructions: Please use this as a guide to log your SCANS actions, reactions, and interactions from February through May, 1993.

- Keep it handy to jot down thoughts as they occur to you--with a date.
- For items that ask you to keep a simple tally by month, make a tick mark as the event occurs or summarize weekly.
- Review your log at the end of each week to be sure it reflects what has happened.
- Return to Sandy Pritz at May meetings. Thanks!

Content of Program

Given the goals of the DoDDS SCANS program:

- to help students understand through employers' eyes what they must learn and do to perform successfully in the workforce
- to help students gain certifiable competencies as a record of high school performance--

(re students)

1. How many competencies are your students earning?

February	March	April	May

2. How many students have earned competencies?

February	March	April	May

3. What are your reactions about the "value added" for your students? Do you see any evidence that they are doing better? What?

4. What comments have your students made?

(re Teachers)
5. How are you using the SCANS competencies in your classroom?

6. Do you see any changes in your instruction? What? Are they positive?

7. This project may have an impact on your relationship with other teachers. Please log--
   - SCANS-related contact with a teaching colleague
     February March April May

   - sharing of materials or contacts with a colleague
     February March April May

   - other (what?)
     February March April May

(re Administrators)

8. What have you done to acquaint your administrators with the SCANS program?

9. What evidence of interest in the program have you seen from your administrators?

10. Would you rate your administrators' level of involvement with the SCANS program as high, medium, or low?

February March April May

The Tracking System

Viewing the computer tracking system as a tool to help you capture the information you need to use SCANS productively in your educational mission,--

11. How much time does it take you to log onto the system each day? (Log weekly an average daily time.)

February March April May

12. How much time per week do you spend interacting with the system?

February March April May

13. What "bugs" you about the system?

14. What characteristics are you glad you're getting from the system?

15. What's missing?

16. What's surplus, unnecessary?

Overall

17. What would facilitate a better program?

18. What kinds of research would be helpful to you?

Your Name: _____

Subject: _____

School: _____

Number of students involved with SCANS: _____

Number of classes involved with SCANS: _____

C. Evaluation Instruments

School _____ Date of Visit _____

INTERVIEW/OBSERVATION SCHEDULE AND LOG

_____ (Interviewer)

Personnel	Date	Time	Room
Principal:			
Teacher #1:			
(Class)			
Student			
Teacher #2:			
(Class)			
Student			
Teacher #3:			
(Class)			
Student			
Other			

School _____ Date _____

PROJECT SCANS INTEGRATION
Administrator Interview Guide*

Name _____ Interviewer _____

1. How many teachers in your school are involved in the
   SCANS program? _____
   In how many subject areas? _____
   How many teachers (total) are in this school? _____

2. How did you first become acquainted with the DoDDS SCANS program?

3. What is the degree and nature of your involvement with the SCANS program?

4. What do you see as the primary goal of the SCANS program?

5. What features of the program have been the most successful? Why?

6. Do you have any additional comments about the program?

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School _____ Date _____

PROJECT SCANS INTEGRATION
Teacher Interview Guide*

Name _____ Interviewer _____
Course _____ Charter group _____ Pilot group _____

1. What do you see as the primary goal of the SCANS program?

2. How did you introduce SCANS to your class? (And how did it work out? Do your students have a clear understanding of the objectives?)

3. How are you using the SCANS competencies in your classroom? (How many competencies are you working with and how is that working out?)

4. Do you see any changes overall in your instruction? (What? Are they positive?)

5. What are your overall reactions about the "value added" for your students? Do you see any evidence that they are doing better? What?

6. What comments have your students made (both positive and negative)?

7. Have you observed any student carryovers of SCANS ideas--
   - from one class to another?

- from classes to other activities?

8. How is your administrator involved in the program?

9. How have parents reacted to the SCANS program?

10. Have you been able to use the Compass system? _____

How does it help you monitor the SCANS program?

Does anything still need to be improved? What?

11. What features of the SCANS program have been the most successful? Why?

12. What factors of the program have been less successful?

13. What factors do you think are related to these less successful features?

14. What would you do to improve the SCANS program?

15. Do you expect to continue integrating SCANS competencies? In how many classes?

16. Do you have any additional comments about the program?

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School_____ Date_____

CLASSROOM OBSERVATION GUIDE

Teacher_____ Observer_____

Course _____

(1) Number of students enrolled in class
_____ (males) _____ (females)

(2) Number of students who are in--
_____ 9th grade
_____ 10th grade
_____ 11th grade
_____ 12th grade

(3) Number of students who are--
_____ White/not of Hispanic origin
_____ Black/not of Hispanic origin
_____ Hispanic
_____ Other Minorities

(4) Number of students who are--
_____ Mentally handicapped
_____ Physically handicapped
_____ Both mentally & physically handicapped
_____ Disadvantaged

(5) Check all that apply and star the one that best describes the predominant format of the class during the observation period?

___ Teacher presentation of academic (theoretical materials, etc.) to whole class

___ Teacher presentation of procedural (hands-on) tasks to whole class

___ Teacher working with small group, while the remainder of the class works independently on the same task (as the group)

___ Teacher working with small group, while the rest of the class works independently on more than one task but in the same subject area

___ Teacher working with small group, while the rest of class works independently on different tasks in different subject areas

___ Each student is working individually, while the teacher circulates through the room; all students working on the same task

___ Each student is working individually, while the teacher circulates through the room; students are working on a variety of tasks

___ Students are working in small groups, while the teacher circulates from group to group

___ Other (Describe)

_____

_____

(6) Were deliberate attempts made to help students relate knowledge to a SCANS competency?

No Somewhat Yes

(7) Were students involved in task related activities focused on applications of academic concepts, principles, or skills? No Somewhat Yes

(8) Did students exhibit control over their learning through active participation in "hands on" type activities? No Somewhat Yes

(9) Did students demonstrate an awareness of, or make reference to, the SCANS competencies? No Somewhat Yes

(10) How would you rate this class on the following dimensions of effective teaching?

	Very High				Very Low
(a) Time on task	___	___	___	___	___
(b) Progress on new materials	___	___	___	___	___
(c) Independent practice	___	___	___	___	___
(d) High expectations	___	___	___	___	___
(e) Positive reinforcement	___	___	___	___	___
(f) Interruptions minimal	___	___	___	___	___
(g) Discipline; engagement in learning	___	___	___	___	___
(h) Friendly ambiance	___	___	___	___	___

(11) Did students make progress toward achieving competency (as defined by the performance checklists) in

(a) Information processing	No	Somewhat	Yes
(b) Computer usage	No	Somewhat	Yes
(c) Technology usage	No	Somewhat	Yes
(d) Resourcing	No	Somewhat	Yes
(e) Oral communication	No	Somewhat	Yes
(f) Written communication	No	Somewhat	Yes
(g) Reading	No	Somewhat	Yes
(h) Mathematics usage	No	Somewhat	Yes
(i) Systems usage	No	Somewhat	Yes
(j) Leadership	No	Somewhat	Yes
(k) Group dynamics	No	Somewhat	Yes
(l) Problem solving	No	Somewhat	Yes
(m) Responsibility	No	Somewhat	Yes
(n) Self confidence	No	Somewhat	Yes
(o) Self management	No	Somewhat	Yes
(p) Integrity	No	Somewhat	Yes
(q) Sociability	No	Somewhat	Yes

(12) Summary notes and interpretive comments

School _____ Date _____

PROJECT SCANS INTEGRATION
Student Interview Guide*

Name _____ Interviewer _____
Course _____ Teacher _____

1. What do you think is the purpose of the SCANS program?

2. Is that happening for you?

3. Are you earning competencies? (Probe)

4. Do you work on competencies mostly on your own or with others?

5. Are you developing a portfolio or resume? (Get copy.)

6. What difference does it make if you earn these competencies?

7. How many SCANS courses have you taken? _____

8. What difference have you noticed between your SCANS classes and other classes?

9. Have you used SCANS competencies outside class? How?

10. Have you spoken to your parents about the SCANS program? What do your parents think about SCANS?

11. What would you do to improve the SCANS program?

12. Do you have any other comments about the SCANS program?

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D. Cognitive Learning Theory Table

Table 3. Aligning Instruction and Assessment: Implications from Cognitive Learning Theory (CLT)

CLT: Knowledge is constructed. Learning is a process of creating personal meaning from new information and prior knowledge.

Implications for Instruction/ Assessment:

- Encourage discussion of new ideas.
- Encourage divergent thinking, multiple links and solutions, not just one right answer.
- Encourage multiple modes of expression, for example, role play, simulations, debates, and explanations to others.
- Emphasize critical thinking skills: analyze, compare, generalize, predict, hypothesize.
- Relate new information to personal experience, prior knowledge.
- Apply information to a new situation.

CLT: Learning isn't necessarily a linear progression of discrete skills.

Implications for Instruction/ Assessment:

- Engage all students in problem solving.
- Don't make problem solving, critical thinking, or discussion of concepts contingent on mastery of routine basic skills.

CLT: There is great variety in learning styles, attention spans, memory, developmental paces, and intelligences.

Implications for Instruction/ Assessment:

- Provide choices in tasks (not all reading and writing).
- Provide choices in how to show mastery/competence.
- Provide time to think about and do assignments.
- Don't overuse timed tests.
- Provide opportunity to revise, rethink.
- Include concrete experiences (manipulatives, links to prior personal experience).

CLT: People perform better when they know the goal, see models, and know how their performance compares to the standard.

Implications for Instruction/ Assessment:

- Discuss goals; let students help define them (personal and class).
- Provide a range of examples of student work; discuss characteristics.
- Provide students with opportunities for self-evaluation and peer review.
- Allow students to have input into standards.

CLT: It's important to know when to use knowledge, how to adapt it, how to manage one's own learning.

Implications for Instruction/ Assessment:

- Give real-world opportunities (or simulations) to apply/adapt new knowledge.
- Have students self-evaluate: think about how they learn well/ poorly; set new goals; why they like certain work.

CLT: Motivation, effort, and self-esteem affect learning and performance.

Implications for Instruction/ Assessment:

- Motivate students with real-life tasks and connections to personal experiences.
- Encourage students to see connection between effort and results.

CLT: Learning has social components. Group work is valuable.

Implications for Instruction/ Assessment:

- Provide group work.
- Incorporate heterogeneous groups.
- Enable students to take on a variety of roles.
- Consider group products and group processes.

From *A Practical Guide to Alternative Assessment* (1992) by Joan L. Herman, Pamela R. Aschbacher, and Lynn Winters. Alexandria, VA: Association for Supervision and Curriculum Development.

E. SCANS Best Practices Handbook

SCANS

Best Practices Handbook

Department of Defense Dependents Schools - Europe
SCANS Project

June 1994

OPERATIONAL PROCEDURES

To implement the SCANS program, teachers introduce the SCANS concept and its related competencies to the class. Students use performance checklists to keep track of the tasks they have mastered. Teachers monitor and document competencies earned with the assistance of a computer program.

Introducing the Concept

Why are employability and interpersonal skills important? It is important to define expectations and prompt exploration of these ideas.

- *Orient Students to SCANS Philosophy and Procedures.*

  Examples:

  Prepare an orientation handout with information pertinent to the program. (Wiesbaden HS, Augsburg HS, Bad Kreuznach HS)

  Present students with their Performance Checklists (Wiesbaden HS, Sembach HS)

  Send a letter to students and parents. (Bonn HS)

  Introduce Student Portfolio (Bad Kreuznach HS, Ramstein HS)

  Implement the classroom as a workplace in which teachers are the employers; students are the employees; and the competencies are the job descriptions. (Hanau HS)

  Use the Myers Briggs instrument to help students think about their preferences and interpersonal skills (Wuerzburg HS)

- *Use Activators to Engage Students and Stimulate Interest*

  Examples:

  Compare a student's report card to a Competency Certificate in terms of what it tells an employer. (Wiesbaden HS)

  Let kids brainstorm about...
  Qualities of a Good Employee
  Ten Reasons Why Employees Get Fired

Word Splash (TST)
How Do I Learn Best?
Success in the Work Place
Success in School
The Ideal Classroom
The Good Employee
The Good Employer
Qualities of a Good Job

What do we know and what do we need to know about SCANS? (TST)

Think, Pair, Share (Sembach MS)
Five reasons why employees lose their jobs
Five reasons why students don't succeed in school.

The SCANS Classroom

How does a SCANS classroom differ from a traditional classroom? There are inherent differences in implementing SCANS procedures. (Refer to Appendix 1)

- *Physical Setting*

The classroom should accommodate the competencies being taught. The flexible classroom can be arranged to facilitate group and station work, individual work, labwork, testing, and class meetings. It should simulate actual working conditions if possible.

Examples:

Prepared diagrams of floorplans for certain activities can be posted so that students can arrange the room accordingly. (Wiesbaden HS)

Work cells are set up for specific competencies. The tasks are posted at the cell and students move once their work has been completed.

- *Student/Teacher Relationship*

Students are allowed to give input to direct their own learning and teachers are not expected to be the sole source of information.

Examples:

Students assume working roles in the classroom and develop jobs descriptions of the work they are to perform. (Ramstein HS)

Students help design worksheets and activities.

Describe the differences between the SCANS and traditional classroom to the students. (Refer to Appendix 1.)

Students and teachers periodically evaluate process following an activity.

Students are personally counseled regarding their performance in class.

Students and teachers work together to decide what competencies will be evaluated.

Working Towards Certification

How do students earn competency certificates?
The certification process is the major motivating force for student participation.

- *The Process for issuing certificates is briefly listed:*

  Identify what competency areas are to be worked on.
  Develop criteria for evidence of competency.
  Maintain performance checklist for competencies.
  Record completed tasks using a computer program.
  Issue certificate for completed tasks.
  Issue Employability Credential for completed competencies.

Marketing the Program

Who needs to know about SCANS?
Successful navigation through the competencies is enhanced by administration, staff and parental awareness.

- *Staff and Administration Awareness*

  Examples:

  Teacher inservicing (Sembach MS, Wiesbaden HS)

  SCANS presentations at Educator's Day (Vilseck HS, Baumholder HS, Wiesbaden HS)

  Faculty meeting presentations (Bad Kreuznach HS, Wiesbaden HS, Sembach MS, Ramstein HS)

  Inviting other teachers to verify student competencies

- *Student and Parent Awareness*

  Examples:

  Send a letter of introduction to parents.

  Add SCANS competencies to progress reports.

  Invite parents to a meeting to discuss the competencies and explain how the program functions.

  Include information about SCANS in Parent Newsletter. (Augsburg HS)

  Distribute handouts of SCANS materials at report card pickup and parent conferences. (Bad Kreuznach HS)

  Locate SCANS Bulletin Boards and posters throughout the classroom and school. (Augsburg HS)

- *Public Awareness*

  Discuss SCANS program with managers of AAFES, MWR, and associated concessionaires. Leave samples of certificates and letters of recommendation. (Wiesbaden)

  AFN coverage of student projects. AFN is always willing to cover stories. (Wiesbaden)

The Computer Software

Why is it needed? The computer software is the primary medium for documenting student competencies.

- Select the approved software (SCANS-PMS or A:COMPT)

	Strengths	Weaknesses
A:COMPT	Easier to learn Simple certificate generator Runs off floppy disk Supported by DoDDS-MIS	Cannot add new tasks Limited application Works only with laser printer No user help or menus

	Strengths	Weaknesses
SCANS-PMS	Powerful classroom management system Complete menu driven system Prints a variety of reports and documents Works with any printer Imports SIMS data Competencies, tasks, and subtasks can be added, deleted, edited at any time Competencies can be imported from other teachers Backup and file utilities included On-Line documentation	More complex to use Cannot be run in windows or off floppy disk

INSTRUCTIONAL STRATEGIES

Teachers use techniques in the classroom that support the mastery of SCANS competencies and curricular objectives and that involve students in taking responsibility for their own learning.

- *Select supplemental instructional materials from authentic sources.*

  Example: Have students write, arrange, and copyright original music compositions using computers and synthesizers. This activity incorporates the technology usage, computer usage, resourcing, and system usage competencies. (Hanau HS)

  Example: Using calculus and math analysis, have students compute the maximum volume of a coke can and use this information as a basis of discussion concerning marketing strategies and production costs. (Ramstein HS)

- *Implement cooperative learning strategies.*

  Example: Have students work in groups of four using a job description format to determine the various roles they will assume during cooperative learning activities. The assigned roles include team leader, resource manager, recorder and schedule manager. This includes the competencies of group dynamics, leadership, responsibility, resourcing, self management, integrity and sociability. (Ramstein HS)

  Example: DTP students work in teams to produce DTP projects. One student may have expertise in one program and is responsible to teach others on the team how to use it. Project design is a joint effort. Each has a responsibility of ensuring quality work and timely output. This includes competencies of group dynamics, leadership, problem solving, responsibility, integrity, sociability, computer usage, technology usage, oral communication and resourcing. (Heidelberg HS)

  Example: PE students are given a card with the name of a muscle on one side and, on the other side, the description of an exercise to strengthen the muscle. The students have 20 minutes with a partner to teach each other the lesson material before being quizzed on it. After the quiz, students re-process how they chose to organize their study and how effective their method was. This includes

competencies of leadership, group dynamics, self-evaluation and oral communication. (Patch HS)

• *Use interactive assessment where the teacher determines broader objectives and the student chooses areas of concentration or interest. The student may be given the opportunity to select how to demonstrate competency in that area.*

Example: Have students in programming participate in the selection of course objectives and techniques to be used in writing the program. This sets the objectives to the level the student can manage. Thus the student becomes aware of his/her personal goals and progress. This activity incorporates SCANS objectives of resourcing, responsibility and self management. (Heidelberg HS)

• *Utilize a system of student self-evaluation*

Example: Have students complete pre-evaluation survey to find out what objectives the student knows and which need to be emphasized. Interim and final evaluations are also done for the purpose of leading the student to responsibility for his/her learning, self management and self confidence. (Heidelberg HS)

Example: Have band and choir students record their performance assignments and write evaluations of their performances. This includes written communication, self management, self confidence. (Hanau HS)

Example: Have students use a rubric to evaluate their group problem-solving skills, individual performance on assessment projects, and teacher end-of-the-year performance. This activity emphasizes group dynamics, responsibility, self confidence, and sociability. (Ramstein HS)

Example: Students must earn some competencies in a group setting, which must be validated by other members of the group. This includes competencies of integrity, sociability, and leadership, (Patch HS)

• *Remove teacher as sole source of information in the classroom by delegating more responsibility to students.*

Example: Designate students as classroom supervisors. Their duties include: reading the tasks and assignments for the day, collecting homework, being on call for all problem solving, introducing a SCANS competency and relating it to daily activity, and taking attendance. This activity incorporates the leadership, problem solving, group

dynamics, self-confidence, oral communication, and self-management competencies. (Augsburg HS)

- *Integrate SCANS with an interdisciplinary approach so students can see broader application of skills in a course. The teacher can also work with other colleagues to certify additional SCANS competencies that are not part of the class.*

  Example: Introduced the SCANS competencies together with another teacher through a joint letter to students. Students in both courses were not required to rate themselves twice for self-evaluation and the two teachers shared information on these students for a composite competency rating. (Bonn HS)

  Example: Students worked on a multi-media project in art and music. The art students did original art and animation while the computer music students composed original music. Students were responsible for all aspects of the project from story line through performance. (Hanau HS)

CURRICULUM INTEGRATION

To integrate the SCANS competencies with the curriculum, teachers identify ways that their curricula provide opportunities to learn, practice, and earn competencies. Teachers and students design activities to promote these outcomes. Teachers and students also plan and share with those in other disciplines who can enhance their experience with the SCANS competencies.

Integrating SCANS in a Single Course Curriculum

Educators choose competencies that complement their curriculum and develop an understanding of them. Activities are designed to test the validity of the competency and check for student understanding and clarity.

- *Teachers identify opportunities to incorporate the SCANS competencies into their curriculum.*

  Example: SCANS is incorporated by providing the opportunity to earn the leadership competencies by placing students in various positions of authority by specifying expectations for the job. Students are given "hands on" and practical training in leading other students on a day to day basis. (Wuerzburg HS)

- *Teachers help students learn and identify competencies by working through the curriculum.*

  Example: Students are informed that other competencies may be emerging within their current task that may not have been previously identified, affording an opportunity to increase their work-ready skills. (Bad Aibling HS)

Integrating SCANS Across Disciplines

Educators explore opportunities to work on the competencies with multiple disciplines.

- *The SCANS program complements and integrates with other DoDDS school-wide programs, such as: Outcomes Accreditation/SIP, AVID, Goals 2,000, and FAST.*

  Example: Schools incorporate some of the SCANS strategies in its School Improvement Process Target Area. (Ramstein HS,

Baumholder HS)

- *SCANS is easily integrated with other interdisciplinary units to use the employability and interpersonal competencies across the curriculum.*

  Example: Composition writing course was linked with graphic arts and computer education for development of portfolios portraying student's interests, career goals, and accomplishments. (Karlsruhe HS)

  Example: At a middle school working on an "across the curriculum" writing project, the SCANS checklist format provided a model for checklists describing fifteen kinds of writing. These were used to provide students with a method of evaluating and compiling a portfolio of their writing. (Sembach)

ASSESSMENT

Teachers assess student competencies on the basis of performance, using tools such as checklists that specify competencies and criteria and that also allow for student self-evaluation. Developmental evidence of certified progress is encouraged by use of portfolios and an employment credential.

Teacher Monitoring of Classroom Performance

• *Includes record of class attendance and tardiness and observance of competency criteria such as self-management skills, organizational skills, and productive performance in class.*

Example: Student raintains a daily log of what was accomplished in class during the class period. (Bonn HS)

Example: Student makes a class presentation on a topic or a solution to a problem. (Bad Kreuznach HS)

Example: Student-completed assignments that meet criteria for competencies are graded; e.g., business letter completed using word processing software; checking credit card bills; and reconciling a bank statement.

Performance Evaluation Form

Evaluation form that indicates student fulfillment of competencies.

• *Checklist: Form that includes description of a competency and its criteria and provides for both student and teacher checking of criteria performance.*

Example: SCANS Performance Checklist.

Example: Employment Credential (Record of SCANS Competencies Earned)

• *Student Evaluation and Justification Form: Form on which student evaluates his or her performance of a competency or competencies and justifies his or her rating(s).*

Example: Form including space for a numeric rating and an explanation. (Wiesbaden HS)

Certificate

• *A document presented to student certifying that the student is work ready in those competencies listed.*

Example: Certificates are available from SCANS-PMS or A:COMPT computer programs.

Example: Certificates may be prepared using word processing or desktop publishing software. (Heidelberg HS, Sembach MS)

Cross-Curricular Assessment

• *Other classroom teachers are consulted to validate completion of competencies when the teacher needs verification in other settings; i.e., verifying integrity, sociability, responsibility, leadership, and/or computer usage.*

Example: SCANS teacher requires student to provide a written description of competency achievement in another class. Student takes description to the teacher involved for comments and confirmation. Based on evidence from all sources, SCANS teacher makes final evaluation for achievement of competency (Giessen High School).