The San Diego Consortium for Workforce Education and Lifelong Learning (CWELL) has as its mission the improvement of education and training of out-of-school youth and adults, especially those who do not plan to go to college. It provides a working model of how the California State University and California Community College systems can work together to meet the recommendations of the California Workforce Literacy Task Force for professional development and action research to improve the education and training of California's out-of-school, undereducated youth and adults. A new specialization within the existing Master of Arts in Education degree program has been developed—a concentration in educational technology. The WELLS (Workforce Education and Lifelong Learning Specialist) program has been established in the Department of Educational Technology at San Diego State University in recognition of the expanding role that technology is and will be playing in providing education to out-of-school youth and adults. Outreach and marketing activities include briefings and national teleconferences. An Action Research Center has been established with staff from both outside and inside the San Diego Community College District, Division of Continuing Education. An interactive, participatory approach to research is being followed. In following a second approach to research, a "bottom up" approach of inquiry, staff have engaged in the "teacher as researcher" project, "student as researcher" project, and "researcher as practitioner" activities. (YLB)
THE SAN DIEGO CWELL PROJECT

REPORT OF PROGRESS

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ACKNOWLEDGMENTS

The San Diego Consortium for Workforce Education and Lifelong Learning (CWELL) was initiated in September of 1992 through the generosity of the William and Flora Hewlett Foundation in Menlo Park, California. Dr. Roger Heyns, then President of the Foundation, was the moving force behind the decision to support this project. We are grateful for his early assistance in bringing the project into being, and for his continued interest and support as a member of the Board of Directors of the Foundation. We are likewise grateful to Mr. Ray Buscetti, Program Officer at the Foundation, for his assistance in the work of the CWELL.

The Consortium would not exist except for the outstanding commitment of educators in San Diego, including: Dr. Ann Morey, Dean of the College of Education, San Diego State University; Mr. Augustine Gallego, Chancellor of the San Diego Community College District; Dr. Rodgers T. Smith, Provost of the Division of Continuing Education in the San Diego Community College District; Dr. Wallace Porter, Dean, Mid City Continuing Education Center, San Diego Community College District; and Mr. William B. Armstrong, Director, Office of Research & Planning, San Diego Community College District. We are grateful to these outstanding leaders and their staffs for their support of and contributions to the work of the San Diego CWELL.

We are especially appreciative of the continuing interest and dedicated work of graduate students in the San Diego State University who have contributed their time and energies to helping us understand the needs of adult students in the central section of San Diego that we call the CWELL Action Research Center Community. Likewise, we are grateful to the many teachers in the San Diego Community College District, Division of Continuing Education and their adult students for the spirit of inquiry and dedication to learning and instruction that they have exhibited. They have shared generously their thoughts and hopes for adult workforce education and lifelong learning in San Diego. They are the pillars upon which the next generation of teachers and students will rest.

For many of the communication products developed by the San Diego CWELL, including this report, we have been extremely fortunate to have the creative design, graphics, and wordsmithing skills of Doug Cook, of DCWorks. Doug has spent many hours working "knee to knee" with CWELL staff to produce a steady stream of brochures, announcements, newspapers and reports. Thank you many times to Doug for his good-natured and talented work on behalf of the CWELL project.

Finally, it should be noted that the ideas and opinions expressed in this report are those of the author and they do not necessarily reflect the official positions, opinions or policies of the Applied Behavioral & Cognitive Sciences, Inc.; the San Diego State University, College of Education or any of its departments; the San Diego Community College District, Division of Continuing Education or any of its centers; or the William and Flora Hewlett Foundation.
The San Diego CWELL Project

Report of Progress
September 1992 - February 1994

prepared by

Thomas G. Sticht
CWELL Project Coordinator

March 1, 1994

The San Diego Consortium For Workforce Education And Lifelong Learning (CWELL)
The San Diego Consortium for Workforce Education and Lifelong Learning (CWELL) was formed in 1992 with funding from the William and Flora Hewlett Foundation. The Consortium includes the San Diego State University, College of Education, Department of Educational Technology; the San Diego Community College District, Division of Continuing Education; and the Applied Behavioral and Cognitive Sciences, Inc.

The mission of the CWELL is to improve the education and training of out-of-school youth and adults, especially those who do not plan to go to college. These are the youth and adults who will form a majority of the United States citizenry, parents and workforce of the foreseeable future. Many have stopped seeking work, or if they are employed they work in low-paying, low-skill jobs. Many are undereducated and score below the 50th percentile on any number of academic and “life skills” achievement tests. If they are employed, their educational limitations may surface when new technologies are introduced that demand concentrated study and learning of abstract materials. When work is restructured to require participation in communication, decision making and problem solving activities that were previously handled by others, the CWELL population may be unable to take advantage of this opportunity. Large numbers are minorities.

In 1989, the California State Legislature, with leadership by Senators Ralph Dills and David Roberti, created the California Workforce Literacy Task Force. Following a year-long study of the system of education for out-of-school youth and undereducated adults in California, the Task Force noted that a large number of educational organizations offered basic skills (reading, mathematics, writing, English language), vocational, and work-related education in the State. Over $800 million taxpayer dollars were being spent on these activities, but there was no system of accountability in place. No standards were in existence, and very little evaluation information was available. Information that was available indicated that in many programs students stayed for only 80-120 hours and made little, if any, improvements in learning as measured by California’s Comprehensive Adult Student Assessment System (CASAS). No information was found on how well new skills were retained and used by adults to meet their needs.
The Task Force also noted that although many of the youth and adults being served were in the category sometimes referred to as “at risk,” defined as among the most difficult to educate and train, the large majority of teachers serving this population were not professionally trained for such work. For instance, there were over 1,000 organizations providing adult literacy instruction and most made extensive use of volunteers. There were no programs in California’s university system where teachers could be educated and trained in the best methods of instructing and otherwise serving the needs of California’s undereducated youth and adults.

At both federal and state levels there is increasing emphasis on the need for educating and training the nation’s present and future workforce, but the Task Force found no programs anywhere in California (or the rest of the nation for that matter) to prepare professional educators who could

- work with “at-risk” youth and adults to develop school-to-work programs that integrate the teaching of vocational and academic skills into “workforce education” for “high performance” workplaces;

- develop new technical training so that out-of-school, undereducated youth and adults can save time and efficiently learn employability and technical skills for high performance jobs while mastering powerful cognitive skills;

- develop family education programs that serve both children and adults at ages across the lifespan, therefore truly engaging educators in “lifelong learning” and the intergenerational transfer of values and skills;

- serve populations in settings as diverse as the State correctional facilities, Job Corps camps, adult basic and secondary education, and multi-national, high technology industries.

**TEACH THE MOTHER, REACH THE CHILD**

GAIN / ABE

Student mothers say their education helps their children to succeed in learning too.
Based on these and other findings, the California Workforce Literacy Task Force recommended

That the Legislature establish a network of field stations for action research and evaluation on adult education in association with campuses of the California State University and Community College system, oriented to developing information about California's workforce skills needs, abilities of the non-college bound workforce, and the development of improved methods of education and training for non-college bound youth and adults; further that the Legislature require the California State University and Community College systems to establish a formal program to educate and train a cadre of adult educators that can work with the spectrum of education, language, and learning needs of California's undereducated youth and adults.

The Task Force's recommendations were included in legislation passed by the California Legislature, but the bill was vetoed by the Governor because of budget restrictions.

In 1991, after reviewing the California Workforce Literacy Task Force's report, officials at the William and Flora Hewlett Foundation saw the value in the above recommendations. A grant was provided to the Applied Behavioral & Cognitive Sciences, Inc. to prepare a report showing how the Task Force's recommendations could be implemented. Through a second grant in 1992, the Consortium for Workforce Education and Lifelong Learning (CWELL) was established. The CWELL provides a working model of how the California State University and California Community College systems can work together to meet the recommendations of the California Workforce Literacy Task Force for professional development and action research to improve the education and training of California's out-of-school, undereducated youth and adults.

The CWELL Program at San Diego State

As Figure 1 indicates, the William and Flora Hewlett Foundation provided a grant to the Applied Behavioral & Cognitive Sciences, Inc. (the ABC'S), an El Cajon-based,
A non-profit organization specializing in research and development of education programs for undereducated youth and adults, to implement the recommendations of the California Workforce Literacy Task Force. In turn, the AIR provided a subgrant to the San Diego State University to develop a program to prepare a new cadre of professional educators to work with undereducated, typically non-college bound youth and adults.

San Diego State University carries out this program through the College of Education, Department of Educational Technology, which has developed a new Workforce Education and Lifelong Learning Specialist's (WELLS) program as part of the Master of Arts in Education graduate degree. This work is joined by the Department of Administration, Rehabilitation, and Postsecondary Education (ARPE). Through its Postsecondary division, the ARPE Department prepares administrators, teachers and other leaders for community college positions. This provides a natural link for coordinating the SDSU WELLS program with the work of the Action Research Center in the San Diego Community College District.

**FIGURE 1**
The San Diego Consortium For Workforce Education and Lifelong Learning (CWELL)
The Action Research Center in the San Diego Community College District

A second subgrant went to the San Diego Community College District, Division of Continuing Education to implement the California Workforce Literacy Task Force's recommendation to establish "field stations for action research." In the SDCCD/CE, a field station was established called the "Action Research Center (ARC)" to research new methods for meeting the needs of youth and adults for workforce education and lifelong learning. With the subgrant, the SDCCD/CE provides facilities for the ARC, and part-time staff, including an ARC Coordinator, research staff, and teachers who are given stipends to conduct original research to improve instructional services.

The Applied Behavioral & Cognitive Sciences, Inc.

The ABC'S provides advisory and technical services to both SDSU and the SDCCD. At SDSU, ABC'S consultants participate in the development of the WELLS degree program, including teaching the newly developed, introductory course in the program. At the SDCCD/CE, the ABC'S provides a cognitive scientist who works part-time as the ARC Director and a part-time Research Associate. These researchers work with the SDCCD/CE administrators, institutional research office personnel, and teachers to help design, conduct, and report studies on WELL issues. They also monitor research findings from R & D centers and individuals in the U.S. and internationally and disseminate these findings within the SDCCD ARC community.
A Master of Arts in Education with a Concentration in Educational Technology at the San Diego State University

When the CWELL project was initiated, it was planned to provide professional education in the form of a fifteen credit, advanced certificate program to prepare educators to work with out-of-school youth and adult populations. Later on, with increasing interest in the project throughout the College of Education, and the recognition that a truly well-prepared professional would require more education than a limited certificate could provide, it was decided to develop a new specialization within an existing Master of Arts degree program.

In discussions with professors at San Diego State University, a member institution of the California State University system, it was decided that to call the new program a program in adult education would not provide the proper focus. Typically, adult education programs focus on adult education as a separate stage of learning and development from childhood. There are theories of adult education ("andragogy") that distinguish adult from childhood education ("pedagogy"). Yet, the term "lifelong learning" actually refers to learning from "womb to tomb." So to focus a certificate program on just adult learning theories and methods would not prepare educators who may need to work in family education programs where educational services may be provided to pre-school children, K-12 school children, and out-of-school youth and adults.

Additionally, traditional adult education programs do not typically focus on training, particularly job training or other preparation for the workforce. Vocational educators generally provide school-based job training, while many community-based organizations provide employability, job search, as well as job training. Training may also be provided by personnel or human resource development specialists in corporate settings, but they may receive most of their preparation either on
the job or by taking a few courses in instructional design and development. Traditional adult education has not been centrally concerned with preparing out-of-school youth and adults for work or improving the skills of the employed workforce. Yet such a focus was needed for the professional educator being sought in the CWELL project. Through discussions of such ideas, the name “workforce education and lifelong learning” specialist was originated. This name suggests that the new professional will be prepared in promoting learning and education across the lifespan, and develop a special body of expertise related to understanding work, how to prepare people for work, and how to improve people’s workplace skills.

From the outset of the CWELL project, it was decided to house the WELLS program in the Department of Educational Technology of the College of Education at San Diego State University. The Department has an excellent national reputation as a graduate program that attracts students from industry, military, K-12 schools, public sector settings, community colleges and community-based organizations.

The Importance of Technology

The WELLS program was established in the Department of Educational Technology in recognition of the expanding role that technology is and will be playing in providing education to out-of-school youth and adults. To reach these populations in diverse settings (e.g., homes, workplaces, correctional facilities, community-based organizations, community colleges) and at critical times when lives are in transition and access to education and training is sought, various technologies will play an ever increasing role. The professional WELLS must be knowledgeable about and skilled in using a variety of technologies for education, including traditional classrooms, lectures and texts, but also computer-based, interactive media, and television for distance learning.

A Focus on Education and Training Across the Lifespan, in Various Settings, With Diverse Populations

The Department of Educational Technology provides a setting for learning that prepares the WELLS to design and deliver instructional programs in various educational and training contexts, including preschool, K-12, and out-of-school settings.
The emphasis in Educational Technology upon instructional design across the lifespan and in various contexts means that the WELLS develops competence in working in teams made up of various content specialists to analyze learning objectives, to design, develop, and deliver education and training, and to evaluate learning outcomes and program effectiveness.

Meetings with business and industry representatives, discussions about corporate goals and workplace training needs, and analysis of work performance problems are activities that are familiar to faculty in the Department of Educational Technology. A long-standing commitment in the Department to prepare graduates for work in corporate training settings means that the WELL focus on work as an important (though clearly not the only) part of a person’s life is familiar to the faculty.

WELLS graduate students in the College of Education receive a Master of Arts degree in Education with a concentration in Educational Technology and a specialization in Workforce Education and Lifelong Learning. The concentration in Educational Technology enables students to prepare for careers as instructional technologists, educational specialists, instructional designers, and trainers. State-of-the-art coursework and internships in companies, agencies, and schools prepare candidates to analyze performance problems and design, develop, and evaluate instructional programs and products. Students graduate with a portfolio including educational computing software, instructional print materials, video, and interactive multimedia programs.

The WELL specialization allows students to prepare themselves as professionals who will focus on the development of education and training programs for youth and adults who are traditionally undereducated, non-college educated and who work in non-management jobs. The specialization prepares professional educators to implement workforce education and lifelong learning strategies in a wide variety of settings including adult schools in secondary or community college settings, job-training settings (JTPA and JOBS-sponsored education); the Job Corps, correctional facilities and various community-based organizations.
### Required Courses

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>530</td>
<td>Workforce Education and Lifelong Learning</td>
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<tr>
<td>544</td>
<td>Instructional Design</td>
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<tr>
<td>560</td>
<td>Educational Technology</td>
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<tr>
<td>565</td>
<td>Psychological Foundations of Adult and Vocational Education</td>
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<tr>
<td>660</td>
<td>Elective Courses</td>
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<tr>
<td>680</td>
<td>Procedures Of Investigation and Report</td>
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<td>690</td>
<td>General Education</td>
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**Workforce Education and Lifelong Learning**

Understand need for professional development of the Workforce Education and Lifelong Learning Specialist. Develop a new knowledge base for practitioners in this specialized field through study and training of adult education and adult learners. Emphasize the role of community service, and critical thinking. Review research on development of the cognitive science foundations of education, educational policy, and technology, and its ongoing implications for instruction and student learning in schools, government, and organizations.

**Instructional Design**

Apply contemporary theories of learning and design to the development of instructional products. Use traditional methods and current technology to design and evaluate instructional products. Develop learning goals and use contemporary computer-based instruction with learning theory to plan and develop instruction. Select and apply instructional methods that meet the needs of diverse populations.

**Educational Technology**

Rationale, foundations, theories, careers, trends, and issues in educational technology, teaching, learning, and curriculum. Develop skills in planning computer-based instruction and in the use of technology to meet the needs of diverse learners. Select and apply instructional methods that meet the needs of diverse populations.

**Multimedia Development**

Systems, communication, hardware, and software applicable to designing multimedia products. Planning, producing, and disseminating multimedia instruction with learning theory and design.

**Elective Courses**

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<th>Course Code</th>
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<tr>
<td>644</td>
<td>Exploratory Learning Through Simulation &amp; Games</td>
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<td>645</td>
<td>Distance Education</td>
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<tr>
<td>646</td>
<td>Advanced Instructional Design</td>
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<td>647</td>
<td>Instructional Technology</td>
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<td>648</td>
<td>Instructional Psychology-Based Learning</td>
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<td>649</td>
<td>Instructional Technology</td>
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<td>650</td>
<td>Management of Instructional Technology</td>
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<td>651</td>
<td>Information and Instructional Technologies for Organizations</td>
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<td>652</td>
<td>Policy Studies in Language and Cross-Cultural Education</td>
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<td>653</td>
<td>Cross-Cultural Experience In Classroom Interaction</td>
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<td>654</td>
<td>LGBTQIA Spectrum Education</td>
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<td>655</td>
<td>Special Education</td>
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<td>656</td>
<td>Professional Development for Youth with Handicap</td>
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<td>660</td>
<td>Elective Courses</td>
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<td>670</td>
<td>Adult Education Education</td>
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<td>671</td>
<td>Seminar in Adult Learning</td>
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<td>672</td>
<td>Seminar in A Multicultural Society</td>
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<td>673</td>
<td>Teacher Education</td>
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<td>Language Arts</td>
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<td>Literacy and Language</td>
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<td>676</td>
<td>Administration, Rehabilitation, and Post-Secondary Education</td>
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<td>677</td>
<td>Seminar in Instructional Improvement and Evaluation</td>
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<tr>
<td>678</td>
<td>Seminar in Adult Learning</td>
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**The CWELL Project**

**Page 9**
The WELLS program includes completion of two courses that are prerequisites for all students in the Educational Technology concentration, EDTEC 540 and 541, three core courses, EDTEC 530, 544 and ARP 565, a research and reporting course required of all graduate students in education (ED) 690, and four electives (see Figure 2). These requirements make up 30 units of graduate credit. To meet all requirements for the Master of Arts degree in education an additional 6 units must be taken from courses in the 600 and 700 level. This generally includes courses on evaluation, advanced seminars, or thesis preparation.

**Adult Literacy/Basic Skills**

Many of the youth and adults who are the focus of the WELLS specialty are not adequately developed with regard to English language, basic literacy (reading, writing), oracy (listening, speaking) or mathematics competence. WELLS students may choose to develop additional knowledge of language and literacy processes by taking elective courses in Teacher Education (631,639) and/or Policy Studies (602,612,653) (Figure 2).

Most of the courses that the WELLS takes are courses that are presently offered in the various departments of the College of Education. However, one new course, EDTEC 530 is under development and is in the process of being approved as a permanent addition to the course offerings of the Department of Educational Technology.

For the other courses that the WELLS will take, revisions are being made to include new content and practical activities that are appropriate for the general student of Educational Technology but are particularly relevant to the WELLS. A core group of faculty are working together to allocate WELLS content across key courses (EDTEC 544; ARP 565 & 730). These faculty are given release time from one-quarter of their teaching duties to revise the courses they teach.

The curriculum has a strong applied focus. Students, as a part of their assignments in the core courses work closely...
with staff at the SDCCD/CE Action Research Center (ARC). Students are expected to complete field work and studies involving various activities in cooperation with the project staff, teachers, and students associated with the ARC. These practical experiences relate to the didactic experiences the WELLs have in their academic classes.

The Mini-Grant Program

To encourage professors who offer courses that are electives to revise their courses to make them more focused on the needs of the WELLs, the Department of Educational Technology is sponsoring a mini-grant program. In this program, faculty from other departments in the College of Education who are offering electives for the WELLs may apply for funds to conduct literature reviews, sponsor guest lecturers and/or colloquium speakers, or obtain other materials (books, videos) that will help them tailor their courses more to the needs of the WELLs.

Outreach and Marketing of the WELLs Program

To let the public know that the WELLs program is available, the Departments of Educational Technology (EDTEC) and Administration, Rehabilitation, & Postsecondary Education (ARPE) engage in a number of outreach and marketing activities.

Outreach

To let people know about the availability of the WELLs program faculty have presented briefings to the Private Industry Council, to Navy organizations with personnel concerned with conversion of their military skills to civilian occupations, and to various meetings of professional associations (e.g., American Association of Community Colleges).

Additionally, the Department of Educational Technology is hosting a series of national teleconferences that members of the San Diego community are invited to attend. These teleconferences deal with various issues in adult education, such as assessment, evaluation and accountability of programs, and with the need for workforce education. Typically attendance has ranged from 25 to 45 participants representing all segments of the relevant population.
Marketing Plan

To attract students into the WELLS program a marketing plan has been developed that will further identify the target audience for announcements, conduct surveys of potential students, survey potential employers, develop key messages and communication vehicles to disseminate the messages such as press releases, articles in professional magazines, electronic mail, career fairs, etc.

Of particular concern is the recruitment of adults presently employed in employment, training, and adult education careers. Many of these adults are in part-time positions and lack professional preparation for the work roles they are filling. There is also a special commitment to attract minority students to the WELLS program. To facilitate such participation, funding will be sought from business and industry, private foundations, and government agencies for scholarships for WELLS students, including funds targeted especially for minority students.

Though the WELLS program has not yet been completely developed and implemented, there are some early students who have elected to enroll in the WELLS program.

The new, introductory course in the WELLS program (EDTEC 530) was offered for the first time in the summer of 1993. Five graduate students in Educational Technology enrolled in the course. Three of those students have continued in the WELLS program. One works in an adult proprietary school and teaches English-as-a-Second-Language. A second works in the San Diego Community College District, Division of Continuing Education and teaches vocational English-as-a-Second-Language, in the context of light automotive services. The third is a retired Navy technician with experience providing training in the Navy context.

In addition to the three students who have continued in the WELLS program from the summer 1993 course, an additional retired Navy Captain with experience in Naval training has joined the program as a student in the joint doctoral program with the Claremont Graduate School. He is researching education in correctional settings.
INSTITUTIONALIZATION OF THE WELLS PROGRAM

It is significant to note that what began as a special project to develop a certificate program of some fifteen units, with courses from two departments in the College of Education, has now become a full-fledged master's degree specialization that includes courses in a half-dozen departments.

This reflects the importance attached to the WELLS program in the College of Education. In a paper on Visions for the Year 2000, the Dean of the College of Education included a section entitled "Adults Lifelong Learning and the Workplace" and noted that

- The average age of Americans is increasing. Most Americans will change careers several times during their lifetime and these changes will often require education. Further, the rapid growth in knowledge will also influence the importance of lifelong learning.

- The workplace will require competence in resource management, interpersonal relations, information acquisition, systems understanding and technology selection, application and troubleshooting.

- Of the 20 million new workers who will be added to the American economy by the year 2000, only 18% of the net additions will be white males born in the U.S.

- It is estimated that 25 million adults are functionally illiterate, and employers have difficulty finding qualified workers. Businesses are requiring adult learning for literacy and work skills.

- Approximately 85% of the workforce for the year 2000 already is in the workforce; the mean age of employees will be almost 40.

- The Americans with Disabilities Act (1990) and the Civil Rights Act (1991) will change employer/employee demands.
• The social context argues for a comprehensive new approach to education to replace the one under which the current industrial society has matured.

With many special projects the program disappears when the outside funds are gone. That is why it is particularly significant that the WELLS program is in the process of becoming a permanent, fully institutionalized specialization. This means that the WELLS curriculum will continue to be offered and updated over time to provide a new cadre of professional educators for preparing youth and adults for parent, civic, and work roles well into the 21st century.

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Dr. Brockenbrough Allen  
Professor, Department of Educational Technology

KEY PERSONNEL FOR THE WELLS PROGRAM

Patrick Harrison  Bill Piland  Brock Allen
San Diego Community College District,  
Division of Continuing Education

In addition to the need for a cadre of professional educators for California's undereducated youth and adults, the California Workforce Literacy Task Force recommended that

...the Legislature establish a network of field stations for action research and evaluation on adult education in association with campuses of the California State University and Community College system, oriented to developing information about California's workforce skills needs, abilities of the non-college bound workforce, and the development of improved methods of education and training for non-college bound youth and adults...

The Action Research Center (ARC)

Establishing a field station for action research raises important questions. Where should the station be located? Who should staff the station? What kinds of research projects should be carried out? By whom? How can research affect practice?

Location of the Field Station in the ARC Community

To implement the recommendation for a field station for action research and evaluation on adult education, the San Diego Consortium for Workforce Education and Lifelong Learning (CWELL) established the Action Research Center (ARC). The ARC office is located in the San Diego Community College District, Division of Continuing Education, Mid City Center (Figure 3). The Mid City Center is near the San Diego State University. This facilitates the participation of faculty and graduate students in the WEILS program at SDSU in the activities of the ARC as envisioned by the California Workforce Literacy Task Force.

The ARC Community

The ARC aims at improving the education and training of youth and adults in a central part of San Diego. Figure 3 presents the concept of the ARC community in graphic form.
The ARC community is embedded in the greater San Diego area. There are four SDCCD / Continuing Education centers that serve the ARC community: Mid City where the ARC office is located, Centre City with a great deal of vocational education, Cesar Chavez which serves a large Hispanic population, and the Educational Cultural Complex (ECC) which houses the SDCCD/CE Provost's office and conducts vocational and basic skills programs. The San Diego State University, where the WELLS graduate degree program is offered, forms part of the network that roughly circumscribes the ARC community.

The ARC community includes 212,800 people out of the total population of some 2.5 million in the greater San Diego area. It is a more ethnically diverse area than the greater San Diego area with a large population of minorities, many of whom are immigrants and refugees; it has a lower median income (about $23,630 vs $33,720 in the greater San Diego area); lower educational attainment (20 percent of the ARC community adults vs six percent of San Diego area adults have nine or fewer years of education); higher crime rates, teenage pregnancy rates, unemployment rates, poverty and welfare rates. In general, the ARC community is socially, educationally and economically depressed compared to the greater San Diego area.

Because of its socioeconomic characteristics and the fact that there are four SDCCD continuing education centers serving it, where thousands of students attend classes each year, the ARC community provides an ideal test-bed for studying the feasibility of a field station for action research on workforce education and lifelong learning.
Staffing the Action Research Center

The ARC includes staff from both outside and inside the SDCCD/CE. This arrangement provides the SDCCD/CE with a research resource that can provide an outside point of view on instructional and other delivery system components. At the same time, this means that the SDCCD/CE opens itself up to outsiders for study and possible criticism of existing policies and practices. This situation requires that both the outside and inside ARC staff develop a great deal of trust and mutual respect, and a dedication to inquiry aimed at constructive changes to the system.

The “Outside” Staff. In providing outside staff to the ARC, the need was for cognitive scientists with extensive experience in research on workforce education and training. To obtain this research expertise, the Applied Behavioral & Cognitive Sciences, Inc. (the ABC’S) provides a CWEI Project Coordinator with a Ph.D in cognitive science and considerable experience in policy, theory, and practice of workforce education and lifelong learning who provides technical advisory services to the ARC: a part-time ARC Director with a Ph.D in cognitive science and extensive experience in applied research developing technical training in work contexts and in basic skills research and education of adults (reading, mathematics, study strategies, motivation). Additionally, a part-time research associate with a master’s degree in political science and considerable experience in assessment in adult basic skills is assigned by the ABC’S to the ARC.

The “Inside” Staff. The primary staff from inside the SDCCD/CE is an Associate Dean who serves part-time as ARC Coordinator. This is the most critical position in the entire field station enterprise. This person constructs the bridges that connect the outside researchers with the inside practitioners. The SDCCD/CE ARC Coordinator must be committed to inquiry as a means to positive change, sensitive to people and their personal and professional needs, and thoroughly familiar with the people and functions of the SDCCD. This includes the Chancellor’s office, the Division of Continuing Education Provost’s office, Instructional Services, Institutional Research, Deans and Associate Deans at the four ARC sites, program Department Heads, special project leaders, teachers and maintenance personnel who maintain the office facilities for the ARC.
The CWELL project is fortunate to have an extraordinary person with the above characteristics and knowledge at the Mid City site who serves as the ARC Coordinator and provides a liaison between the ARC outside staff and personnel within the SDCCD/CE. Through this arrangement, SDCCD/CE institutional research office personnel, administrators, teachers, and adult students may be contacted and involved in the work of the ARC.

**Doing Research in the Action Research Center**

Most often, educational research is conducted to discover general principles of learning or teaching and the results are published in reports, journals or books. It is then hoped that others will come across the research and adapt and apply the research findings in their local area.

Numerous federal and state research centers and institutes publish thousands of reports each year. But little of this research affects practice. This is particularly true of research on workforce education and lifelong learning. Much of the research is irrelevant, diverse, and conducted in a fragmented manner (e.g., there is the center for the study of reading one place, and thousands of miles away is the center for the study of writing, as though reading and writing do not usually get learned together!).

Given the distributed and variegated nature of the educational research enterprise, it is perhaps not surprising that much of it goes unused. Numerous clearinghouses and resource centers exist, but there are few teachers of youth and adults with the time, training and resources to use these facilities. Further, they would have to spend an extraordinary amount of time reading across numerous disciplines to synthesize practically useful information. Then they would have to figure out how to use the information in their local settings.

**Disseminating Information in the ARC Community**

To facilitate the dissemination of research into the SDCCD/CE and ARC Community the ARC staff monitor research from a wide variety of national research centers. Additionally, ERIC clearinghouses are contacted to obtain research bulletins and notices. ARC staff attend national and state conferences and obtain information of interest to the CWELL.
Researchers apply concepts from the cognitive sciences in the ARC Community.

**Cognitive Science**

In the approach to action research as conceived in the present project, the goal is not necessarily to develop new general principles of learning and teaching, though that could happen, but rather to develop better education and training programs for serving a specified population at a specified place, namely the youth and adults of the ARC community.

To discover new and better ways to meet the needs of youth and adults for workforce education and lifelong learning in the SDCCD/CE, an interactive, participatory approach to research is being followed. In this approach cognitive scientists, administrators, teachers, and adult learners all participate in the research activities of the ARC.

The cognitive scientists monitor R & D efforts from outside the SDCCD/CE and disseminate important research findings within the ARC community (Figure 4). Also, the ARC scientists conduct qualitative and quantitative research to understand how the Continuing Education division functions as a system for delivering education and training to ARC community residents. This is referred to as a "top down" or "research into practice" approach to the study of workforce education and lifelong learning.

Figure 4 summarizes the major dissemination activities that the CWELL ARC has undertaken to communicate research for the ARC community. Through these activities the ARC not only informs ARC community members about educational research, it also creates awareness of the CWELL, its interest in workforce education and lifelong learning issues, and the possibility of engaging in inquiry to improve educational practices in the SDCCD/CE and other educational settings in the ARC community.

**Who Does Research in the ARC?**

The Simple Model of Human Cognitive System shows the interactions between Long Term Memory and Short Term or Working Memory. Long Term Memory contains the knowledge base with language and various information processing knowledge. When thinking is taking place, information processing occurs in Short Term or Working Memory. The information processing skills operate on information in the knowledge base and information picked-up from knowledge bases "outside the head," such as books, speech, and non-language sources.

Reading can be improved by increasing knowledge in the base or by improving or adding to information processing ability, or both.
FIGURE 4
Dissemination Activities by the Action Research Center as of February 1994.

Electronic Networks. The ARC office at Mid City is now connected to the Outreach and Technical Assistance Network (OTAN) of the California State Department of Education. This permits ARC staff to keep-up with State initiatives and to communicate electronically with adult educators throughout California and in other states. The ARC is also connected electronically to the San Diego State University computer network that provides access to Internet and a large number of data bases around the world. To date, little use has been made of these electronic networks. ARC staff has also found that few teachers at the SDCCD/CE have used the OTAN. There is a need for future research to determine just how such electronic networks can be used to improve the educational services in the ARC community.

FAX Bulletins. Fax bulletins are used to announce forthcoming events and to distribute brief Research Notes. The ARC has used faxes for communicating among the ARC continuing education sites as well as with the Private Industry Council, the Mayor's office, California State Department of Education, the California State Senate, and various federal agencies. Research notes have included information about gains scores in California's federally funded 323 adult basic education programs and critiques of the National Adult Literacy Survey.

Community Newspaper. Three thousand copies of the first issue of the Community Exchange, the newspaper of the CWELL ARC, was printed and distributed in October 1993. The second issue were printed and distributed in January 1994. The newspaper is distributed to personnel in the SDCCD/CE, SDSU and various local, state, and federal government agencies. It goes to the Chamber of Commerce, Business Roundtable, and workplace literacy programs around the nation. The newspaper contains information about the CWELL, and features stories with a focus on the intergenerational transfer of literacy, workplace education, writings of adult students, and ideas about accountability, testing in adult basic education, professional development opportunities, and news of outstanding individuals and organizations that are working to improve the quality of life for residents of the ARC community.

Saturday Seminars. Four Saturday Seminars have been conducted. The seminars have been held in a classroom at the Educational Cultural Complex. Presentations have been given by CWELL scientists, teachers, and adult students. They have included topics on the intergenerational transfer of literacy (family literacy), workplace context education, quality standards and the evaluation of adult education programs, and implications of the National Adult Literacy Survey for education and business. Participation has ranged from 12 to 40 or so with an average of about two dozen per seminar.

Conferences. The first CWELL “kick-off” conference was held at the Educational Cultural Complex in January of 1993. The program presented the concepts of workforce education and lifelong learning and provided a forum for ARC community residents to learn about the CWELL project. The second conference was held in February 1994 with Dr. Hans Schuette, Centre for Policy Studies in Education, University of British Columbia, Canada as a keynote speaker to discuss the growing need for workforce education. He was followed by the second keynote speaker, Dr. Cynthia Davis, Executive Director of the PARTNERSHIP for Training & Employment Careers who spoke about professional opportunities for educators and counselors in workforce education and training. Some 100 participants attended each conference and they included teachers, business people, community activists, housing specialists, health providers, university professors, and government personnel, among others.

Presentations to Groups. A large number of presentations about the CWELL and its aims have been presented to various groups. Among these are business-oriented groups (Kiwanas, Citizens Advisory Committees of the SDCCD/CE, Small Business Administration), government agencies (Private Industry Council, HUI) sponsored Family Self-Sufficiency Program, Economic Development Sub-Committee, California State Department of Education, Adult Education Division, California State Legislature Senate Office of Research and a variety of professional groups concerned with adult literacy and workforce education.
A SECOND APPROACH

The second approach to research is a "bottom up" or "practice into research" approach to inquiry. In following this approach, the ARC staff have engaged in three activities: the "teacher as researcher" project that has engaged teachers in the process of raising research questions and designing, conducting and reporting research (Figure 5); the student writing contest as a step toward a "student as researcher" project to engage students in inquiry about learning in the ARC community (Figure 6); and "researcher as practitioner" activities in which the ARC scientists have become practitioners and spent several hours teaching to better understand ARC adults as learners and participating in the work of community-based organizations who serve the homeless and other residents of the ARC community to better understand education needs in the context of the ARC community.

The CWELL Conducts Dissemination Conference


Conference participants left to right: Mr. Augustine Gallego, Chancellor, San Diego Community College District; Dr. Hans Schuetze, University of British Columbia; Dr. Cynthia Davis, Executive Director, The PARTNERSHIP for Training and Employment Careers; Mr. Donald Woodside, Consultant to California State Senator Ralph Dills; Dr. Patrick Harrison, Chair, Department of Educational Technology, The San Diego State University; Dr. Thomas Sticht, CWELL Project Coordinator.
Student Literacy Practices and Experiences in the ARC Community

Student Literacy Practices. Amy Studor, Advanced ESL Instructor at Mid City Center, is studying the non-classroom literacy practices of students enrolled in Advanced ESL classes at San Diego Community College District. She has designed a survey to measure the types of materials students read outside of school - in the home, on the job, and in the community - as well as how often they read these materials (hours per week) and in what language (English, native language or other). Using questions previously used in other literacy practice studies, this project will identify literacy practices of Advanced ESL students in the Action Research Center community and perhaps suggest ways to increase such practices.

Life Histories of Hispanic Female ESL Students. Marina Vera, Instructor of ESL at the Cesar Chavez Center, is conducting in-depth case studies on the functional and familial contexts of three female students enrolled in her class. All are Hispanic, in their 30s, married, and subject to a variety of stressors outside of the classroom. Throughout weekly meetings with these students, Marina is documenting the everyday challenges each undergoes and their effects on their school participation and achievement to develop a better understanding of how her own ESL curriculum and instruction may be modified to better fit their needs.

Students as Researchers and Curriculum Developers

Case Study of Students Reasons for Leaving ESL Classes. Rosa Longan, an ESL Orientation Instructor at the Cesar Chavez Center, is studying the issues of retention in the Hispanic community by conducting a case study of two Hispanic students, who themselves will become student researchers on this project. One student is at a high risk of dropping out of school, while the other is likely to remain in the program. With these students participating, case studies, behaviors and attitudes that contribute to potential success or failure will be described.

Functional Context Education

Behavioral Changes Following a Class in Pronunciation of American English. Linda Kozin, ESL Pronunciation Instructor at the San Diego Assurance Company, is studying the effects of her workplace literacy class entitled "Steps to Clear Pronunciation." The nine-week class is aimed at improving an individual's pronunciation skills, provide information about the sounds of American English, and identify ways to modify one's speech to improve speech intelligibility and communication skills for better functioning in the workplace. This project obtains information to determine if these outcomes are achieved and, if they are not, what modifications the pronunciation class curriculum and instruction need to be more effective.

Life Management for ESL Students. Lynn Bundy, an Advanced ESL Instructor at Mid City Center, is studying the effects of an empowerment-directed curriculum on learning English. She hypothesizes that students who have greater self-esteem, self-setting abilities, and self-awareness will increase their communication skills, assertiveness, and self-confidence, as well as their English speaking and writing ability. In teaching for these skills and attitudes, the class content will be aimed towards three main subject areas: goal setting, motivation and self-esteem, and gender roles and relations (especially women and children). This study will also examine the diverse ethnic and cultural backgrounds of her students and their effects in this context.

Study of Life Skills Program at the St. Vincent de Paul Homeless Shelter. Maxine Williams, the ESL Instructor at the St. Vincent de Paul Homeless Shelter, is currently conducting case studies to evaluate the effectiveness and impact of the Life Skills curriculum at the shelter by measuring its effect on African-American adult students and their preparedness for re-entering and surviving in the workplace.

Intergenerational / Family Literacy Research

Intergenerational Transfer at a GAIN ABE Classroom. Judy Quinlin, ABE Instructor at Muncie Adult Education, is identifying evidence of an intergenerational transfer of cognitive skills from parent to child, in her computer-assisted classroom. Based on a belief that: "a child's best teacher is a well-educated parent," data are being collected to evaluate this hypothesis.

Families Learning English Together. Marjorie Howe, Home Economics Resource Instructor, and Esther Garcia, ESL/Child Development Instructor, have joined forces to revise and update a course outline and develop new course curriculum and instructional materials to help limited English proficient (LEP) parents, especially mothers, and their preschool children integrate better into the community. The project will develop and field test an evaluation component to measure the improvement of English in both the parents and their children, as well as the level of parental involvement in the child's development.

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FIGURE 5
ARC Participatory Research Projects with Teachers as Researchers

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<tr>
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As Researchers

When the CWELL ARC was initiated, among the first activities were the kick-off conference and a series of Saturday seminars. Through these dissemination activities, teachers in the continuing education division initially became aware of the CWELL ARC and its interest in improving the education and training of youth and adults through functional context education (intergenerational/family literacy, workforce/workplace literacy) and action research.

Several months into the CWELL project, an announcement was circulated by ARC staff to Continuing Education teachers inviting them to a meeting to discuss the Teacher as Researcher project. Following this meeting, stipends for teachers were agreed to by the ARC staff and SDCCD/CCE administration and procedures for applying to participate in the Teacher as Researcher project were published and disseminated to Continuing Education teachers. About a dozen teachers responded to the announcement, and ten continued on to become teachers-researchers.

Figure 5 summarizes the ten teacher research projects undertaken to date and groups them according to broader research areas that the ARC staff had discussed in Saturday Seminars, teacher researcher meetings, conferences and in one-on-one meetings with teachers.

The research that the teachers are engaged in has already led to many changes in classroom practices. Participating in these research activities has stimulated teachers to become more learner-centered with regard to their teaching. There is a greater interest in their student’s lives outside of class and in incorporating content in their classes of greater relevance to their students’ lives within the ARC community.

As a consequence of empowering adult teachers to engage in inquiry with stipends that place a value on their professional competence and time, and technical advisory services to assist them in their research, some of the teacher-researchers have initiated developed projects that empower their students by engaging them in the process of research to develop new curriculum materials that better serve their needs. This has helped pave the way for student-researcher projects, as has the student writing contest.
The student writing contest was announced in the first issue of the Community Exchange, the newspaper of the CWELL ARC for the ARC community (distributed in October of 1993). The newspaper gave a question for adult students in the four Continuing Education centers of the ARC community to respond to: "If you could ask President Clinton to improve educational services for yourself and your community, what would you ask him to do and why?" Letters were to be 250 words or less, be original, solely authored work and be received at the ARC by December 1, 1993.

By the deadline, 45 letters from three of the four Continuing Education centers of the ARC community were received. Twelve winners were selected (four from each site) and each received a $25 award, and the letters were published in the January 1994 issue of the Community Exchange.

The January 1994 issue of the Community Exchange also contained instructions for the next writing contest, which calls for students to interview friends about their education needs and why some adults do and others do not participate in education programs.

The goals of the writing contests are to empower adult students enrolled in the programs of the SDCCD/CE by encouraging them to engage in participatory research that can lead to greater participation and achievement in education by youth and adults in the ARC community. By honoring their voices in the community newspaper the ARC aims to break the stereotype that adult basic and secondary students are not prepared to undertake serious adult thinking and decision-making activities that affect their own lives, such as the planning and program development that are involved in determining the needs, goals and accountability for adult education. The aim is also to encourage adult students to continue as active adult learners when they have left the classroom.
FIGURE 6

Dear President Clinton:

"GAINS is a program that gives mothers like me a better way of life. GAINS is helping me to get my diploma. I hope to start working and become successful for our future. My children are understanding about why mom is going to school. I have noticed that they want me to read more to them. That's what makes me happy to know that they're interested in learning more."

Liptia Rodriguez, GAINS/ABE at LCC

I am writing you this letter to give you some input on improving education services for myself and my community. These are some of my reasons why our community needs help. We need more programs for adult classes for single parents and high school children that drop out of school because of problems in regular schools. We need, "Day and Night," schools where single parents can bring their young ones to a nursery where they can be free for students in the classes. Why? So they can make a better future for their children today. We need to open more high schools in our communities, so students will not be turned down at the community colleges because all the classes are full. We need updated books in our classrooms, and enough books to pass around in the classrooms. We don't want over-loaded classrooms. We need a teacher's aide in our classrooms so we can get the proper help we need because we have been out of school for a period of time. We need the teachers to take five days a week to help the students. Everyone's not on the same level and the teacher has to teach different lessons to different groups of students all in the same day. We need more parking spaces for student parking, and we need more restrooms."

Lita Marie Martini, ABE St. Vincent de Paul, Centro City

This small sample of extracts from letters by adult education students in three of the four ABE Continuum Education sites illustrates the insights that students can bring to the educational process, and how they can help define their own educational needs and the values that education can bring them, their children, and their communities.
In addition to the dissemination activities, teacher as researcher and student as researcher projects, the ARC Director and Research Associate undertake qualitative (ethnographic) and quantitative studies in the ARC Continuing Education system.

One major project, the Delivery System Study, has included both forms of inquiry to study the basic skills and vocational education programs offered in the four Continuing Education sites of the ARC community. Through naturalistic observation, participant observation, interviews with informants, structured interviews, surveys and reviews of community college documents, reports and data bases, an understanding of the complex system that serves adults in the SDCCD/CE is being constructed. A comprehensive report of understandings as of February 1994 was prepared and presented to SDCCD/CE administrators and teachers for their use in planning new courses of action for adult education.

Future activities of the ARC will aim to have more adult students work with teachers and researchers to increase the participation in education of youth and adults in the ARC Community, to increase the achievement of students inside the classroom and outside the classroom by engaging in more literacy practices and learning outside the classroom, and to work on the prevention of future education problems by engaging in activities of an intergenerational nature at home and in the schools.
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THE CWELL ACTION RESEARCH CENTER
INITIATIVES FOR 1994-95

In the second half of the San Diego CWELL Project,
The Action Research Center (ARC)
Will orchestrate its activities in three themes:

PARTICIPATION
ARC staff, teachers and adult student researchers will
explore ways to increase the participation of ARC
Community residents in education.

A telephone survey will be administered to determine
the extent of participation of adults in San Diego in
adult basic and other education. The survey will also
explore the feasibility of assessing literacy by telephone.

ACHIEVEMENT
ARC staff, teachers and adult student researchers will
explore ways to increase achievement in learning both
inside and outside the classroom. Inside the classroom,
work will focus on measuring and increasing achievement
in Vocational Adult Basic Education (VABE) programs
that lead to advanced job training for high-paying jobs.

Outside the classroom, the ARC will sponsor the
"millionaire's club" to encourage adult students to
read a million words a year in books, magazines, and
newspapers outside of class. Research will be conducted
to determine the extent to which engaging in such
practices leads to improved knowledge and skill in
literacy.

PREVENTION
ARC staff, teachers, and student researchers will work
to prevent future generations with literacy difficulties
by making every English-as-a-Second-Language (ESL),
Adult Basic Education (ABE) and Adult Secondary
Education (ASE) classroom a "family literacy" classroom.
Methods and materials will be developed to
increase adult knowledge regarding parenting,
caregiving, and schooling and to increase the
intergenerational transfer of new knowledge and skills
learned by parents to their children.