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ABSTRACT

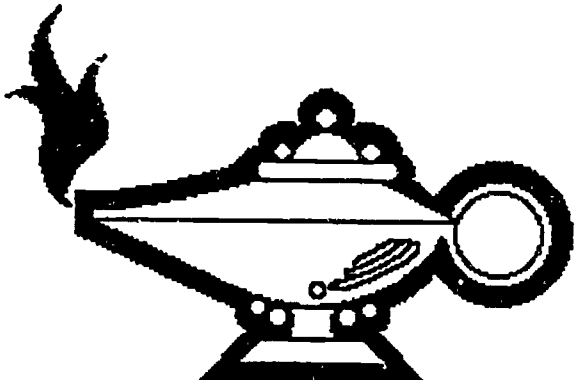
This document contains the full text of the conference keynote address and abstracts of conference papers. The keynote address--"Excellence in Rural Education: Our Heritage and Our Future," by Duane M. Nielsen--outlines: (1) demographic changes in rural America in the 1970s and 1980s; (2) the challenges facing rural education due to increasing educational demands and requirements and diminishing financial support; (3) issues of rural education needing further research and development; and (4) the activities of the U.S. Department of Education related to rural education. The section covering the general session contains 38 abstracts on such topics as school improvement, teaching methods, distance education, school community relationship, staff development, facilities construction and improvement, program development, computer or technology oriented programs, teacher and administrator turnover, and the strengths and problems of rural schools. The section covering science education contains 18 abstracts of papers on cooperative learning; teaching evolution; science education for elementary school students, out-of-school adults, preservice teachers, and nursing students; career guidance and counseling; science information networks; computer oriented programs; integrated activities; and student research. The section covering special education contains 12 abstracts of papers on gifted education, community based instruction, inservice teacher education, medical educational cooperation, program development, parent education, reading and writing instruction, and transition services. (SV)

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Rural and Small Schools Conference  
October 24-25, 1988

# Rural and Small Schools: Excellence for All



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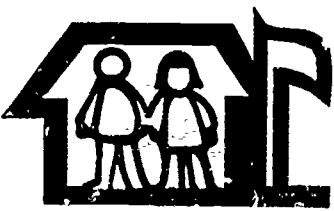
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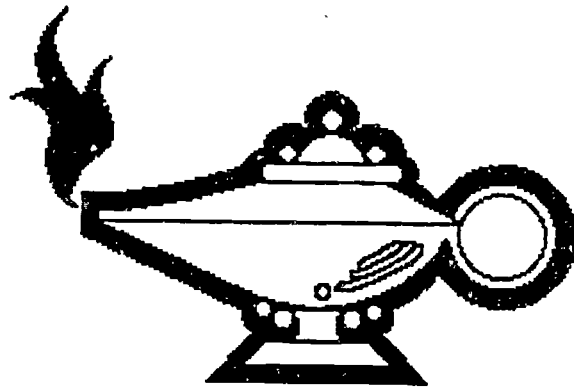


Center for Rural Education  
and Small Schools  
College of Education  
Kansas State University  
Manhattan, KS 66506

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# Rural and Small Schools: Excellence for All



Tenth Annual Rural Education Conference  
October 24-25, 1988

Jerry G. Horn and Barbara Havlicek  
Editors



Center for Rural Education and Small Schools  
College of Education  
Kansas State University  
Manhattan, KS 66506



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# KEYNOTE ADDRESS

**EXCELLENCE IN RURAL EDUCATION:  
OUR HERITAGE AND OUR FUTURE**

Dr. Duane M. Nielsen  
Deputy Director Division of National Programs and  
Chair U.S. Department of Education Rural Education Committee

It is a personal pleasure and a professional privilege to be a part of this 10th annual Rural and Small Schools Conference. Thank you for inviting me. My roots run deep in rural America - born and raised on the plains of Nebraska, my first six years of formal education were in a one room country school with nine teachers - one certified and eight of us kids who taught each other. My entire 40 years in Kansas, teaching Research and Administration at local, university, state and national levels, has all been directly or indirectly in rural education.

I commend the KSU Center for Rural Education and Small Schools for their continuing exemplary leadership in rural America and the conference planning committee for the excellent conference program and challenging theme "Rural and Small Schools: Excellence for all" in keeping with that theme I have chosen as my topic, for these few minutes we will have together, "Our Heritage and our Future".

Our Heritage:

During the 212 years since the birth of our nation, much of what is good, strong, responsible and enduring has been rooted in rural America. During the first 150 of those years we were essentially a rural nation. Those hard to describe, but easy to feel, characteristics of trust, togetherness, independence, responsibility, and the simple assumption that rural people will always give 100% of their very best effort, are part of the legacy of rural America that all of us appreciate. Rural America is a place where both door latches and heart latches are kept unlocked. It is a place where, if you dial the wrong number, you will still talk to the person who answers for 30 minutes. Rural America has been, and still is, the source of much of the strength, character and leadership of this nation. I can sense it, and I see it, in this room this morning.

Rural America has experienced major changes in its social and economic conditions during the past 50 years. At the beginning of the depression years there were 6.7 million farm families; today there are only 2 million. Running water, electricity, mechanization, and other modern amenities were rarities. Education attainment of rural citizens was only a fraction of those living in urban areas.

Between 1950-1965, technological innovation reduced employment by 45 percent. Rural unemployment was 18 percent at a time when the national average was only 4 percent. More than 14

million rural citizens were living in poverty, forty percent of substandard housing was located in rural areas.

But in the decade which followed, remarkable changes began to take place. It was during this time that the reverse migration, population turnaround began. Beginning in the 1960's, and with dramatic acceleration in the 1970's, the patterns of rural decline reversed itself. While some rural regions continued to lose population, the 1970's saw the population of rural and small town America as a whole grow more than 50 percent faster than that of urban America.

People in virtually every ethnic, racial, age, and economic category moved to rural America in the 1970's. The urban commuting patterns began to reach beyond the suburbs to the countryside during the past decade, but the population growth in rural America was not simply a product of urban sprawl. Instead it was an expression of preferences for a more rural lifestyle.

At least since the 1940's, when national public opinion surveys were first taken, a majority of Americans has expressed a preference for rural life even while more and more moved into cities. By the 1970's, beset by crowded conditions and other urban ills, and drawn by expanding rural job opportunities and other attractions of the countryside, millions of city dwellers were ready to move, and did. By 1980, rural America claimed a population of over 60 million people, one in every four Americans.

The efficient American farmer continued to produce greater harvest with fewer people--twice as much output as in the 1940's with one-third as many workers. The farm population seemed to have stabilized at fewer than 6 million out of a total rural population of more than 60 million. Other rural enterprises, however, registered significant gains in employment and output during the 1970's, diversifying the rural economy to the point that agriculture could no longer be said to dominate it. With this diversification, the rural economy was coming closer to resembling the national economy and, thus, more directly affected by national economic cycles.

Also, self-employment -- a strong rural tradition -- was nearly twice as prevalent in rural as in urban America, and this entrepreneurship extended from the farm to every other field of rural economic activity.

The percentage of rural people living in poverty fell from 17.9 in 1969 to 13.7 in 1980. In the long term, over the 20 year period from 1960 to 1980, the number of people below the official poverty line declined even more dramatically, from about 33 percent of the rural population in 1959 to only 13.7 percent in 1980.

The 1970's saw the measure of rural "sick days" (days absent from work or school) fall below that of urban areas for the first time. During this period there was also a 13 percent increase in the number of rural physicians per 100,000 people. The number of occupied housing units lacking full plumbing -- the key indicator of substandard housing -- fell during the 1970's from 13 percent to 5.4 percent.

The percentage of high school graduates among the rural population grew from 45.9 in 1970 to 62.8 in 1980, more than the

urban percentage. Secretary of Education William J. Bennett's report card on education this past spring placed several of our most rural states near the top in the nation, not only in percentage of high school graduates but also in average college entrance examination scores. Quality education is a significant part of our rural heritage. The fact that rural America was once again becoming an attractive place to live was recognized by large numbers of urban residents, who put their long recognized preferences into action -- they moved to the country and into the small towns.

However, this movement created some problems of its own. The newcomers began to demand services from local governments similar to the services in urban areas. In some rural communities, though certainly not in all, this demand was beyond the technical and fiscal capabilities of the local government systems. The delivery of most government services is almost always more expensive and difficult in rural areas. There are fewer users per mile of sewer pipe, electrical lines, or telephone wires. Thus, problems of scale and distance, coupled with the lower tax base of rural communities, have caused some problems, and, during the 1980's - the plight of the rural economy has created some very serious problems. If rural revitalization was the theme of the seventies, economic stress is the issue of the eighties.

Dr. Neil Harl, Agricultural Economist at Iowa State University and nationally recognized authority on the rural economy, has written extensively on the problem confronting rural America. He has described U.S. Agriculture since 1981 as having been through the most wrenching financial adjustment in a half century. Not since the 1930's have issues of debtor distress gripped rural America as they have in the 1980's. In several agricultural states, land values have dropped by more than 60 percent since 1981, cutting enormous amounts of collateral value and wealth from balance sheets and increasing the economic vulnerability of even those who survive. The numbers of farm foreclosures, forfeitures of land contracts and defaults on notes have reached levels not seen since the days of the great depression. The level of emotional trauma being suffered by indebted farmers and small business persons has been a tragedy of awesome proportions.

The scope of the problem is much broader than farms. Although economic stress gained a foothold among the more heavily indebted farmers, the phenomenon escalated sufficiently to threaten the entire rural community. Diminished economic vitality in rural communities as purchases have been deferred and as employment has been lost has led to failing businesses and reduced ability to support governmental services. The effects on school districts, health care delivery systems, local units of government and other rural area institutions have tended to lag the effects on farm firms but are nonetheless substantial and, in some rural areas, may lead to a significant reduction in the quality of life. The data make it clear that the problem is almost national in scope. The severity varies from area to area, and the midwest has suffered the most, but agricultural stress has existed in almost all areas of the country.

Only rarely has rural education in the United States faced the challenges inherent in today's rural economic environment. Quite clearly, rural education in this country is crossing a frontier of enormous opportunity in terms of meeting the educational needs of individuals, both youth and adult. A major challenge for school administrators, teachers, taxpayers, concerned citizens and governments is how to finance and organize to meet the educational needs for the last decade of this century. How successfully we address this challenge will determine the future for rural education well into the twenty-first century.

Rapid economic and social change in rural America is not a new phenomenon. Since the beginning of recorded history, our rural areas have been adjusting to conditions of greater efficiency. However, the current plight of the rural economy resulting from a multiplicity of interacting factors, has serious implications for rural education.

Even though our educational systems have already been affected by the economic trauma affecting much of agriculture, successive waves of adjustment are almost certain to more seriously impact: (1) The scale of educational delivery systems, (2) the way education is financed in rural areas, (3) the range of educational services available; and (4) the willingness and ability of local districts to provide levels of educational services justified by overall societal benefit and cost.

Although there has been some recent improvement in farm prices and income in agriculturally based rural areas, that income, of necessity, has been allocated to debt retirement and has not contributed significantly to the improvement of the general condition of the local community. In addition, the drought of the spring and summer of 1988 has impacted negatively on the rural economy.

So, those of us charged with managing and administering educational programs in rural areas are approaching a task of herculean proportions: Reconciling unprecedented demands for educational services on the one hand and carrying out programs in an environment of diminished local capacity to support current levels of educational services on the other. Without doubt, well planned and delivered educational services will pay handsome dividends on a cost-benefit basis. But new strategies will be needed as shifts occur in funding patterns and in leadership in rural areas. The challenge to rural educators at all levels will be awesome. While we most certainly should not cast the challenge to rural education in the realm of the impossible, there will likely be times in the next decade when we, through our most creative and dedicated efforts will feel that we have, in fact, accomplished the impossible. It is at those moments that we must remember that challenges and problems are really only opportunities in disguise.

#### Our Future:

The past experiences of our heritage should be a guidepost, not a hitching post. They should be the starting line, not the



finish line, preparation, not destination. Just as he who was totally self taught had a fool for his teacher, she who totally charts her own course has a fool as her navigator. So, for the next few minutes, let's turn to some of the thinking of a few of the experts who have been addressing the issues of rural America over the past several months and see what they have identified as the agenda for rural and small schools if they are to provide excellence for all in their rural education programs.

Their research and writings have convinced me that educational programs across the nation are engaged in serious efforts to assist residents to cope with the problems of the changing rural economy, and to enhance the opportunities for individuals to realize their personal aspirations through learning.

They have characterized the emerging rural environment as one in which the rural population has become increasingly more aware of world events and the internationalization of the economy. There are higher expectations for all public services, including far more aggressive problem identification and solution than has been practiced before, and a greater understanding of the political process and how it can be used.

Rural communities are increasingly seeing their schools as elements in policy determination and implementation. Schools have traditionally been the social centerpiece of rural life, but they are undergoing closer scrutiny as the means of providing continuing education, attracting industry, and interfacing between the community and county, state or regional concerns.

The research and writings of the rural education experts have also identified numerous challenges confronting rural and small schools, including:

- Increased Requirements for Teacher Certification
- An increase in number, and changes in type, of courses required for high school graduation
- Increases in University Admission Requirements
- Effective Preparation for Employment
- Adequate Financing
- Teacher Shortages
- Instructional Technology
- Distance Learning
- Improved Support Services
- At-Risk Populations
- Improved Organizational and Administrative Structures

The current literature also reveals several perceptions commonly held by most scholars who work in the field:

Rural education issues and concerns have been of relatively low priority for many professional educators and researchers.

Administrative, curricular, and staffing solutions to educational problems in metropolitan America may have only limited application to rural America and rural education.

Demographic, economic, administrative, vocational, and community differences existing in many rural regions of the nation demand specific attention from educational researchers and policy makers if rural schools are to achieve their full potential.

The future of rural schools is integrally related to larger rural policy questions.

Rural Americans must develop the political clout to be heard at state and National levels if their needs and aspirations are to be met.

Many of you are familiar with the issues that are being recommended in the literature as needing further research and development. I will mention only a few:

- Characteristics of Effective Rural Schools - How to Build on their Strengths and Correct their Deficiencies
- Identification of Successful Practices/Programs in Rural Elementary, Secondary and Post-secondary Schools - How to effectively Disseminate and Replicate them
- Strategies to Stabilize Revenues while Operating on a Small Tax Base
- New Revenue Sources and Alternative Funding Formulas for Rural Schools
- Partnerships and Collaborative Efforts - Regional Networks
- Use of Technology and Distance Learning Strategies
- Consolidation and its Alternatives
- Recruiting, Preparing and Retaining Staff in Rural and Small Schools
- Preserving Local Autonomy in the Rural School and Community
- Entrepreneurship and Hands-On Learning in Rural Communities

These topics which have been recommended for additional research are quite comparable to the research and development agenda proposed by our Department of Education Rural Education Committee. That agenda, which has been shared with the KSU Center for Rural and Small Schools, includes:

- Rural School Effectiveness
- Education Personnel for Rural Settings
- Advanced Technology
- Curriculum
- School and Community
- Governance and Finance

The Department of Education is actively engaged in addressing the current issues in rural education, to the extent that our authority and limited resources will permit. The coordination of rural education activities within the Department is a responsibility of the Office of Vocational and Adult Education, where I serve as Deputy Director of National Programs. This



coordination is accomplished, primarily, through the Department of Education Rural Education Committee which I chair. All of the 14 major offices in the Department are represented on this committee. The committee identifies and coordinates rural related programs and activities within the department, maintains liaison with rural associations and organizations nationally, reviews legislation, regulations and policies for equity for rural education, and provides technical assistance and leadership on rural issues and programs. I also chair the Inter-Departmental Indian Education Coordinating Committee whose major focus is on Native American Populations in rural areas.

Our Office of Vocational and Adult Education is also responsible for the selected inter-agency committee on rural education. This committee, which is composed of representatives from 25 federal departments or agencies, coordinates related programs and activities among federal agencies which address rural education. The committee serves to identify important issues that affect education in rural settings, and exemplary programs at the federal level, and to share information about them. Recommendations for dissemination of information, and for the research and development agenda which I referenced a moment ago, are made through FICE to the Secretary of Education.

I also represent the Department of Education on the White House Working Group on Rural Communities which coordinates rural development programs among federal agencies, secures input on the needs for and effects of these programs, and develops policy proposals for the Cabinet Economic Policy Council.

The department continues in its commitment to the Rural Education Policy Statement developed by the Department's Rural Education Committee, signed by the Secretary and officially announced five years ago at the 1983 NREA Annual Conference here in Manhattan, Kansas. There are currently over 40 projects and activities supported by the Department of Education which impact on rural education to varying degrees. Some of you have read about these activities over the past 18 months in the last five issues of Rural Education News, the NREA Newsletter. If you are not a member of NREA, and do not receive the newsletter, I urge you to see Joe Newlin, Executive Director of NREA and join. He will see that you get the copies. The "Washington Perspectives" column, which I prepare for each issue has highlighted in considerable detail the rural education related activities of five of the offices of the Department of Education in the last 5 issues. The offices covered to date are the Office of Elementary and Secondary Education, the Office of Bilingual Education and Minority Language Affairs, the Office of Special Education and Rehabilitative Services, the Office of Post-secondary Education, and our Office of Vocational and Adult Education which is featured in the current issue of the Newsletter. I encourage you to read those columns for an overview of Department of Education Rural Education related activities.

I wish each of you individually, every success as you build on the enormous strengths of your rural heritage and confront the equally enormous challenges of your rural future. As you continue

in the endeavor, draw on this sage wisdom of Ralph Waldo Emerson, "Neither what lies behind us, nor what lies ahead of us, is as important as what lies within us", and on the exceedingly practical advice of Jesse Owens who, on August 9, 1936, after winning his 4th Gold Medal at the Berlin Olympics, was asked how he could accomplish such a feat. Jesse Owens' incredibly simple, yet profoundly meaningful response was, "You will never know how fast you can run a race until you have run that race as fast as you can." May God bless you as you continue to run the race for excellence for all in rural and small schools.

# GENERAL SESSION

## ADAPTING A RESEARCH-BASED SCHOOL IMPROVEMENT PROCESS FOR RURAL SCHOOLS

Bruce A. Miller  
Rural Education Specialist  
Northwest Regional Educational Laboratory  
Portland, Oregon

In 1987 Northwest Regional Educational Laboratory began the implementation in rural schools of a research-based, systematic school improvement process. Project implementation aimed at enabling school building staffs to focus on long-term efforts to enhance student performance in three areas: achievement, attitude, and behavior. Four objectives guided the project:

- organize rural schools into regional (within-state) networks for school improvement in Montana and Idaho;
- adapt an existing school improvement process, training and technical assistance service, and capacity development (training of trainers) procedures for use in rural schools;
- field test the adapted model;
- develop the capacity to extend use of the school improvement model in rural Montana and southern Idaho.

The strategy for achieving these objectives was the adaptation of an existing school improvement training process which can then be used to train a limited number of rural schools. Personnel from these schools, in turn, will be trained to deliver school improvement services to other area rural schools, thereby developing local capacity and improved access to long-term school improvement in rural settings.

To date, twenty-six schools in nineteen districts in Idaho and Montana are participating in the two-year training process. To evaluate the improvement project, both qualitative and quantitative methods are being used.

Presently we are halfway through the two-year improvement process. A panel presentation will discuss progress to date. The panel will be chaired by a trainer from NWREL who will present an overview of the improvement process. Two rural practitioners will describe their experiences with the training and implementation of the program within their schools.

## A BLUEPRINT FOR EDUCATIONAL EXCELLENCE IN RURAL AND SMALL SCHOOLS THROUGH SCHOOL/UNIVERSITY COOPERATION

J. Preston Prather and George M. Drew  
Center of Excellence for the Enrichment of  
Science and Mathematics Education  
The University of Tennessee at Martin  
Martin, Tennessee

Established avenues of cooperation among local education agencies and institutions of higher education are essential to enable local school teachers and administrators to benefit from and contribute to educational research and development. This is critically important for rural and small school systems. This program will review the origins of a tradition of cooperation among institutions of higher education and state and local education agencies in Tennessee and examine how this cooperation has contributed to recent educational reforms in the state.

Relations between the various agencies throughout the state have not always been cooperative, but the bases of cooperation are evident in Tennessee's educational history virtually from the state's beginnings. The tradition was clearly established by the early 1980s, however, with the formation of several large statewide task forces to examine the condition of public education in Tennessee; the resulting cooperation culminated in the Comprehensive Educational Reform Act of 1984 (CERA).

Continuation of this tradition among the University of Tennessee at Martin's Center of Excellence for the Enrichment of Science and Mathematics Education (CEESME), the Tennessee Department of Education, and small school systems in the university's predominantly rural service area culminated in a successful project for local team leadership development that has achieved nationwide acclaim and international recognition. Consequently, the rural teams of educators, consisting of elementary teachers, principals, and supervisors, are widely sought for inservice programs and professional presentations throughout Tennessee. Although the project was designed for elementary science, the concept of leadership development is generally applicable to other grade levels and subject areas.

Following a brief discussion of the cooperative activity that produced the Tennessee project, which was supported by a National Science Foundation grant (TEI-8651464), a workshop will be conducted on ways rural and small schools, state agencies, and universities may establish avenues of cooperation in assessing the condition of and determining the direction of public education into the 21st century. The workshop will culminate in a synthesis of participants' points of view on options for teacher preparation that may best meet society's educational needs and expectations. It is anticipated that this portion of the program may result in the initiation of collaborative efforts among participating rural and small school officials and teacher educators in their various states or regions, thereby establishing avenues of cooperation for educational reform.

## BUILDING AN AWARD-WINNING WRITING PROGRAM IN THE SMALL SCHOOL

Larry Forsythe  
Principal  
Paola High School  
Paola, Kansas

and

Mel Riggs  
English Language Arts Specialist  
Kansas State Department of Education  
Topeka, Kansas

The Neodesha High School is the recipient of an award for excellence in teaching written communication. It is the first rural school to receive this award.

Mr. Forsythe who began the program and Mr. Riggs who watched and encouraged its development will present information on choosing the most appropriate inservice to foster such programs, securing administrative support, achieving faculty cooperation, and gaining the support of school patrons. Perhaps most importantly, they will describe what happens in the writing classrooms of award-winning rural schools.

### Report

In 1985 the Neodesha Board of Education and the administration of Neodesha High School recognized that greater emphasis on writing had become a curriculum priority and began to work with faculty to improve the writing program.

Cooperation by those three groups was the key to improvement. The board and administration recognized the need for financial help to pay for appropriate inservice, materials, and time to design a plan in order that their good faculty could cooperate for a better program. They also saw the need to give their faculty a vote of confidence rather than to blame them for failing to do work that required the cooperation of all parties. Given support, the faculty, while not of a single mind on how to accomplish improvement, were eager to work for improvement.

Cooperation was possible because leadership recognized that their role was to provide support in a humane environment.

The result was an award-winning program with the following characteristics:

1. Both students and teachers write frequently.
2. Students learn that writing is a way of making meaning, in addition to reporting what they know.
3. Students learn that exploring a subject through writing is a means of learning new material.
4. Students learn that some writing is important enough to revise, perhaps more than once.
5. Students and teachers recognize that mechanics are best learned when writers are writing about something they find important.

6. Students and teachers recognize that while mechanics are important for a finished product, they are not the first consideration while they write.
7. Student writers collaborate and publish rather than work in isolation, writing for an audience of one teacher.
8. Faculty understand a theory of writing which allows them to make informed choices about teaching methods and student assignments.

## COMMUNITY COLLEGE INITIATIVES IN RURAL ECONOMIC DEVELOPMENT

David Reisdorph  
Senior Resource Planner  
Midwest Research Institute  
Kansas City, Missouri

Midwest Research Institute (MRI) has prepared several major technical assistance publications on rural economic development for the U. S. Department of Commerce, Economic Development Administration. Our most current project is preparing a Portfolio of Community College Initiatives in Rural Economic Development. This publication will present research results on the most promising programs being undertaken by community colleges in rural areas to promote economic growth and diversity. It is the intention that those programs showing success will become models for other community, junior, and technical colleges with rural constituencies. In Part II of this research, MRI will deliver technical assistance to selected rural community colleges that are committed to trying similar economic development projects.

In this presentation, Mr. David Reisdorph, MRI project member, will share selected programs identified to date for inclusion in the Portfolio. For example, the "offerings" of aggressive rural community colleges today include a business management seminar series for farm wives running home-based cottage industries (Colorado); a three-year "Rural Renaissance" program placing economic development specialists in small towns (Idaho); and a program to train AFDC mothers to start and manage quality day-care facilities (California).



## CONTRIBUTORS TO RURAL TEACHER TURNOVER

Jeffrey M. Anshutz  
Principal  
Phillipsburg Middle School  
Phillipsburg, Kansas

Between 1970 and 1985, the State of Kansas enrollment declined by 71,000 students. During the years 1970 through 1973, Kansas enrollment was at its peak. Those 1970s enrollment numbers will not be reached again in the foreseeable future. The late 1970s were the last school years of the baby boomers. We are now having their children in school. It is projected that enrollment in Kansas will increase by 35,000 students until it levels off and declines again. Enrollment is on the rise--but not everywhere. Thirty years of out-migration in rural counties has affected where students live. The transition from a primarily agrarian society, along with the economic problems of both agriculture and oil industry, has further reduced rural populations and with that rural enrollments. The effect of continuing enrollment decline in rural schools will impact heavily upon teacher recruiting and retention in the future.

Fewer students will affect staff levels. In an age of specialization, rural schools will need to recruit and retain general practitioners. There will be a need for greater versatility from existing staff as well as recruitment based upon ability for retention. Courses in upper-level mathematics, science, and foreign language, as well as increases in special education programs and computer science, have made recruiting demands disproportionate with the past. There is an increased need for teachers just entering the field, ones who have selected these high-priority areas for their specialization. In a noncompetitive market such as education, factors other than salary come into play. The attractiveness of a community can have a great influence upon recruitment and therefore retention.

An argument can be made for the advantages of teacher turnover. It will concede that turnover brings new ideas and creativity to school. It seems unfortunate that the turnover is usually associated with the losing of the creative and effective to bigger and better things and the retaining of those who stifle creativity, hinder effective change, and are reluctant to contribute past 4:00.

Data used in this presentation come from a study conducted in 1986 in the seven-state McRel region. The study included 289 teachers with five or fewer years of experience. The districts in which these teachers were employed were located in rural counties, that is counties with no population center of over 2,500 people.

Of teachers surveyed, 20.9% are not returning the next year. Of those not returning, 70.7% are going to larger districts located in larger communities. From the data collected, it is apparent that teachers leave schools not because of their job but because of the perceived condition of their life, both social and cultural, in the community in which they work.

The problems of retention are not strictly limited to a teacher's ability to adapt to rural isolation. Of teachers surveyed, 34% reported that their preprofessional teacher training was inadequate for preparation for the isolated rural environment. Future teachers tend to desire working in environments that are similar to the college environment for both social

and cultural reasons. Very little emphasis, therefore, is placed upon rural preparation because of lack of student interest. For a new teacher, a job is where you find it and many are forced to take positions in communities where they had no previous desire to be. Although pleased with the work situation and the rewards of teaching in rural environments, the community cannot provide the minimal acceptable level of social and cultural gratification.

The level of community satisfaction, which is the largest determinant of whether a teacher remains in the rural environment, is affected to the greatest degree by marital status. Teachers who are married are not affected by the social and cultural void to the same degree as are single teachers. This is not particularly earth-shattering but should be considered when recruiting. Another facet of marital status--42% of those married had spouses in education. This tends to indicate that hiring couples is more acceptable than in the past.

Two other effective predictors of community satisfaction are similarity of home community and community size preference. While these are not as effective a predictor as marital status, it is likely that an individual will have little satisfaction with a community of 2,000 if they were raised in a community of 100,000 or would like to live in such a community.

As for the immediate future, there is no evidence that the situation will change. Rural districts will have a difficult time attracting and retaining quality teachers for some positions. As communities get smaller and provide fewer services, it will become increasingly difficult to recruit. Job satisfaction is not the main concern for young teachers, a job is a job and rural schools have many job-related advantages. Districts must overcome the effects of their isolation by recruiting teachers for retention. This can only be accomplished by seeking out and giving preference to individuals which can best come to and enjoy the rural community environment.

Some strategies that districts may use for coping with recruiting problems may be:

- retraining of present staff (additional certifications),
- training of substitute teachers for positions, and
- training of nonteachers who will reside in the district.

## DISTANCE LEARNING: THE GOOD, THE BAD, AND THE IMPOSSIBLE

Robert Nelson  
National Sales Manager of TI-IN Network  
San Antonio, Texas

The "classroom without walls" created by TI-IN Network, Satellite Transmitted Academic Resources, removes geographical barriers to existing educational programs and equalizes access to educational resources for students, teachers and administrators. The Network provides a medium to access critically needed programs and courses by delivering over 150 hours per week of live and interactive programming, such as: high school credit courses for students, staff development programs for school district's professional and support staff, college credit courses, and English as a Second Language instruction. It creates, in essence, a classroom without walls for students and teachers alike.

TI-IN Network is a state-of-the-art interactive, instructional satellite delivery system featuring:

- automatic dial audio response via toll-free (800 service) phone line;
- electronic copy distribution of hand-outs, exams, and administrative information;
- addressable, computer-controlled broadcast signal to provide program security;
- a turn-key, single-vendor approach to provide a complete system of technology and programming to schools.

Entering its fourth year of service to our nation's schools, TI-IN Network developed as a cooperative venture between private enterprise and public education in an effort to equalize access to scarce educational resources nationwide. School districts in 27 states currently participate in the programming of TI-IN Network--"The Classroom Without Walls."

## EDUCATION AND RURAL COMMUNITIES: REPORT ON THE FORD WESTERN TASKFORCE

Jacqueline D. Spears, Gwen Bailey, and Sue Maes  
Rural Clearinghouse for Education and Development  
Kansas State University  
Manhattan, Kansas

In conjunction with the Ford Foundation's initiative in rural education, the Rural Clearinghouse for Education and Development at Kansas State University has formed a Western Taskforce to explore concerns with rural education in states west of the Mississippi. The Taskforce is currently focusing its work on: (a) rural school organization and governance, (b) improving rural school response to cultural and linguistic differences, and (c) building a rural database in education. This session presents a summary of work in progress.

Rural school organization and governance are being pursued from the perspective of strategies that integrate rural schools into the life of their communities. Four strategies are being explored: (a) rural schools as the focus of social services, (b) rural schools as contributors to local economic development, (c) rural schools as lifelong learning centers, and (d) rural schools as the preserver of local culture. Examples of rural schools engaged in these activities are presented. Current school organization and governance structures are then examined in terms of their ability to support these kinds of activities.

The need to improve rural school response to cultural and linguistic differences is being addressed by a review of preservice and inservice programs. Examples of programs designed to acquaint rural school teachers/administrators with (a) differences among cultures represented in their state, (b) the influence of culture on teaching and learning styles, and (c) the influence of culture on communication styles are presented. Strategies for assisting local schools or school districts to develop programs specific to their local communities are then examined.

As a complement to efforts to establish a rural school database initiated by the regional educational laboratories, the Western Taskforce is exploring strategies for linking basic educational data with the economic and social data descriptive of the communities served by rural schools. Basic school data for selected states have been gathered and examined in terms of issues of equity and efficiency. These data are then linked to social and economic data available on a county-by-county basis. The different perspectives such an analysis provides are examined and then discussed in terms of current calls for schools to engage in strategic planning.

### About the Presenters

Jacqueline D. Spears serves as Co-Director of the Rural Clearinghouse and is currently completing doctoral work in Higher Education Administration. She began her professional career as a high school teacher and worked extensively in preservice preparation of elementary school science teachers prior to moving into higher education.

Gwen Bailey is Project Coordinator for the Rural Clearinghouse. She completed doctoral work in Adult and Occupational Education and has strong interests in Gerontology. Prior to her work in Adult Education, Gwen taught social studies, English, and work study in high school.

Sue Maes currently serves as the Director of Planning and Resource Development in the Division of Continuing Education and as Co-Director of the Rural Clearinghouse for Education and Development. Prior to this position, Sue developed a community education program that served Manhattan, Kansas and over 50 rural communities in Kansas and surrounding states. In 1981 Sue hosted the Kansas City Initiative, which eventually led to the formation of the Rural Clearinghouse.

## EFFECTIVE INSTRUCTION WITH MEDIA

Bonita Hanson  
Utilization Coordinator  
Instructional Television Department, KCPT  
Kansas City, Missouri

Technological advances are reducing the disparities of educational experience which once existed between large urban districts and their rural counterparts. Rural and small schools now have the opportunity to take advantage of the increased quantity and quality of instructional television programming thanks to the proliferation of satellite receiving dishes.

This workshop is designed to provide initial information about television as a classroom resource, illustrate the effective use of the medium, relate the teaching techniques involved in the use of the resource to the Hunter Model of effective teaching, and provide a basis for evaluating classroom instruction when television is used. The target audience includes administrators, teacher educators, classroom teachers, and others who may be interested in learning more about this instructional tool.

Participants will view a variety of programs targeted for different grade levels and curriculum areas. Suggestions for using instructional television as a tool for integrating curriculum will be shared.

Bonita Hanson has a B.A. in Elementary Education, M.A. in Curriculum and Instruction, and a Ph.D. in Educational Administration. All degrees were earned at the University of Missouri at Kansas City. Dr. Hanson has 18 years of experience in education including service as a classroom teacher in elementary school, a middle school mathematics teacher, an elementary school principal, and college instructor. Dr. Hanson is currently serving as Utilization Coordinator for the Instructional Television Department of KCPT.

## EVALUATING WRITING PROGRAMS IN THE RURAL AND SMALL SCHOOL

David Smit  
Assistant Professor of English  
Kansas State University  
Manhattan, Kansas

and

Mel Riggs  
English Language Arts Specialist  
Kansas State Department of Education

Evaluating the writing of students in a classroom, a building, or a district involves more than mark-the-box tests of English usage and punctuation, but the task does not have to be prohibitively expensive or time-consuming, and it can be a part of the instructional program and of staff development. Dr. Smit and Mr. Riggs will describe what should happen during an evaluation and how to use what you learn.

### Report

Because writing is so complex, it cannot be evaluated with any degree of validity by multiple-choice or other objective tests. Some of the factors which make writing so difficult to evaluate are the following: the complexity or profundity of the topic or theme; the appropriateness of the organization and style to the audience and the rhetorical context; the conventions of form; and the conventions of grammar, punctuation, spelling, and usage. Nevertheless, schools and districts can design and administer their own evaluations of writing, whether for an individual classroom, a particular school, or an entire district, with a high degree of reliability.

To come to that reliability, evaluators will want to follow a plan that includes the following:

1. Previewing the evaluation: Evaluators will make decisions about purposes for the evaluation, estimate cost, negotiate any necessary arrangements to conduct the evaluation, and assign responsibilities. Determining purpose or purposes is the most important decision. Probably, the purpose is improvement of the student writing, but will the evaluation look at student performance only, or will it consider instructional methods and teacher attitudes, student attitudes, district resources, class size, teacher workload, etc.? In looking at student performance, evaluators may use a writing achievement test which rank-orders students according to their performance or a writing competency test which identifies students who do not meet a minimum standard and typically has only two ranks: pass and fail. Both kinds of tests are administered the same way, but the design of the prompt and the scoring for each test is different: Achievement tests require more challenging topics and more discrimination among scores.
2. Designing the evaluation: In order to insure that the test validly measures some aspect of writing competence, evaluators should make certain that each of the following factors has been accounted for



when designing questions or prompts: a context for the writing; its format; the directions to the writer (including its purpose and mode); and the cognitive, affective, and linguistics demands the writing task makes upon the writer. Research in the evaluation of writing is unclear about the relative merits of prompts with a high degree of specific information about context and audience, but some mention of both context and audience is probably helpful. This is also the time to construct any surveys or questionnaires to be used.

3. Training readers to evaluate student writing: Evaluations of writing can be reliably scored by training a group of readers to rank papers according to the same guidelines. Such training typically involves having groups of raters read sample high, medium, and low papers in the light of a holistic scale or a Primary Trait rubric. High reliability can be achieved after a small number of training sessions.
4. Conducting the evaluation: The evaluators take writing samples, and may make observations and conduct interviews and surveys.
5. Interpreting the evaluation: The evaluators synthesize and interpret information from the writing samples and from any other source of data.
6. Reporting findings: The evaluators portray whatever aspect of the writing program that is being evaluated in an appropriate way and may make recommendations.
7. Evaluating the evaluation: Did the evaluation accomplish the purposes established at the beginning while meeting reasonable standards of professional ethics and cost?



## THE FULBRIGHT TEACHER EXCHANGE PROGRAM IN THE SMALL SCHOOL

Jim Barrett  
Superintendent  
USD #496, Pawnee Heights  
Rozel, Kansas

This session provided a review of the experiences of Pawnee Heights USD #496 with the Fulbright Teacher Exchange. The presenters were Karen Schadel, President of the Board of Education; Jim Barrett, Superintendent; and John Bolan, Elementary Principal. The information provided to the participants included the review of the current status of the exchange as well as the educational advantages and disadvantages of participation from the perspectives of the presenters and from the students in the class.

The district's participation was initiated by Janet Sheaffer who taught second grade in the Pawnee Heights Elementary during the 1987-1988 school year and the previous seven years. The application process began in October of 1987 with the final notification of participation being received in May of 1988. At the time of the conference there had been only one major problem with the program. The Scottish teacher in Pawnee Heights had requested to go home during the first week of school. Scotland had been able to secure a replacement for her so Janet, the Pawnee Heights teacher, was able to remain in Scotland for the completion of the school year.

The disadvantages of the exchange are listed here to provide a guide for other districts that might have the opportunity to participate in the future.

1. The school district is accepting a teacher in the classroom without having the opportunity for a personal interview. The Board of Education must trust the administrative personnel in the exchange country to select only highly qualified candidates for the exchange.
2. The potential exists for a communication problem between the students and the teacher because of the different dialects that are spoken.
3. There are significant differences not only in the expectations for the students in the different countries, but there are also different job descriptions for the teachers in the exchange countries. This causes some educational time to be lost while the students and the teacher become acquainted with each other.
4. Most of the exchange teachers come from large metropolitan areas causing a considerable amount of social adjustment to the sparsest of population in the rural areas.
5. If problems occur the school must deal with several layers of bureaucracy in two separate countries.
6. There are increased financial costs to the district that participates in the exchange. These include travel for administrators, substitutes for the exchange teacher, phone bills, etc. Also the exchange requires additional time for the school administrator in all of the above processes.

However, you should not give up the ship just yet. There are some advantages to the exchange program that must also be considered. In the Pawnee Heights exchange we believe these advantages far outweigh the disadvantages.

1. Student anticipation of being taught by a teacher from a foreign country. Such anticipation has created a higher level of student motivation and general interest in school.
2. Broadened intercultural experiences for the students and the community members. This has also presented a terrific motivation for an increase in study of geography.
3. Janet Sheaffer will have a greater knowledge of foreign countries. She will return to our system a much better teacher because of the exchange.
4. Increased student acceptance of different customs of other individuals. By being in direct contact with someone from another culture our students' ability to accept differences among individuals has been significantly increased.
5. The exchange has been a positive public relations instrument in our district. Both teachers have been involved in the various community and civic organizations presenting information about their home country and home schools. Also, the parents of the second grade students have responded to the exchange very positively.
6. The potential for teacher exchanges between the Pawnee Heights schools and other local schools has greatly increased. Currently our exchange teacher has been to one other district to provide information to both teachers and students.

As with most programs there are several advantages and several disadvantages that come with participation. Even though Pawnee Heights has had two exchange teachers in one year, we believe that the advantages of the program far outweigh the disadvantages. Any school district that is considering participation is welcome to call any of the presenters for this session for more information. Our phone numbers are listed below.

Karen Schadel	316/525-6512
Jim Barrett	316/527-4212
John Bolan	316/525-6292

GESA:  
GENDER/ETHNIC EXPECTATIONS AND STUDENT ACHIEVEMENT

Jeannette Nobo  
Equity Education Program Specialist  
Kansas State Department of Education  
Topeka, Kansas

Objectives

GESA teachers will reduce disparity in teacher/student interaction as measured by classroom observations. Students in GESA classrooms will achieve significantly higher average gains in reading and mathematics as measured by pre- and post-achievement scores.

Why GESA?

Although overt stereotyping is not as common as it was 20 years ago, subtler bias persists, hurting both males and females. The way teachers treat students reflects this bias. GESA examines five areas of disparity in the classroom and then encourages teachers to utilize research-based instructional strategies and resources to eliminate the disparities.

The GESA program is based on the premise that in order to ensure quality and excellence on an equitable basis, school districts need to directly confront the issue of gender and ethnic bias in teachers' interactions with students. Once teachers have examined their own biases, as demonstrated by their own behavior toward male and female students, necessary curricular and other changes can be accepted more easily.

Overview

GESA is organized in five units. Each unit is divided into workshop themes, interactions, and curriculum-related issues. The workshop themes are major areas of classroom disparity. The interactions are ways teachers communicate with students. The curriculum issues strand helps teachers reduce bias in instructional materials and methods.

## HOW WE CONSTRUCTED THREE NEW BUILDINGS IN FOUR YEARS WITHOUT A BOND ISSUE

James Cain  
Superintendent, USD 287  
Pomona, Kansas

West Franklin USD 287 is a small, rural school district primarily located in Franklin County in northeastern Kansas. We maintain three grade schools housing grades K-8, and two high schools for grades 9-12. Our 1987-88 official enrollment was 755 students with 725.5 FTE. We had the 15th lowest taxable income per pupil in the State last year. Our assessed valuation is \$13,130,877. We have a four-mill capital outlay levy which generates approximately \$52,500 per year. We cover 227 square miles in four counties. Our student-teacher ratio is approximately 14 to 1. Our certified and non-certified salaries are near the median for the State of Kansas.

In 1984 our facilities consisted of major buildings built in 1934, 1956, 1959, and 1964. Auxiliary buildings were built in 1918, 1936, 1952, 1953, 1958, 1981 and 1982. The facilities overall were adequate in repair but inadequate in size and scope. For more than twenty years, the district had demonstrated the need for additional classrooms and other facilities. In the 1970's the district attempted a bond issue without success and later considered another bond issue but dropped it before an election.

Because of the poor agricultural economy and the poor financial condition of our patrons, we have felt a bond issue wasn't appropriate in recent years.

Therefore, if we were to have the facilities we needed, it was necessary to find alternative methods of financing. Although our methods could be utilized by any district, very few districts are doing major construction without bond issues.

We have completed three major building projects in four years without a bond issue or cutting programs, staff, or service. To accomplish this we changed our entire set of business practices and established financial goals to facilitate our building needs. We concentrated on becoming more efficient in energy usage, transportation and food service costs. We also improved our investment program to increase interest income to build capital outlay funds. Additionally, we vastly improved all purchasing procedures. We have been able to transfer the 2% maximum from the general fund to the capital outlay fund each year and to put all interest from investments in the capital outlay fund since 1984. These resources and our four-mill levy have generated approximately \$200,000 per year. All capital outlay funds have been used for construction. All repairs, maintenance, equipment purchases, etc., have been made outside the capital outlay fund.

The results of our program are a 4,600 square foot central office building; 6,300 square foot food service and music facility; and a 25,000 square foot gymnasium/classroom facility. In four years we have added nearly 36,000 square feet of badly needed space at a cost of \$1.5 million and have plans to provide additional facilities in the future.

Our building program has been extensive for a small, poor school district and it certainly has been innovative. We believe we are accomplishing a feat that has been unequaled in the history of the State of Kansas. Hopefully our good fortune can provide the ideas and motivation for other districts to find a solution to similar problems.

## THE HUMANITIES: THE FIGHT FOR SURVIVAL IN RURAL SCHOOLS

Donald Wagner  
English Department Chairman  
USD #306, Southeast of Saline  
Gypsum, Kansas

The 1980s have left us with frustrating questions about what to teach and how to teach it, and the humanities areas have sometimes been the victims of hostile takeover bids by other science and technological programs. Why schools need the humanities and how teachers can stir student interest in them are the subjects that are to be addressed in the presentation "The Humanities: The Fight for Survival in Rural Schools."

Donald Wagner holds a master's degree in English from Fort Hays State University, and a bachelor's degree from the University of Kansas. He has taught secondary English for 12 years, as well as advising the yearbook staffs.

Richard Harlan is the principal of Southeast of Saline Junior-Senior High School. He holds a master's in Administration from Fort Hays State University, and a B.S. in Biology from Ottawa University, Ottawa, Kansas. He spent 10 years in the classroom before becoming the SES principal in 1982.

Bill Tuzicka graduated from Bethany College at Lindsborg, Kansas in 1971 with a degree in Music Education. He has taught vocal music and headed the development and coordination of the music curriculum in the Southeast of Saline school district since 1971. Mr. Tuzicka is currently working on a master's degree in Music at Wichita State University in Music Education with an emphasis in choral conducting.

## IMPROVING YOUR SCHOOL FACILITIES

Tom Bishard  
Superintendent  
Lyndon, USD 421  
Lyndon, Kansas

The accelerating trend of inadequate facilities for small and rural schools across the nation has been well documented. With the majority of school buildings in the 20-to-50-year-old age category, it becomes increasingly difficult for facility needs to be met. Deterioration increases, the design and layout of facilities may retard instruction, and the location of buildings may no longer be appropriate.

The school facility problem for small and rural districts has become severe in Kansas. Those with the responsibility for facilities realize the extreme variations in wealth that exist among districts. Without a state plan for financing capital outlay, property tax concerns have contributed to a significant failure rate for school construction elections. With the unknowns associated with reappraisal, classification, and reapportionment, leaders from small and rural districts may face their greatest challenge.

Lyndon USD #421 was faced with inadequate facilities that had become obstacles to the pursuit of school improvement and quality education. The only feasible alternative was a bond election. It was proposed to build classrooms and a gymnasium.

In the spring of 1988, a bond election was held. The vote totals were two to one in favor of the building proposal. The favorable outcome was achieved despite a controversial gymnasium issue. The new bonded indebtedness would raise the local levy by an estimated 6.6 mills per year.

Based on an evaluation of the USD #421 facility improvement project, principles and strategies for success were validated. The principles included planning, preparation with the board and community, and how to finance. Basic strategies included use of the news media, of community presentations, and of patron mailings. Although the specific factors may be unique to this district, the general concepts can be applied to any district considering a major facility project.

The presentation will suggest ideas that will contribute to the thinking and planning of district leaders. Despite obstacles that may appear overwhelming, patrons in small and rural districts can come to understand facility problems, and they can be unified to support a major facility project.



# INSTRUCTIONAL AND NONINSTRUCTIONAL DUTIES OF ELEMENTARY TEACHERS

Clark E. Gardener  
Northern State College  
Aberdeen, South Dakota

Few studies have been completed which compare various sizes of schools or school districts and even fewer studies have addressed elementary education. The purpose of this study was to determine if there were differences in the instructional and noninstructional responsibilities of elementary teachers in the very small, small, and medium districts in Montana.

A very small district was defined as a district with an enrollment of 1 to 49 students, a small district as one with an enrollment from 50 to 199, and a medium district as one with an enrollment between 200 and 666 students.

Questionnaires were sent to 606 teachers from a stratified random sample of school districts in the various size categories. Approximately 62% of the questionnaires were returned.

The questionnaire was developed by the researcher after a review of the literature. The questionnaire addressed three major areas: instructional duties, noninstructional duties (i.e., supervision and administration), and other noninstructional duties (i.e., coaching, planning and directing seasonal plays, sponsoring organizations, etc.).

The data were analyzed using gamma to measure the association between school district size and the duty performed. The results indicated that as school district size increased, the number of instructional and noninstructional duties decreased.

## Recommendations

1. A preparation stress should be utilized that maximizes the prospective teacher's time and talents to better address teaching multiple levels within a single classroom.
2. The preparation program should include materials relating to planning and organizing and managing a multilevel classroom situation.
3. Minimally, the students within a teacher preparation program should have the opportunity to observe in schools where multilevel instruction is being conducted.
4. A prospective teacher should be prepared to handle a greater number of administrative duties common in the smaller schools.
5. Teacher trainees should be made aware of the advantages and disadvantages of working in smaller school districts.

Teachers in rural and/or small schools need to be trained as generalists. The need is apparent since approximately two-thirds of the school districts in the United States are rural or small schools.

## INTEGRATING MICROCOMPUTERS IN READING AND LANGUAGE ARTS: A BALANCED APPROACH

Michael P. French  
Department of Curriculum and Instruction  
Kansas State University  
Manhattan, Kansas

As microcomputers become a commonplace fixture in elementary schools, teachers need strategies for implementing this educational tool into their classroom reading and language arts programs (Balajthy, 1986). This presentation will address issues related to a balanced approach for the implementation of microcomputers for the instruction of reading and language arts.

### A Balanced Approach Defined

In their reading text, Teaching Children to Read, Richard Smith and Dale Johnson (1983) proposed a schema for classroom organization in reading that incorporated a balance of skill development, recreational pursuits, and applications of reading skills, which they called reading for information. This same approach can be applied to microcomputer integration as follows:

- Skill development
- Recreational pursuits
- Information acquisition
- Language processing and composing
- Management and record keeping

### Prerequisites for Planning

- Teachers must become thoroughly familiar with both the available hardware and software. This does not mean that teachers must become proficient programmers.
- Microcomputer use should be based on the developmental needs of the students in the class.
- Microcomputer use should be based on the ability of the students in the class.
- Microcomputer use should be based on the preferred teaching style of the teacher.
- Microcomputer use should be viewed as a tool used to assist the teacher.

### Skill Development

There have been significant advances in the last five years in both the quality and quantity of software available for skill development in reading and language arts. Recently, it has been argued (Schaudt, 1987) that microcomputers can be effectively used in all phases of direct skills instruction. These phases include:

- Introduction of skills
- Providing examples
- Direct instruction



- Teacher-directed applications
- Independent practice

In selecting software for skill development, teachers must be careful to choose programs which are appropriate for each phase given above. Also, teachers must be mindful that not all programs will be appropriate for all students. Again, software must be matched to both the abilities and needs of the students who will use it. In making this decision, teachers must differentiate between drill and practice, tutorial, discovery, and application program types. In addition to these types of programs, teachers may wish to investigate lesson frame programs such as Lucky's Magic Hat and Game Frames which allow teachers to develop their own lessons.

### Recreational Pursuits

Without question, microcomputers are highly motivating for children. In fact, in many classrooms, microcomputer time is used as a reinforcement for good behavior. In most cases, when computers are used for reinforcement, this use becomes recreational. However, this does not imply wasted time for students. Many programs which are considered recreational, especially text adventures and stories, simulations, microzines, and problem-solving games, involve a high degree of critical thinking and comprehension.

As in skill development, teachers must realize that one child's recreation might be another child's frustration. It is often the case, however, that when given the opportunity, children will select software at their level of difficulty and interest.

### Information Acquisition

Database programs such as Pfs:File, Bank Street Filer, and AppleWorks have given teachers a whole new way to introduce new information to students. With a database, a teacher can record and retrieve a great deal of information quickly and efficiently. Database programs can be used for vocabulary development, problem solving, and the introduction of concepts.

Simulation programs such as The Oregon Trail and Oh, Deer! also can provide information or prior knowledge concepts. Simulations can be used effectively both before and after reading.

### Language Processing and Composing

Perhaps the area in which computers have become most appreciated is in the area of language development and writing. There are several types of programs available for classroom use which are prevalent in this area.

Word processing programs, such as Pfs:Write, Magic Slate, Bank Street Writer, and AppleWorks, can be used to promote student writing and to directly teach the writing process. The magic of editing with a word processor is appealing to both skilled and less able writers as well. And in addition, many of these programs have companion programs to check spelling and grammar.

There are several story-writer programs (Kid Writer) and publishing programs (The Newsroom) which can be used for both direct instruction and practice. These programs allow the student to create and, often, illustrate and print their stories.

Printing programs, such as Printshop, allow both teachers and students to explore composing in a limited computer environment. However, elaborate

lesson plans and units can be written which incorporate signs, banners, and cards.

### Management and Record Keeping

Microcomputers can be effectively used to assist in many management tasks related to instruction. For example, the same database program which is used for skills instruction in categorization can be used for textbook inventories, test score analysis, diagnostic records, class lists, and grades. These types of uses become especially appropriate when teachers have direct and daily access to the microcomputer and software.

### Planning for Computer Use

In developing lesson plans in which microcomputers are used, teachers must consider how the computer(s) will be used. In developing these lessons, the following organizational patterns might be employed:

- Whole-class instruction--requires a projection screen or large TV monitor.
- Small-group instruction--requires same as whole-class or individual stations for each group--each with a large monitor or set of monitors.
- Pairs/trios--requires one computer station for each pair. Most often used in lab instruction.
- Individual instruction--requires single computer or lab. Requires scheduling on the part of the teacher and independence on the part of students.

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THE KANSAS REGENTS HONORS ACADEMY:  
AN OPPORTUNITY FOR HIGHLY TALENTED STUDENTS  
FROM RURAL AND SMALL SCHOOLS

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Following a request from the Kansas Board of Regents, the 1986 Legislature set aside an annual amount of nearly \$100,000 for the purpose of establishing a Kansas Regents Honors Academy to provide intensive study to selected high school students in academic areas typically not offered by local schools. This prestigious, precedent-setting program is an avenue for high achievers from any high school in the State of Kansas to broaden their horizons and to meet peers with similar intellectual interests and academic ability. The Regents Honors Academy is open to Kansas' best and brightest high school students to participate during their sophomore or junior year.

Prior to 1986 there was no Kansas statewide opportunity for recognition and/or academic enrichment for highly talented students from small and rural schools. Following the enactment of the enabling legislation, a Board of Advisors was established consisting of a representative group of knowledgeable and interested professionals who began the task of planning and developing policies and guidelines for the selection of the participants, the actual site at which the Academy would take place, and the curriculum to be provided.

It was decided that the location of the Academy would alternate among the Regents university campuses starting at Fort Hays State University and proceeding in alphabetical order throughout the Regents system. The first Academy opened with considerable fanfare in June of 1987 at Fort Hays State, followed by a one-month intensive academic experience for those selected to participate. The second Academy was held in June of 1988 at Kansas State University and the third is scheduled to open on the campus of Pittsburg State University during the summer of 1989.

The Academy is open to the most highly talented 150 high school sophomores or juniors that can be found within the state boundaries. Students are nominated by their respective high schools and are selected based upon their application, academic record, standardized test scores, letters of reference from their teachers, and a written statement from the student indicating his/her personal interest and desire to participate in the Academy.

After each Academy has been held, a rigorous evaluation is made to determine not only the relative success of the Academy in reaching the established objectives but also for determining improvements for the future. Among the most valuable findings of the early experience with the Academy is the impressive positive reaction of the participants who in most instances for the first time have an opportunity to interact intellectually with a number of others who are equally as talented as they.

KCPT SATELLITE DELIVERY SERVICE:  
OBTAINING K-12 INSTRUCTIONAL PROGRAMMING FOR RURAL SCHOOLS

Lee R. Allen  
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KCPT/Channel 19  
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Instructional technology is becoming increasingly important for all schools in meeting curriculum needs. The use of computers in the classroom and the introduction of distance learning courses via satellite are changing the learning environment and helping educators to teach in new ways.

Many rural and small schools have not been able to receive a public television broadcast signal. KCPT in Kansas City has been broadcasting K-12 instructional programming to Kansas and Missouri schools for 26 years via broadcast and through tape distribution. With more schools (particularly rural schools) purchasing satellite receiving equipment, it seems a natural step in the technological 80's for the KCPT Instructional Television Department to further meet the changing instructional needs of Kansas and Missouri schools by providing them the means to access the National Instructional Television Satellite Schedule (NISS).

Providing equal educational opportunities to rural and small schools is also very important to KCPT. In order to do that we are making a Satellite Delivery Service available to schools that have purchased (or are planning to purchase) a satellite receiving dish. This session will inform schools of the new service, explain the importance of using technology in the changing educational environment, and give tips on the effective use of instructional television in the classroom.

LEADERSHIP AND TECHNOLOGY:  
A STRATEGIC PLANNING MODEL FOR IMPLEMENTING  
COMPREHENSIVE TECHNOLOGY PROGRAMS IN RURAL AND SMALL SCHOOLS

Ginny Pearson  
Director of Media Based Programs  
Extension Division  
University of Missouri-Rolla  
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and

Don Olcott, Jr.  
Assistant to the Director  
Office of Continuing Professional Education  
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During the last decade, the development of innovative new technologies has created exciting new alternatives for educators across the nation. This technological transformation has redefined the boundaries of "educational access" and has had a considerable impact on America's rural and small schools. Problems that have been historically endemic to rural and small schools such as geographic isolation, limited fiscal resources, and recruitment and retention of qualified teachers, have been ameliorated through the use of advanced technologies to provide educational programs to rural students.

Today, rural students are experiencing education as never before. Satellite programming, interactive video, video discs, and computer-information systems are just a few of the leading innovations that reflect this technological transformation. As teachers and students alike are continually amazed by the endless continuum of possibilities that technology provides, concerns do exist. Some rural teachers fear that technology will eventually reduce their role within the classroom or even eliminate the need for teachers in certain subject areas. Whether or not this concern is legitimate raises some fundamental issues on how technology can be effectively integrated into the matrix of rural education. The central premise of this presentation is that the leadership skills of rural school board members, superintendents, and principals, will, to a large degree, determine the relative success of implementing comprehensive technology programs in rural schools.

Within the scope of this presentation, a synthesis of important leadership strategies such as strategic planning, environmental scanning, participatory decision making, community involvement, cost analysis, needs assessment, and program evaluation will be discussed in the context of using advanced technologies in rural education. A brief overview of available programming and resources will also be presented, along with a summary of policy recommendations for rural and small school leaders who are considering implementing comprehensive technology programs.

MORE LIKE A SCHOOL FAMILY THAN JUST  
A TEACHER AND HIS/HER STUDENTS:  
IS A ONE-TEACHER SCHOOL FOR YOU?

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The following is a brief abstract of my Rural Teaching Booklet:

The purpose of the booklet is to provide some basic, yet important, information to first-time teachers to rural Alaska before they begin their assignment. It's an attempt to better prepare them for situations they might encounter during their first year of teaching.

The booklet was written from the viewpoint of a one-teacher school setting, where you are the only teacher/administrator, and therefore are responsible for the total school environment. However, the ideas, opinions, and suggestions outlined in the booklet could also apply to any small rural school with a limited staff, and where the teacher(s) will be working with a culturally different group from themselves. The material contained in the booklet is based upon the author's ten years of experience teaching in rural Alaska.

The following are some of the ideas, opinions and suggestions contained in the booklet.

Chapter One: What Makes an Effective Teacher in Rural Alaska? Ten qualities are listed and addressed in this chapter, as they relate to effective teaching and social interaction between you (the teacher), the students, and members of the community.

Chapter Two: How to Get Along in the Community and Build Community Relationships. In this chapter, explanations of those aspects of small village and community lifestyles are given that we as educators need to be aware of and sensitive to.

Chapter Three: But How Do I Teach All Those Grade Levels and Subjects? This chapter gives the teacher some useful suggestions in teaching techniques and strategies, as well as classroom management methods, that have worked quite well for the author over the years.

Chapter Four: Other Items of Concern and Importance. This chapter deals with such issues as:

- Personal items to bring with you when you come up for your first teaching assignment;
- Non-teaching spouses;
- Cabin fever.

Chapter Five: Possible Questions to Ask Prospective Employing School Districts on Rural Alaska. In this chapter I suggest asking such questions about:

- The weather conditions/climate in the area where you may be living and working to better prepare you for bringing appropriate clothing and other items;
- Air travel within the district;
- Where to order bulk groceries and supplies;
- Does the district provide teacher housing, or do you have to secure your own housing in the village?



Chapter Six: Advantages/Disadvantages to Teaching in a One-Teacher School. Here, the author lists a combined total of twenty advantages/disadvantages that he feels are considerations to keep in mind when thinking about teaching in a small one-teacher village school in rural Alaska.

#### About the Presenter

Lance Blackwood came to teach in rural Alaska, after graduating from a small state college in Massachusetts in 1977. He has spent his entire twelve years with the Lake and Peninsula School District, located in the Bristol Bay area of Alaska.

In his first three years with the district, he was an itinerant special education teacher, serving the eight village schools in the southern half of the district. The next five years he taught in a small, one-teacher school in Pilot Point. While teaching here, the school was one of the first one-teacher schools in Alaska to be fully accredited by the Northwest Schools and Colleges Accreditation Association. For the past four years, he's been teaching in a small village school, grades K-8, in Egegik.



## THE NATIONAL CAREER GUIDANCE AND COUNSELING GUIDELINES

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The National Occupational Information Coordinating Committee (NOICC) was established by Congress in 1976 as a Federal interagency committee whose primary mission is to improve communication and coordination among developers and users of labor market information. It functions as a coordinating committee with members representing nine agencies within the U.S. Departments of Labor, Education, Commerce, Defense, and Agriculture. NOICC is mandated by Congress to help states use occupational and labor-market information to design effective vocational education and employment and training programs, and to help states provide sound information about education, jobs, occupations and careers for individual career decision-making.

To accomplish its mission and mandates, NOICC works with a network of State Occupational Information Coordinating Committees (SOICCs), providing funding and technical support for occupational information programs and systems. SOICCs are interagency committees, representing state producers and users of occupational information. NOICC and the SOICCs promote and facilitate the use of occupational data collected by their member agencies and other organizations.

An important NOICC-sponsored project to identify national guidelines that states and educational institutions can use to strengthen career guidance-counseling programs at all educational levels is under way. The project is developing products entitled National Career Guidance and Counseling Guidelines. The guidelines provide a basis for the development of improved career guidance and counseling programs which can be integrated into the total education program.

The guidelines contain specific student and client competencies and performance indicators for all educational levels, kindergarten through adult; qualifications and competencies needed by counselors to deliver the programs; institutional capabilities necessary for providing quality programs; and steps to implement the guidelines, including evaluation. The guidelines are comprehensive of areas concerning client self-knowledge, educational/vocational development, and career planning and exploration.

The purpose of the National Guidelines is to serve as a blueprint for states, schools, colleges and universities, and human service agencies to use to develop comprehensive career guidance and counseling programs that:

- Are identifiable but integrated with other program areas;
- Are coordinated with other institutional programs and articulated with programs at other levels;
- Enhance the career development attitudes, skills and knowledge of all students;
- Use coordinated activities such as classroom instruction, counseling, assessment, career information, placement, consultation, and referral;
- Have a defined structure (e.g., qualified leadership, diversified staffing, adequate facilities and materials, financial resources, and effective management); and

- Are accountable with evaluation that addresses both student or client outcomes and program processes.

Research affirms that comprehensive career guidance and counseling programs in combination with other interventions provide several benefits. Using the National Guidelines to improve programs will yield the following benefits:

1. Reduce individual risks by increasing school and program retention rates, promoting higher self-esteem, and improving social adjustment.
2. Better prepare individuals for the changing workplace by increasing their understanding of the relationship between education and employment and improving career decision-making skills.
3. Support educational excellence by increasing motivation and improving academic achievement.
4. Enhance family involvement through helping parents understand how they can assist their children with career planning.
5. Increase program accountability through regular assessment of student or client achievement and evaluation of program components related to student achievement.
6. Promote program coordination and articulation by defining a sequence of delivery of program outcomes and reinforcing learning from previous levels.

NETWORKS IN THE HEDGEROWS:  
A TEACHER-TO-TEACHER STAFF DEVELOPMENT MODEL

Betsy W. Dismukes  
Director of the Southeast Alabama  
Regional Inservice Education Center  
Troy State University

The staff development model devised and implemented by the Southeast Alabama Regional Inservice Education Center at Troy State University correlates with the teachers teaching teachers model enunciated by James Gray, Director of the National Writing Project (NWP), University of California, Berkeley, in 1974. From its inception, this Center has mandated four imperative tenets upon which all staff development programs are founded: (a) that effective inservice is teacher-to-teacher; (b) that effective inservice is field based, available to teachers in convenient local surroundings; (c) that effective inservice includes both building-level and central-office administrators, together with their faculties; and (d) that effective inservice features long-range planning to effect long-lasting change over time. In the context of these tenets, the Center extends to some 4,000 rural teachers in 22 school districts across 11 Southeast Alabama counties the best possible opportunities for professional growth by bringing them together with peers in teacher-to-teacher workshops.

Wiregrass Writing Project, an affiliate of the NWP initiated and directed by Center staff, provides a conduit through which the Center identifies excellent content-area teachers, K-12, whose expertise equips them to work with their peers. Following a 20-day, writing-intensive Summer Institute, where they develop and hone their presentation skills, these master teacher-consultants become a core cadre, prepared to share successful classroom strategies with their peers in summer and school-year workshops. Both school-year and summer sessions provide area educators with the most current instructional approaches for engaging all students, but with particular emphasis upon "at-risk" kids in the cracks, in a variety of multilanguaging opportunities. Sessions conducted for classroom teachers by classroom teachers feature study skills for lasting learning, "hands-on" manipulatives for mathematics, practical/inexpensive classroom experiments for science, and whole-language strategies for learning at all grade levels. Field-based workshops, offered at alternate sites in area schools on alternate dates, accommodate travel and time restraints for concerned educators.

Other professional programs, developed under Center auspices, portend success for both rural and urban teachers across the Southeast. The annual Gulf Coast Conference on the Teaching of Writing, held at The Grand Hotel, Point Clear, Alabama, and conceived as a showcase for excellence in Alabama's classrooms, features keynote speakers of international renown, more than 450 educators (K-University) from 26 states, a wide range of professional exhibits, and 66 concurrent sessions, predominantly presented by classroom teachers. Additionally, the summer of 1988 initiated the pilot program for Think!! Write!! Workshops, a powerful model with great potential.

## OBTAINING TOP PERFORMANCE FROM SUPPORT PERSONNEL

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School improvement initiatives are placing stress on principals to assure superintendents, boards, and communities that their schools are effective. Sharp principals have realized and keen observers have confirmed that effective schools have not become effective by the efforts of principals and teachers alone. The support staff has and is playing an important role.

- Custodians are keeping buildings operationally ready for their intended use.
- Secretaries are typing schedules, letters, reports, and are receiving and sending messages.
- Bus drivers are delivering kids to school on time and safely.
- Cooks fuel kids and teachers for top performance.
- Nurses are helping maintain student health and vitality.
- Maintenance personnel are keeping buildings in top condition.
- Aides and paras are freeing teachers to teach efficiently and effectively.

Try leading an effective school without these individuals and watch it grind to a chaotic halt in a matter of hours.

Some support personnel receive the recognition due for their efforts, but most receive pitifully inadequate recognition--a birthday card for the custodian, the secretary's picture in the yearbook, and a round of applause for the cooks the day before Christmas break.

The gestures of appreciation are simply not enough to make real winners of the support staff and even bigger winners of the students.

Certainly, the certified staff is stressed to perform. So are the support people. It is an unhappy paradox that as their importance increases, their recognition tends to decrease mostly because of the stress of time.

Peters and Waterman in their now classic Pursuit of Excellence (Harper & Row, 1982) relate one company or corporate success story after another and show that the greatness of an organization is found in its people, how people are treated, and how their efforts and contributions are recognized.

Then the authors offered some correlates of exemplary corporations, each of which has excellent parallels for education.

1. Workers in successful organizations are treated and recognized as important assets to success.
2. A cooperative spirit prevails which suggests encouragement to experiment and try new ideas.
3. Enthusiasm is developed to do a job well within a setting, that our place is a fun place to work and grow, and to enjoy recognition for effort and achievement.
4. Bigness is broken down into smaller operating units where people know and support each other.
5. Problems are dissected into their component parts so they can be analyzed and solved.
6. Managers are trained to communicate with subordinates so that subordinates accomplish the goals they set for themselves.

7. Just as companies listen to their customers, school administrators and school staffs listen to their students and to their adult constituencies.
8. A culture and a value system is developed which becomes part of every employee so that goals are developed which have their roots in the basic culture/belief system to which the corporation or school is anchored.

Provide, then, for the support staff the kind of organization framework in which they can function successfully and effectively as an integral part of their school.

Be committed to making everyone feel important as individuals and as integral parts of the school. Recognize these individuals regularly and advertise their good work through:

- clear position guides;
- regular supervision and feedback;
- an informative evaluation plan; and
- specific training in job skills, communication, and motivation.

And finally, realize that the quality of principal leadership conditions the success of the schools for which they are responsible.

## OVERVIEW OF THE 1988-1989 KANSAS INTERNSHIP PROGRAM PILOT PROJECT STUDY

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Internship Specialist  
Kansas State Department of Education  
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### Options

In its March, 1988 meeting, the State Board of Education dropped the certification requirement from the internship program and directed staff to study the following alternatives during the 1988-1989 pilot study:

1. Permit the internship program to be a part of a USD's State-Approved Inservice Plan.
2. Make the internship program a condition for school accreditation. The State Board of Education would provide a model program that would meet state criteria, or the USDs could submit their own plan for approval by the State Board.
3. Implement the internship experience through some other alternative that may become apparent from results of the 1988-1989 pilot.

This action by the State Board provided the opportunity to experiment during the pilot year with some variations and modifications to the current state model as well as to explore different models being used in the state to assist and assess teachers during their first year of teaching. Districts were offered the opportunity to submit applications to implement one of three options which are briefly defined below.

Option 1: Implement the state model as it has been developed and refined over the past three years.

Option 2: Implement a variation to one or more components of the state model.

Option 3: Submit an alternative plan to the state model.

### 1988-1989 Pilot Project Participants

Forty-two interns and their Assistance Committees, representing 25 districts across Kansas, have been selected for participation in the 1988-1989 pilot study. A list of the participating districts is attached to this report. The districts are listed by USD number and location under one of the three program options.

### Program Evaluation

The Center for Educational Testing and Evaluation (CETE) at the University of Kansas has been contracted to conduct a comprehensive evaluation of the internship program design and options during the 1988-1989 pilot study.

The primary methods of data collection for the program evaluation will include interviews, questionnaires, on-site observations, and self-reports obtained from the participants. Not all methods of data collection will be used with all participants. Approximately six interns and their teams (two for each of the three options) will be identified for an in-depth study over

the year. Educators not involved in the pilot study, including beginning teachers, administrators, and experienced teachers, will also be included in the study. A random sample of approximately 10% of the state's experienced and beginning teachers and 30% of the building-level principals will be sampled for inclusion in the study.



PERCEPTIONS OF RURAL SCHOOL PERSONNEL IN NORTH CENTRAL ASSOCIATION  
MEMBER AND NONMEMBER SCHOOLS LOCATED IN NINE STATES

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This paper reports the findings from a study of selected rural schools from the nine western-most states (Arizona, Colorado, Kansas, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, and Wyoming) of the accrediting region of the North Central Association of Colleges and Schools. Teachers, administrators, and school board members were surveyed to determine if the attitudes of those in accredited rural schools were different from those in nonaccredited rural schools. Significant differences ( $p \leq 0.5$ ) were found between teachers in accredited schools and those in nonaccredited schools on reported satisfaction with various components of the school program. Principals from accredited and nonaccredited schools were in agreement with all but one item on the survey, while school board members showed no differences in opinions.

The survey includes the responses of 2,028 teachers, 119 principals, and 113 school board members. Demographic categories identified male and female respondents and the ethnic origin and language proficiency of the respondents. Men comprised 42.9% of the teacher respondents while 85.7% of the principals and 77.5% of the school board members were male.

Teacher and principal profiles include educational level, other professional preparation, teaching assignments, and satisfaction with aspects of teaching and components of the school program. Of those responding, 39.2% of the teachers, 93% of the principals, and 18.5% of the school board members have achieved at least the master's degree. One-third of the teacher and principal respondents indicated that they were pursuing further education.

Teachers were asked to rate the usefulness of professional education coursework. Teachers rated Student Teaching, Methods in Specific Content Area, Methods in Elementary or Secondary Education, and Pre-Student Teaching Experience as the four most useful courses. Other courses considered useful were Human Development, Educational Psychology, Audiovisual Education, and Guidance and Counseling.

Over 50% of the elementary teachers reported teaching self-contained classrooms. Slightly more than a quarter (27.5%) reported teaching in departmentalized classrooms. Elementary teachers may also teach two or more grade levels and 26.5% reported doing so. Secondary teachers were asked to indicate the number of teaching preparations they had. Almost 85% reported having two or more preparations. Almost one-fourth (22%) reported three teaching preparations with an additional 19.5% reporting four teaching preparations.

Responses of teachers from North Central Association accredited schools were compared with responses of teachers from nonaccredited schools on items concerning the teachers' satisfaction with various aspects of teaching and components of the school program. Teachers in accredited schools were more satisfied with their school library/media center than were teachers in nonaccredited schools. Teachers in nonaccredited schools were more satisfied with their availability to students outside the classroom, administrative

support toward innovative practices, guidance/counseling services, preparation of teachers, diagnosis of student abilities, use of comprehensive student reporting systems to parents, involvement of students in program evaluation, and competence of teachers in working with rural children and youth.

## PROVIDING AN EFFECTIVE VOCATIONAL EXPERIENCE IN THE RURAL COMMUNITY

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In rural communities it can be difficult finding ways to help students explore career options and receive on-the-job experience in their areas of interest. In looking for ways to provide vocational experiences to students interested in business and office occupations, USD 287 has developed a program which can provide students with a comprehensive office experience.

Qualified students from the two high schools in the district may choose to enroll in the Student Office Experience. Each spring students with a B in Typing II and Office Procedures pre-enroll in a two-hour block that will be spent working in the District Office. During pre-enrollment, these students prepare a resume, complete a job application, and schedule an interview with the district superintendent. In attempting to keep this a realistic work experience, such things as job attitude, office personality, dress code, and confidentiality are discussed during the interview.

On the job, students rotate each 12 weeks to a different work station with a different supervisor. By the end of the year they have experienced every facet of a total office operation including secretary/receptionist, accounting, accounts payable, and payroll. The students complete assigned tasks on computers using word processing and spreadsheet functions. Each student also has assigned responsibilities that she follows through on during the course of the year. Periodic evaluations are performed by the district office supervisors, the superintendent, and the business teacher.

This program successfully complements the business curriculum and allows participating students to contribute real-life experiences to classroom discussions. It also provides them with actual on-the-job experience that offers them a competitive edge in the job market upon graduation from high school. The District Office personnel feel that these students make valuable contributions to the office and that the program provides a link between the office and the high school.

## RURAL ALCOHOL AND DRUG ABUSE EDUCATION AND PREVENTION TRAINING

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In the midst of the current farm crisis, many Kansas rural youth are regularly turning to alcohol and drugs. Within the State of Kansas alone, 3,126 youth age 20 years or younger were admitted to alcohol and drug abuse treatment centers in 1985. Overall, such admissions have increased 17.3% since 1983. In addition, it has been estimated that 10,000 Kansas youth are problem drinkers in need of intervention and treatment (Kansas Alcohol and Drug Abuse Services, 1986).

Kansas rural educators are in need of and are willing to learn more about alcohol/drug abuse education and prevention. In a 1987 study, 50% of Kansas secondary school personnel surveyed said they had inadequate knowledge about alcohol and other drug abuse prevention. Of those same respondents, 80% indicated interest in alcohol/drug abuse prevention training. It seems clear, then, that alcohol and other drug abuse is a major problem in rural Kansas schools and that school personnel are willing to participate in prevention training. Kansas State University has recently received federal funds to establish a summer institute that will provide such training.

The participants in this institute are educators residing in rural school districts. The project helps K-12 teachers and administrators develop district-specific drug abuse prevention that maintains drug-free schools conducive to learning. The training project includes training sessions at Kansas State University, directed readings, field implementation, and on-going teleconferencing.

Selected participants will receive a stipend for the summer session. Additional support will be provided at the end of the school year if they participate in the teleconferencing and complete the assigned evaluation materials. Stipends will be awarded to 50 rural educators from 10 school districts each year for a two-year period. A total of 100 educators will directly benefit from the project. Each training cycle will begin during the summer and continue throughout the school year.

Cooperating school districts will be asked to designate five staff members to attend a week-long summer training institute. The five staff members participating will consist of school and community personnel, one of whom must be an administrator.

### Teleconferencing

During the year following summer training, to prevent problems such as excessive travel distance, drop-out rate, and limited teacher-student interaction, Kansas State University will provide on-going participation by combining face-to-face instruction on campus with a statewide telenet conferencing network. The purpose of teleconferencing will be to assist schools in implementing the programs they develop during the institute.

## Project Objectives

1. Assist educators in becoming aware of their own attitudes, beliefs, and feelings regarding alcohol and drug abuse, and how these influence their prevention efforts.
2. Determine the extent and character of alcohol/drug use in rural schools, and establish a means of monitoring it and communicating that information to the community.
3. Develop a comprehensive alcohol/drug education and prevention K-12 program that contains information about alcohol and drugs, life skills, alternatives to drug use, health promotion, and the etiological factors (e.g., biological, psychological, and cultural) that identify high risk youth.
4. Establish intervention methods for students already experiencing alcohol or drug problems.
5. Develop specific school policies regarding alcohol and drug usage that encourage enforcement of school policies, and foster the implementation of security measures to eliminate alcohol and drugs on school premises and at school functions.
6. Involve teachers, administrators, parents, students, boards of education representatives, support personnel, and community representatives (e.g., law enforcement officials) in program development.
7. Accurately assess the success of the prevention program.

## Selected Topics to be Covered

- Examining personal beliefs and attitudes about those who use or abuse chemicals.
- Myths regarding chemical dependency.
- Etiological factors related to chemical dependency.
- Developing specific alcohol and drug use school policies.
- Developing a "team approach" to implementing K-12 Prevention programs.
- Involving parents and key community members in prevention efforts.
- Methods of intervening with adolescents who use alcohol and drugs.
- Developing information programs for parents and teachers.

For more information, contact: Dr. Fred Bradley, Dr. Steve Benton, or Sherry Almquist, c/o Counseling Education and Educational Psychology, Bluemont Hall, Kansas State University, Manhattan, Kansas 66502.

## RURAL EDUCATION: SITTING ON A GOLD MINE--OR A STICK OF DYNAMITE?

Judy Smith-Davis  
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Rural education may have a great destiny, and it clearly has a great vulnerability. The destiny could be--and should be--rural education's leadership, particularly the leadership of the small school, in showing all of education how to bring about individualized instruction that meets each student's needs. Rural education's vulnerability stems from its long-standing problems in recruiting and keeping teachers, particularly for small schools in remote districts. By realizing its destiny, rural education might also reduce its vulnerability.

### The Gold Mine

The strengths, challenges, and requirements of small schools with multi-grade classrooms are exactly the strengths that are sought for educating at-risk students and students with disabilities in the mainstream. The integration of students with mild learning disabilities, mental retardation or behavior disorders into the mainstream classroom is a goal toward which parents and professionals are striving. The major impediment is lack of capacity across general education to handle wider ranges of diversity.

At the same time, the numbers of students with other learning problems have been growing, and their failures in school are being widely noted by the press, the public, and the profession. A striking percentage of the school population is at risk of school failure, not because of disabilities, but because of other situations that interfere with learning, such as substance abuse, depression and suicidal tendencies, poverty, homelessness, domestic problems and marital separation, child abuse, illiteracy, language and cultural differences, fetal drug and alcohol syndromes, and other societal conditions and pressures.

In short, today we have in the schools a very large percentage of children and youth who really do need teaching. Just a few decades ago, society was different, and the schools were different: most students enrolled then would learn without benefit of intensive or individualized instruction, and often in spite of variations in the quality of instruction. That was then.

This is now. Hard-to-teach students are a relatively new and burgeoning problem. The lack of a solution is demonstrated in America's high dropout rate. And we are hearing about "innovative" programs for teaching at-risk students. Perhaps, however, the answer lies not in innovation but in tradition. Perhaps the experienced teacher in the rural multigrade classroom has had the answer all along.

Many of the programs and methods being introduced as "innovations" for the instruction of at-risk and disabled students are the very strategies that are used every day in the multigrade classroom. For example:

- The teacher who has up to seven grade levels in one classroom must, of necessity, respond to individual differences among these students, who cannot all be taught the same thing in the same way at the same time. This teacher understands individualized planning and instruction; these are major practices of the multigrade classroom.



- The multigrade teacher works with the curriculum across grade levels, knows how to use curricular skill sequences across grades and subjects, and uses relationships across curricular components (to teach reading and science simultaneously, for instance).
- Cooperative learning is also characteristic of multigrade classrooms. Students are grouped and regrouped for instruction and routinely work together in cooperative learning situations. It doesn't matter that the teacher in the small school may not have heard the buzz word; he or she is definitely promoting cooperative learning among students.
- In multigrade classrooms, cross-age activities and peer tutoring among students are common. These are also among the "innovations" being advanced for instruction of students with disabilities and other learning problems.
- The teacher in the small, rural school is also, of course, a problem solver and solution giver. Resources of all sorts may be distant or scarce, and so the teacher uses ingenuity in finding and inventing resources for instruction and resources in the community.

The list could go on and on, and all of these are competencies needed by any general education teacher whose classroom is composed of students with diverse learning levels, styles, and goals. Clearly, the child-centered approach of the rural multigrade teacher shows (as others have said before) that "good teaching is good teaching is good teaching."

Good teaching is what every school, everywhere, needs now. The essentials of good teaching benefit all students--disabled, at risk, or "normal." The rural multigrade classroom is a genuine laboratory for these methods and these values, and there is no better instructor than the seasoned rural teacher who has mastered this environment.

This is the destiny that rural education holds; this is the gold mine on which rural education sits. Effective teachers and effective instruction from the multigrade classroom could become a model for succeeding with the increasing diversity of the overall school population. Surely it is time to capture this model of instruction in ways that can recognize its practitioners and transmit its practices to the world at large.

### The Stick of Dynamite

The recruitment and retention of teachers has been a longstanding problem for rural education. This problem is magnified today because of the national shortage of teachers and other personnel in many educational disciplines. The greatest national shortages occur in bilingual education and special education, but demand exceeds supply in many areas of general education as well.

Personnel supply and demand are parts of a larger puzzle comprised of many fiscal, policy, regulatory, training, instructional, administrative, and other components. Everything affects everything else (somewhat like a bowl of Jello--"if you touch it over here, it wiggles over there"). It is difficult to derive reliable data on supply and demand or to assess genuine needs; and, at every juncture, both problems and solutions associated with the quantity of personnel strongly influence the quality of instructional programming.

Yet another issue is the question of remaining at the compliance level or moving beyond compliance to enhance the quality of education at the building level or district level. Once a rural district decides to go for quality, it usually finds that its recruitment needs are greater than before. By the



same token, once a rural district becomes famous for the quality of its educational programs, recruitment becomes easier. Good teachers like to be associated with good schools and school systems.

There are rural schools and rural districts that have, in fact, solved their recruitment problems in just this manner. One example is Pinal County, Arizona, and the Pinal County Special Education School (for students with moderate to severe handicaps). County officials and teachers built this school into one of the finest programs of its kind in the country. Although they use many recruitment strategies (such as closing school and taking all the teachers to the CEC convention each year to act as recruiters), the people in Pinal County know that the quality of that school is essentially what brings it enough teaching applications every year to fill all the vacancies in the county. This school sits in the middle of an impoverished, sparsely populated, remote county in the desert and is, in many ways, a very undesirable location--but they turn applicants away and, when there is an occasional opening, are able to choose only the best.

Teachers from that school are also in great demand elsewhere. The school is an enormous professional development experience, and its veterans are truly competent.

Good rural and remote schools could become laboratories for the preparation of master teachers (which, in a very limited and local sense, they are now). The skills of the multigrade teacher could be examples in the training of all teachers. The small rural school could become the pivotal, formative experience in many teachers' lives--a proving ground and springboard similar to the opportunity of the medical student who interns at a distinguished hospital or the law student who clerks in a high court. Thus, the small rural school might become famous in ways that would resolve its recruitment difficulties, while enhancing education for students and teachers alike.

It's time to see what rural schools can really offer to the nation. It's time to recognize the wisdom and strengths that good rural teachers and small schools can give to all schools. It's time to reach out for your destiny. Your day has come.

## A RURAL SCHOOL PARTNERSHIP WITH SENIOR CITIZENS

Terry Boswell  
Director of Community Education  
USD #394, Rose Hill  
Rose Hill, Kansas

Demographics show us that for the first time in history the senior citizen sector of our population is the fastest growing segment of our population. As our life spans increase, it is imperative that society provide for the special needs of this group. Assisting patrons in the development of a senior citizen center is a prime opportunity for school districts to help meet the needs of their local senior citizens. In many small, rural communities a large percentage of the population is comprised of patrons who have lived in the area for their entire lives. Over the years, they have made both monetary and personal contributions to the school district. Although this segment of the population does not currently have children in school, or, in many cases, a personal interest in the schools, they still have needs which the school district can benefit from by addressing.

In the spring of 1987, the director of Rose Hill Community Education and Rose Hill Elementary principal investigated the needs of area senior citizens and potential means of meeting those needs. A series of three "Appreciation Lunches" was designed to thank the seniors for their support of the schools and to ascertain if the group had any interest in the development of a Senior Citizen Center. From these lunches came the development of the Rose Hill Senior Citizens Club in the short span of four months.

"A Rural School Partnership With Senior Citizens" will provide information relative to the development of the Rose Hill Senior Citizens' Center from the inception of the idea to the center's current status. Included in the presentation will be information related to:

1. Investigating options for the local area
2. Understanding senior citizens' needs
3. Locating key senior citizen leaders
4. Networking with area governmental agencies
5. Budget preparation and funding
6. Successful fund-raising strategies
7. Types of programming
8. K-12 interaction
9. Community benefits

Small, rural communities share a variety of common characteristics regardless of whether the community is comprised of both "old-timers" and "newcomers," is geographically isolated, or is located near an urban center. Rural and small schools have an obligation to provide lifelong learning opportunities for all ages of their residents because there is often no other local agency qualified or able to do so. The old, like the young, are the most vulnerable, and often the most in need of assistance. Many senior citizens are unable to access the resources necessary to organize a senior citizen center and obtain services for area residents. They need an advocate to assist them in their endeavor. Both the school district and the senior citizens can benefit greatly from a partnership which results in the development of a senior citizen center.

STATE INVOLVEMENT IN CAPITAL OUTLAY FINANCING:  
POLICY IMPLICATIONS FOR THE FUTURE

David C. Thompson, Jerry G. Horn, and G. Kent Stewart  
Kansas State University  
Manhattan, Kansas

and

William E. Camp  
University of North Texas  
Denton, Texas

The Problem

This presentation focused on research contained in a monograph produced by the Center for Extended Services at Kansas State University. The monograph focuses on relationships between property wealth and school facilities and legal implications for state support and makes generalizations which are widely applicable in the various states and Kansas.

Interest is turning toward better understandings of how finance mechanisms and instructional programs are interdependent (Thompson & Camp, 1988). Just as there are concerns about instructional resources and achievement variables, there is concern that equal opportunity is affected by bricks and mortar. With increased knowledge of effective schools, effective principals, and effective teachers, research is called to explore the interaction of facilities and educational programs (Odden, 1986).

In many states, school buildings are financed entirely from the local property tax base. Twenty-two states rest responsibility for school construction with local districts. The sum of needs in those states is significant. The deficit of deferred school construction and maintenance has increased, with estimates of the national backlog in maintenance exceeding \$25 billion (AASACGCS & NSBA, 1983). While states have responded to other educational finance equity issues, buildings continue to age and deteriorate. Research conducted in this monograph offers a thorough legal analysis and supports other corollary research which indicates that the facility issue may intensify and that inequities in facilities will widen among school districts (Honeyman, Thompson, Wood, & Stewart, 1988).

The problem is compounded by increasing court interest in facilities. Courts have already addressed the problem in some states (Edgewood Independent School District v. Kirby, 1987; Pauley v. Kelly, 1979; Pauley v. Bailey, 1982; Pauley v. Gainer), and courts have mandated taxation aimed at financing capital improvements (Jenkins v. State of Missouri). Some investigators are arguing vigorously that it is a matter of time until courts require states to equalize facilities to insure fiscal neutrality and equality of opportunity (Journal of Education Finance, 1988, in press; Thompson & Camp, 1988; Thompson, Camp, Horn, & Stewart, 1988)<sup>1</sup>.

<sup>1</sup> In at least one instance, a formal facility study in Kansas has included a recommendation that the district sue the state for its failure to assist the district in funding facilities.

## The Present Research

This monograph places the emergence of the concern in perspective, provides synthesis of existing research coupled with new findings in the State of Kansas, and speculates on how the issue may affect rural and urban areas generalizable to many areas of the nation. The concerns and issues are stated:

- What are the sources of concern, and what are the legal issues surrounding the problem?
- How are states addressing the issue, and can insight in individual states be gained by observing their involvement?
- What are the general dimensions and effects of the problem and particularly in Kansas?
- Are there differences between rural and urban areas?
- Is there an association between educational facilities and the quality of educational programs?

In statistically and substantively addressing these questions, the monograph centers on the impact of facility finance on local taxing units. The monograph evaluates the legal potential for state responsibility to aid facilities and provides recommendations regarding state involvement. Recommendations are based on research and application of legal principles to financing facilities. The monograph takes a policy analysis position on the premise that the issue must be explored because courts have commented on relationships between wealth dependence, educational programs, and facilities. The monograph recognizes that if research shows a positive relationship between facility adequacy and instructional outcomes, courts may follow with mandates to bring school buildings into compliance with minimum standards describing instructional facility adequacy.

## Methodology

The present research has two foci. First, it is addressed to legislators and practitioners who need a grasp of the enormity of the problem and an awareness that capital outlay and facility funding are justifiable concerns within the equity analysis framework. Secondly, it is a policy analysis which offers its greatest strength through meta-analysis and in its sweeping recommendations for reform. As a research document emphasizing effective policy construction, its methodological focus is primarily descriptive and supportive of a larger research effort concurrently reported in the Journal of Education Finance (Honeyman, Thompson, Wood, & Stewart, 1988). A survey was constructed and mailed to all 304 Kansas superintendents requesting information on enrollments, types of buildings in the district, age and condition of buildings, financial data on district (percent of state aid, mill rates for general fund and special funds, assessed valuations per pupil, etc.), and type of predominant tax base. Information specific to funding capital outlay was also accumulated including debt levels, future capital outlay plans, bond and interest payments and levies, and other useful data.

Descriptive statistics were used to analyze the data in a meaningful format for the intended audience. Measures of central tendency and variation and tests for wealth neutrality were employed. Measures utilized included raw range, restricted range at the 95th-5th percentile, and the Federal Range Ratio. Additionally, a matrix of Pearson correlation coefficients was run for a total of 32 suspect factors to assess the extent of relationships potentially contributing to health or inability of districts to sustain

effective ongoing capital outlay programs. Moderate to high relationships were found between (a) capital outlay ability and district wealth, (b) enrollment and planned improvements, (c) wealth and planned improvements, (d) age and condition, (e) enrollment and level of debt, (f) wealth and debt levels, and (g) plans for improvements and debt levels. Other significant relationships were noted as well.

### Conclusion

The importance of the study lies in at least two aspects. First, the monograph serves a highly valuable role as a disseminator of critical issues to policymakers and practitioners. It serves to enlighten an uninformed audience of the complexity of the concern and provides a foundation for larger detailed studies in the state which should focus on thorough needs assessment. It indicates that there is a sizeable need within the state as indicated in other research (Burk, 1985; Devin, 1985), and that there are suspect relationships which may impact on the total funding of education in Kansas and other states. It paves the way for appropriate continued research and provides a critical linkage between other corollary research and a much needed legal analysis of a potentially severe problem for states.

Secondly, the study holds impact for recognizing the role of policy analysis in finance research. There is a clear historical relationship between aggressive social policy established by the courts and reactive educational policymaking, and this research anticipates the problem and addresses potential solutions through its recommendations. With decisions which impinge on capital outlay financing (Edgewood Independent School District v. Kirby, 1987; Pauley v. Kelly, 1979; Pauley v. Bailey, 1982; Pauley v. Gainer; Jenkins v. State of Missouri) and the historical linkages which can be traced (Shofstall v. Hollins, 1973; Van Dusartz v. Hatfield, 1971; Serrano v. Priest, 1971; Serrano II, 1976; Board of Education of the City of Cincinnati vs. Walter, 1979; Lujan v. Colorado State Board of Education, 1982), the monograph offers a considerable contribution to the literature.

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## STUDENT LEADERSHIP TRAINING PROGRAM

Dr. Robert Goodwin  
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Field Kindley Memorial High School  
Coffeyville, Kansas

The Student Leadership Training Program has evolved into its present approach over the past twelve years. It was originally conceived by a first-year principal in a small high school in rural Kansas as a vehicle for expanding student involvement in school clubs and organizations. It now includes additional components that have proven to be beneficial to the overall educational climate within schools.

During the last two decades the program has been introduced to students in four different high schools and one junior high in Kansas and Colorado. The program was identified as outstanding by the Boulder Valley Foundation in Boulder, Colorado, and a grant was awarded to further promote the activity at Centaurus High School and to develop it in the other four high schools in the district.

The program consists of four components that are designed to help students develop into leaders and to help improve the educational climate of the school where the students attend. The four components include student leader and minority student recruitment; coordination of activities between clubs and organizations; student leadership training and development; and student involvement in projects that will improve the climate of the school.

The program has been implemented and shown to be effective in both large and small high schools. It is especially worthwhile for smaller high schools because it is a low-cost project that yields high results in increased student involvement and improved school climate. An energetic principal or teacher can coordinate the whole program without outside help.



## SUPERINTENDENT TURNOVER

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University of Nebraska at Lincoln  
Lincoln, Nebraska

This paper examines the degree of superintendent turnover in a state dominated by rural school districts and lists the causes of turnover as reported by short-term superintendents.

Turnover is found to be higher than the national average in the rural districts of this study. Superintendents report that they leave these rural positions for personal family reasons, because of the particular nature of the rural superintendency, because of conflict with rural boards of education, and for reasons of career ascendency.

The investigators note that there is a shortage of information about superintendent turnover.

\*An in-depth paper with citations is available upon request from Kansas State University, 124 Bluemont Hall, Manhattan, KS 66506.

## SUPPLEMENTAL CONTRACTS - NEW RESTRICTIONS, NEW CHALLENGES

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USD #307, Ell-Saline  
Salina, Kansas

### Overview of Presentation

The presentation will review a recent Kansas Supreme Court decision concerning supplemental contracts which was lost by USD #307. The decision further restricts the ability of local boards and administration to assign personnel, and aggravates the problems related to filling coaching and sponsorship vacancies. The presentation will review past decisions, provide a chronology of the district's case, and discuss its ramifications for school districts in Kansas and nationwide.

### Background of the Case

Robert Hachiya and Cheri Livingston were tenured teachers in USD #307 and both coached junior high school athletics. All students were required to take junior high P.E. or athletics during the last period of the day. All practice for athletics took place during this period with competition taking place after school or on Saturdays.

Both teachers in 1984 resigned their coaching positions for the 1985-1986 school year. The board subsequently assumed they were resigning the "coaching period" and offered them a 6/7 contract for the 1985-1986 school year. The teachers signed this contract but reserved the right to file this action.

The district court found for the district and determined that the teachers had voluntarily resigned part of their teaching duties. This decision was appealed, and the Court of Appeals agreed with the lower court and concluded that the board had the right to make what usually might be considered a supplemental duty a part of the primary contract.

The Supreme Court, however, rejected this logic, and concluded that regardless of when the assignment occurs the person who is assigned to "coach" must do so under a supplemental contract. The court rejected the argument that the term "coaching" was modified by the term "extracurricular," and concluded that "coaching," whether curricular or extracurricular, must be governed by a supplemental contract.

In addition the court determined that the board had effectively waived any requirements for tenure and ordered the teachers to be granted full-time positions and back pay.

Many interesting questions are raised by this case regarding the relationship of supplemental duties that are tied to curricular duties. These areas would include band, vocal music, forensics, yearbook, newspaper, FFA, FHA, and a host of others.

A motion for reconsideration and clarification was denied by the Supreme Court and the district has settled with the teachers in question.

## Implications for Rural and Small Schools

Numerous schools in rural areas, because of distances and transportation costs, hold junior high school practices, and in some cases, varsity practices, during the school day. This ruling would have the effect of curtailing this common procedure. It could also mean that a teacher could resign the after-school coaching part of the contract, but still teach the "coaching period" or require the district to offer another class to assure him or her a full-time position.

The above is also true of after-school "supervision or directing" such as music, yearbook, forensics, etc. Many people enjoy the subject and the class, but resent the after-school activities, and the hours of commitment it requires! Rural and small schools are especially vulnerable because of the large percentage of teachers that coach and/or sponsor activities. Also, the availability of community members who would be willing and qualified to coach or direct, in the place of teachers, is often very limited.

## TELECOMMUNICATIONS AND DISTANCE LEARNING - TRENDS IN THE UNITED STATES

Linda A. Lloyd  
Director of Educational Services  
Tele-Systems Associates, Inc.  
Minneapolis, Minnesota

This session introduced an overview of recent developments in the use of telecommunications technologies, as they are being applied in small and rural schools in the United States. Some comparisons were drawn among the various distance-learning technologies currently in use in school settings and the relative effects of those different technology-based options for instruction.

In overviewing distance learning and technologies, the presenter outlined several different approaches to establishing distance-learning programs. The technologies typically employed by rural and small schools for distance learning include audio teleconferencing, computer-interactive networks (electronic mail and computer conferencing), one-way video (broadcast and satellite) networks with two-way audio capacity, and two-way fully interactive audio-video data networks.

A "hierarchy of interactive techniques" was delineated. The presenter defined the interactive hierarchy by describing how the different technologies relate to the learner in the remote site. Technology applications that permit the most natural face-to-face instructional mode are ranked the highest in interactivity and those technology applications that permit limited natural communications ranked the lowest. The presenter outlined positive and negative aspects of the technology applications including (ranked highest to lowest):

1. Two-way interactive television--ranked highest in the hierarchy for distance learning applications for K-12 instruction because (a) system linking schools permit natural, face-to-face interaction among teachers and learners; (b) interactive networks permit multi-technology applications, including computers, videodisc, and traditional media; and (c) local control can be exercised over the content of the curriculum offered, since local district teachers already on staff originate the programming.
2. One-way video networks--these networks permit a one-way video signal to be broadcast from a site to remote schools, but permit audio contact only by telephone or convener microphone systems, which do not replicate a natural learning situation. This application ranks second from the highest because (a) some local control can be maintained over content and delivery to multi-site networks, especially in regional ITFS (instructional television fixed systems) and narrowcast projects. This application is popular among higher education and adult learning groups, as older learners do not require the face-to-face interaction with the teacher that younger students need.
3. One-way video broadcast networks--these networks permit one-way video broadcasts of instructional content, usually by satellite, to specific receiving sites. This application ranks third in the hierarchy because (a) there is little chance that local schools can

impact on content, methodology, or scheduling of classes since many of these networks are nationwide, commercial ventures; and (b) because interactivity among teachers and learners is limited to a dedicated telephone line connected to the remote studio. Oftentimes, these systems will have more than 100 students on-line during one class session, decreasing the chance that an individual student will be able to interact directly with the teacher. None of these types of systems can permit two-way visual communications, due to the cost of such a two-way interconnect.

4. Audio teleconferencing--POTS, or "plain old telephone systems" which rank lowest on the interactive scale when used with K-12 learners, since the systems do not allow visual contact among learners and teachers.

Selection and implementation criteria were also outlined for choosing an appropriate distance-learning approach for a local school district. In general, rural schools should:

1. Purchase technologies that address long-range needs for the school district and the community they serve. The technology application/s selected should be chosen based upon designated needs, not because it is readily available or well packaged.
2. Learn from the experiences of other school districts in similar situations. Schools should communicate their good and bad experiences to one another so as to avoid choosing limited or obsolete technologies. Local control of instructional content is enhanced by sharing instructional resources and information.
3. Validate the installation of technologies by providing adequate inservice, training, information, and technical support to the users of the system--teachers, students, and other partners in a project.
4. Look outside the school walls for opportunities to enhance the use of technologies in the school. Sharing of resources among local schools typically increases each school's effectiveness.

The presenter also shared case studies of several technology-based, multi-use distance-learning projects across the country and discussed relative cost benefits of the various technology applications.

## TENNESSEE INSTRUCTIONAL MODEL

Dorrell George  
Superintendent  
USD #325, Phillipsburg  
Phillipsburg, Kansas

The Tennessee Instructional Model (TIM) was adopted by the USD #325 Board of Education, Phillipsburg, Kansas, and is being presented to our faculty on a voluntary basis. Over 85% of our teachers are using this effective teaching method and results are being noticed.

A team of teachers and administrators visited the Tennessee State Department of Education and took over 40 hours of instruction and are using the model in a comprehensive inservice approach to integrating effective teaching skills into the classroom. This is part of our professional inservice program.

The District Superintendent, Dorrell George, will present an overview of TIM giving the instruction, management, planning evaluation, and leadership areas.

In addition to the overview, a concept lesson will be given by Pat Van Allen, Middle School teacher. This lesson will show how all students can be involved in the classroom by teaching a factual lesson in a fun and interesting manner.

A skill lesson will be given by Peggy Minkler, South Elementary teacher, showing the four steps to be used by the teacher for effective learning by the student using the TIM techniques. The TIM model applies to all levels of teaching.

## TRADEBOOKS WITH A RURAL/SMALL COMMUNITY THEME

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Department of Curriculum and Instruction  
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Manhattan, Kansas

There are many books available for children (K-8) with a rural or small community theme. Very often children's reading interests stem from their own background of experiences and ways of relating to the world. Given that students from rural and small schools would be interested in such reading materials, the following books can serve as a stimulus for integrated units in reading, language arts, social studies, science, and math.

### Books for Primary Grades

1. Aylesworth, J. Hanna's hog. Ill. by Glen Rounds. Atheneum, 1988.
2. Azarian, M. A farmer's alphabet. Godine, 1981.
3. Burton, M. Aaron awoke: An alphabet story. Harper & Row, 1982.
4. Carrick, D. Milk. Greenwillow, 1985.
5. Ernst, L. C. Sam Johnson and the blue ribbon quilt. Lothrop, 1983.
6. Gibbons, G. Farming. Holiday House, 1988.
7. Hall, D. The ox-cart man. Ill. by Barbara Cooney. Viking, 1979.
8. Joose, B. Jam day. Ill. by Emily Arnold McCully. Harper & Row, 1987.
9. Martin, B., Jr., & Archambault, J. Barn dance! Ill. by Ted Rand. Holt, 1986.
10. Miller, J. Farm counting book. Prentice-Hall, 1983.
11. Noble, T. H. The day Jimmy's boa ate the wash. Ill. by Steven Kellogg. Dial, 1980.
12. Noble, T. H. Meanwhile back at the ranch. Ill. by Tony Ross. Dial, 1987.
13. O'Kelley, M. L. From the hills of Georgia. Atlantic-Little, Brown, 1983.
14. Rylant, C. Night in the country. Ill. by Mary Szilagyi. Bradbury, 1986.
15. Rylant, C. This year's garden. Ill. by Mary Szilagyi. Bradbury, 1984.
16. Rylant, C. When I was young in the mountains. Ill. by Diane Goode. Dutton, 1982.
17. Tafuri, N. Early morning in the barn. Greenwillow, 1983.
18. Yolen, J. Owl moon. Ill. by John Schoenherr. Philomel, 1987.

### Books for Intermediate Grades

1. Harvey, B. My prairie year. Ill. by Deborah Kogan Ray. Holiday House, 1986.
2. Hausherr, R. The one-room school at Squabble Hollow. Four Winds, 1988.
3. Jukes, M. Blackberries in the dark. Ill. by Thomas B. Allen. Knopf, 1985.
4. MacLachlan, P. Arthur for the very first time. Harper, 1980.
5. MacLachlan, P. Sarah, plain and tall. Harper, 1985.



6. Moore, L. I'll meet you at the cucumbers. Ill. by Sharon Wooding. Atheneum, 1988.
7. Parnall, P. Apple tree. Macmillan, 1988.
8. Parnall, P. Winter barn. Macmillan, 1986.
9. Stolz, M. Quentin Corn. Ill. by Pamela Johnson. Godine, 1985.
10. Turner, A. Dakota dugout. Ill. by Ronald Himler. Macmillan, 1985.
11. Wakefield, P., & Carrara, L. A moose for Jessica. Dutton, 1987.
12. Wallace, B. A dog called Kitty. Holiday House, 1980.

#### Books for Upper Grades/Mature Readers

1. Carter, A. Growing season. Coward-McCann, 1984.
2. Conrad, P. Prairie songs. Ill. by Darryl S. Zudeck. Harper & Row, 1985.
3. Lasky, K. Beyond the divide. Macmillan, 1983.
4. Speare, E. G. The sign of the beaver. Houghton Mifflin, 1983.

#### Poetry Books

1. Bodecker, N. M. Let's marry said the cherry. Atheneum, 1974.
2. Knightley, R. The farmer. Macmillan, 1988.
3. Lewis, C. Long ago in Oregon. Ill. by Joel Fontaine. Harper & Row, 1987.
4. Lindbergh, R. The midnight farm. Ill. by Susan Jeffers. Dial, 1987.

#### Traditional Literature

1. Dewey, A. Febold Feboldson. Greenwillow, 1984.
2. Purdy, C. Iva Dunit and the big wind. Ill. by Steven Kellogg. Dial, 1985.

## WAMEGO JUNIOR-SENIOR HIGH SCHOOL H.E.L.P. ROOM

Richard D. Doll  
Principal  
USD #320, Wamego  
Wamego, Kansas

Here to Encourage the Learning Process (H.E.L.P.) is a program for any junior-senior high school student who is having difficulties in the regular classroom. Potential H.E.L.P. room students possess aptitudes and abilities too high for special education services. Students who have extreme difficulties can be enrolled in the H.E.L.P. room for an hour a day for assistance with their regular classroom assignments. Those students enrolled one hour per day receive elective credit. Students can also walk in to the H.E.L.P. room for academic assistance. These students do not need assistance on a daily basis, but need occasional assistance in a specific class. Walk-in students can come to the H.E.L.P. room by asking permission of their regular classroom teacher.

Unique to the H.E.L.P. program are peer tutors. These trained student tutors assist individual students in specific academic areas.

The H.E.L.P. program attempts to assist students in three major areas: (a) academic support for all classes, (b) remediation of basic skills, and (c) development of study skills. Future plans also include a career awareness and possible on-the-job placement.

## WESTERN MONTANA COLLEGE'S BIG SKY TELEGRAPH

Frank B. Odasz  
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Western Montana College  
Dillon, Montana

Rural educators in distant locations are communicating teaching ideas and sharing resources through Big Sky Telegraph, a grassroots, text-based microcommunications network. Big Sky Telegraph offers Montana educators electronic mail, computer conferencing, a software preview loan library, a lesson plan database, and access to the Western Montana College librarians.

Big Sky Telegraph has been on-line since January 1, 1988, successfully demonstrating cost-effective microcomputer telecommunications for inservice training, resource sharing, creative exchange, and community support. Community organizations such as the Women's Resource Center, the local hospital, an economic development group, as well as the Western Montana College Library, are now actively represented on-line. Rural educators are learning how to take on the new role of community information specialists.

Montana's 114 one-room schools are the principal participants, but larger rural schools are also communicating on-line. Training is accomplished entirely remotely, at the teacher's convenience, through electronic mail exchange using grant-provided modems and temporary use of an 800 number. Costs for ongoing use of the network can be as little as \$5.00 per week.

An optical scanner allows printed documents to be read into electronic form for immediate dissemination statewide. Microcomputer-based voice-mail and fax capabilities further complement this unique teacher support system.

This innovative project is funded by US West and the M.J. Murdoch Charitable Trust. Educators who wish more peer contact and resource support are encouraged to join us on-line. If you have a modem, call (406) 683-7680 (1200b, 8N1).

# SCIENCE EDUCATION

## COOPERATIVE LEARNING FOR EXCELLENCE IN SCIENCE

Dan Tredway  
School of Education  
Western State College  
Gunnison, Colorado

Cooperative learning has been present in small schools since schooling has existed and very probably before schooling became formalized. The idea of younger people being helped and guided by older people is basic to societies. Intuitive teachers have used this strategy to improve pupil learning and to extend instructional opportunities for pupils.

This is a concept for enhancing learning whose "time has come" in the sense that it is being institutionalized and applied formally in a variety of school settings.

This presentation will provide examples of cooperative learning from several small school projects in science teaching that are at the present moment in various stages of development.

These projects to be presented will describe school programs with pupils at various levels working together. Some of these examples of science learning experiences include cooperative programs involving pupils at middle school level working with elementary pupils and pupils at senior high school level working with middle school and elementary pupils.

Specific examples of values and information to be gained by both older and younger pupils involved in this cooperative experience will be discussed.

The summary for the presentation will be specifics for initiating such a science program in a small school setting. It will include suggestions for teacher cooperation, preparing both groups of pupils and strategies for evaluation.

## CREATION VERSUS EVOLUTION: A BELIEF IN BOTH?

Lawrence C. Scharmann  
Center for Science Education  
Kansas State University  
Manhattan, Kansas

Biologists often refer to evolutionary theory as the most significant unifying theme upon which biology, as a discipline of study, currently is based. Many biology teachers have experienced frustration, challenges, and even criticism when this topic is planned or presented as a unit of instruction. The issue is certainly a sensitive one and the potential confrontation it engenders is very real. But, should there necessarily be a confrontation between evolutionary theory and biblically-based creation origins? What, if any, are the major options for helping our students resolve their own beliefs while combining science with a belief in a Creator? How do these compare with the scientific evidence on: the age of the universe, age of the earth, the formation of the geological record, the sequence of the appearance of different life forms and the processes of macroevolutionary change? In what sense are these just theories? This position paper, in part, responds to these questions and offers alternate strategies for tactfully handling a potentially controversial issue.

## AN ELECTRONIC MAIL NETWORK FOR RURAL SCIENCE TEACHERS

Dean Zollman and Thomas Manney  
Department of Physics  
Kansas State University  
Manhattan, Kansas

and

J. Steve Oliver  
Center for Science Education  
Kansas State University  
Manhattan, Kansas

An electronic mail network has been set up to address the problem of communication among science teachers in Kansas. Thirty-three science teachers, who took part in a summer workshop on teaching modern genetics at Kansas State University are participating in the network. The participants received a Zenith Z-159 computer with a 1200 baud internal modem to use in their classroom. As a condition of admission to the program, each participant's school administrator agreed to make a telephone line available to provide access to the network. The program is supported by the National Science Foundation.

The electronic mail network makes use of BITNET (Because It's Time NETwork), an international electronic mail network. Using this framework, a Bulletin Board was developed for workshop participants and faculty to communicate. The Kansas State University Academic mainframe computer serves as the host computer for the bulletin board. The bulletin board enables the participants to communicate in private with any other person on the participants list or with all of the members of the group at one time. In addition, there is an "open line," to permit a participant to remain anonymous and ask a question or make a comment. BITNET makes most of the bulletin board features available to anyone with access to a computer on the network. In Kansas, this currently includes Kansas State University, Wichita State University, the University of Kansas, and the University of Kansas Medical School.

The aim of the program is to provide an avenue for discussion and interaction among the science teachers in Kansas. Preliminary evaluation supports our expectations that the considerable distance between schools and the small size of the typical secondary school enhances the value of this medium of communications and exchange of information. Evaluation of the project will continue throughout the next two years.



THE ELEMENTARY SCIENCE EDUCATION INSTITUTE MODEL  
FOR ENRICHMENT OF RURAL SCIENCE INSTRUCTION

J. Preston Prather and Robert L. Hartshorn  
Center of Excellence for the Enrichment of  
Science and Mathematics Education  
The University of Tennessee at Martin  
Martin, Tennessee

The need for reform of science education is a major national issue. The problem is especially severe in grades K-6, where effective elementary science instruction is needed to provide a sound basis for subsequent science study. Research revealed that the principal's support is essential to the success of any school program. The Elementary Science Education Institute provided for joint preparation of four-member teams of two elementary teachers, their school principal, and their supervisor of instruction from rural Tennessee schools to insure the understanding and support needed for local leadership in improvement of science instruction. The purpose of the Institute was to prepare nine teams per year over three years to generate 27 nuclear leadership units across the state. The project goals included: (a) improving the participants' content and instructional skills, (b) providing a program for supervised research and planning of individual team practica culminating in a one-year field project to be conducted in each term's educational service district, and (c) providing a field-support system to nurture the teams' field projects and document the effectiveness of the Institute in the elementary science education arena. This program will explicate the Elementary Science Education Institute model and review the evaluation of the 1987-88 Institute.

## ENCOURAGING RURAL YOUTH TO CONSIDER CAREERS IN SCIENCE AND TECHNOLOGY

Susan K. Zamzow  
Peirce Science Center  
Clarion University  
Clarion, Pennsylvania

The Center for Rural Pennsylvania of the Pennsylvania House of Representatives has funded a project entitled, "Encouraging Rural Youth to Consider Careers in Science and Technology," for the summer of 1988. The purposes of this research and community/public service project are to increase the visibility of scientific and technological career choices as a service to rural youth ages 10-14, to establish rural public libraries as sources of science-related career information, expand career orientation in area schools and, in the longer term, to encourage career choices which contribute to the future growth and development of a dynamic rural Pennsylvania.

During the summer of 1988, project staff from Clarion University working with rural librarians, will prepare scientific and technological personnel, e.g., chemists, pharmacists, physicians, computer scientists, engineers and others to involve rural youth in hands-on activities related to their careers while sharing career information. For example, a hydrologist may have them investigate stream flow or a chemist may use a crystal-growing activity. Activities will be followed by career information and interaction with the young people about preparation and occupational responsibilities.

Project activities, coordinated through the Center for Science Education at Clarion University, will be conducted at community libraries throughout a nine-county (Cameron, Clarion, Clearfield, Elk, Forest, Jefferson, McKean, Potter, and Warren) rural area in northwestern Pennsylvania. Each library will serve as host-site for three science and technology career programs. After assessing currently available science-related career orientation resources, each library will then be provided with books and resource materials related to science and technology careers, enabling both the libraries and the librarians to serve as long-term resources for science and technology career information. The project is a rural dissemination model designed to increase science-related career awareness among approximately 400 young people and to increase the science and technology career orientation capabilities in libraries in nine rural counties of Pennsylvania.

The project will also strive to encourage expanded career orientation in rural schools of the nine-county area of northwestern Pennsylvania. All area school guidance counselors, teachers of science and librarians are invited to attend a Science and Technology Career Orientation Conference at the Center of Science Education of Clarion University during the 1988-89 school year.

ENHANCING THE SCIENCE LEARNING ENVIRONMENT  
THROUGH CHANGE IN FACILITY AND CURRICULUM

Jon W. Brown and Renee Trewyn  
Baxter Springs High School  
Baxter Springs, Kansas

Although Baxter Springs High School is a relatively young facility, less than fifteen years old, its science facility appeared to me as a first year principal as inadequate. After discussion with my current physics-chemistry teacher, who came after the building was built, I found a mutual concern. Our Building Needs Assessment Committee had some suggestions. What resulted is what our presentation would be about: mutual cooperation between teacher, administration and Board of Education to create a superior science facility out of a mediocre one. The change was from the existing room to another larger classroom in the same building. Although we will have a new modern science room, it will be in the existing facility. Thus for the 1988-89 school year we have a new modern facility and a new curriculum.

## A FOCUSED APPROACH FOR TEACHING CHEMISTRY IN NURSING SCHOOLS IN ISRAEL USING CASE STUDIES

Yehudit J. Dori  
Computer Architecture  
University of Kansas  
Lawrence, Kansas

"Chemistry anxiety" exists amongst nursing students as well as other allied health professions. The causes for this anxiety may be attributed to the facts that chemistry is perceived as difficult, it involves a multitude of facts, and is not attached to reality (irrelevant).

There is no miraculous solution to this cognitive and motivational anxiety problem. Nevertheless, a practical solution which copes with the obstacles of teaching chemistry to nursing students, is presented. A chemistry curriculum for nursing schools, based on a focused approach to the subject, was developed.

To overcome the difficulty, intensive exercises were written and teaching aids developed. A careful selection of only those topics that are necessary for understanding the principles in the more advanced courses, i.e., pharmacology, was aimed at diminishing the number of facts involved in the study of chemistry to a minimum. The selection of topics is based on both recommendations of educators found in the literature and on the findings of the needs assessment study. The usefulness of the information gathered from nurses and doctors is enhanced by the fact that they were actively engaged in patient care at the time they responded to the needs assessment questionnaires.

Finally, relevance to nursing was obtained by the introduction of a varied selection of medical and nursing case studies. The examples from a nurse's everyday work included, among other case studies, revival of a patient hurt in a traffic accident and the diagnosis of metabolic acidosis by testing the pH of the blood. These case studies contributed to the improvement of the image of chemistry, as they demonstrated the close relationship between chemistry and nursing. Moreover, they establish the contact between the abstract ideas presented by the "pure" chemistry to the real, everyday life of the nursing students' future profession. Ideas for many of the case studies included in the curriculum were adapted using suggestions of nursing instructors, who have an excellent perspective as to the most necessary needs of clinics and hospitals.

FOSTERING COOPERATION BETWEEN COGNATE SCIENCE  
AND SCIENCE EDUCATION: ONE SMALL COLLEGE ADVANTAGE

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Science and Mathematics Education  
Sioux Falls College  
Sioux Falls, South Dakota

Differing perspectives, goals, and underlying beliefs between science instructors in cognate science and science educators has affected the direction(s) of reform in science teaching since the early 1980s. Wayne Welch's position paper, Research in Science Education: Review and Recommendations in 1983, concluded that little what makes a teacher effective has been studied. Sometimes parallel, sometimes divergent goals of various leadership organizations such as NSTA, AAAS, AETS, NARST, and NSF have highlighted the need for reform in teacher behavior through volumes of study of teacher behavior without the concomitant research questioning the goals of science education and the criteria for determining teacher effectiveness (Yager, Penick, et al., 1988).

Local campus differing perspectives, goals, and underlying beliefs between science instructors and science educators telescope the national leadership organizations. Various efforts at joint committees, teaching appointments shared between two disciplines, and changes in job descriptions announced in the Chronicle of Higher Education are some ways institutions have responded to the need for cooperation between the two groups.

On the campus of Sioux Falls College, a small, private, liberal arts college in the upper Midwest, the need for developing more cooperation between instructors of science and science educators exists. One effort toward building that cooperation has been through the implementation of a Title II inservice for elementary teachers. The focus of the grant was to enhance teachers' knowledge base and application of selected science, mathematics, and computer concepts to the classroom. Instructors from both cognate science and science education taught the concepts. The small size of the institution, along with the willingness of the instructors, seemed to aid the implementation of the grant and enhance the cooperation of the two disciplines. In this paper, I will report factors that influenced the cooperation of the cognate and science education instructors in the project, through interviews with the instructors.

## INEXPENSIVE PHYSICS EQUIPMENT FOR LABORATORY AND DEMONSTRATION EXERCISES

Lawrence E. Poorman  
Physics Department  
Indiana State University  
Terre Haute, Indiana

Several inexpensive pieces of equipment will be used to illustrate other uses in examining concepts in physics. These items have been collected from cereal boxes, table favors, advertisement gimmicks, etc., in forty years of experience. Experience ranges from K through graduate school and very small to very large schools, both rural and urban.

Items included are: boomerangs, frisbees, Tony the Tiger Divers, jumping springs, and many others. Participants can handle any item shown and will receive a one-sheet description of how and where each item has been successfully used in Physics classes.

## LOGOS, LEGOS, ROBOTICS AND SCIENCE EDUCATION

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Division of Teacher Education  
Kansas State University  
Manhattan, Kansas

The LEGO TC LOGO system combines the Apple II microcomputer, an assembly of LEGO parts, and the LOGO computer language into an introduction to robotics appropriate for use from middle level to senior high school. Students build machines powered by small electric motors and program their behavior using an adaptation of the LOGO computer language. Photo and touch sensors make it possible for a study of artificial intelligence.

The collection of a number of short procedures into a longer computer program shows the fundamental structure of many higher level computer languages.

The teacher materials provided encourage exploration, data collection, and problem solving approaches. The concepts covered include velocity, power, friction, mechanical advantage through gear ratios. The entry level activities are simple enough for an average middle level student. The open-ended ideas for further exploration give possibilities for continued learning for the advanced student. This breadth of usage makes this an excellent resource for the teacher in a small school setting.

In Summer 1988 the presenter taught a number of teachers, some from small schools, to use this system. Projects from this class will be demonstrated.



THE NEW MEXICO RURAL SCIENCE EDUCATION PROJECT:  
IMPROVING SCIENCE EDUCATION IN RURAL SCHOOLS

Jeffry Gottfried  
Chief of Education  
New Mexico Museum of Natural History  
Albuquerque, New Mexico

and

Judy Dacus  
Center for Rural Education  
New Mexico State University  
Las Cruces, New Mexico

The New Mexico Rural Science Education Project serves as a model for improving science education in rural schools. Under National Science Foundation sponsorship, project staff from the New Mexico Museum of Natural History and the Center for Rural Education at New Mexico State University have traveled tens of thousands of miles to instruct rural teachers in how to teach science using local natural resources.

The NMRSEP approach capitalizes on the natural settings of rural schools and the unique capabilities of museums of natural history. Through participation in workshops, field trips, and Natural History Field Schools (outdoor natural science festivals) rural teachers learn about the wildlife, plants, rocks and fossils of their area and how to develop activities that teach science process skills and that center on locally available natural history specimens and other inexpensive items.

THE PENNSYLVANIA INITIATIVE--TAKING SCIENCE  
AND COMPUTER EDUCATION TO RURAL TEACHERS

Bruce G. Smith, Ken R. Mechling, and Sue Zamzow  
Clarion University  
Clarion, Pennsylvania

Two unique and successful programs are currently in progress statewide in Pennsylvania in an effort to equalize the inservice education opportunities for teachers.

The Pennsylvania Science Teachers Education Program (PA STEP) began in 1983 and has serviced the science education needs of nearly 5,000 science teachers and administrators at approximately 25 sites across the state. While some of the courses are offered at urban colleges and universities, the majority are offered at rural colleges and universities. In areas far removed from even a rural institution of higher education, PA STEP courses are offered through state Intermediate Units, or even individual school districts. All PA STEP courses are graduate-level courses, varying in credit from 1 to 3 credits, free to teachers through tuition scholarships by the funding source, the Pennsylvania Higher Education Assistance Agency.

The Information Technology Education for the Commonwealth (ITEC) program began in 1985 with appropriations from the Pennsylvania General Assembly of four million dollars annually to balance the microcomputer education opportunity for all students through a program of inservice teacher education and school district grants. The basic premise of the entire program was to specifically aid the small rural districts otherwise closed out of the grant programs. Like PA STEP, ITEC offers graduate courses free to teachers at fourteen sites across the state and at many small isolated towns through the outreach program. Since the beginning of the program over 10,000 teachers have participated and 271 grants for over 7 million dollars have been disbursed.

## PERCEIVED NEEDS AND STATUS OF SECONDARY RURAL SCIENCE TEACHERS IN KANSAS

Emmett L. Wright, Larry G. Enochs, and J. Steve Oliver  
Center for Science Education  
Kansas State University  
Manhattan, Kansas

In order to make science teacher preparation, both preservice and inservice, more effective, it is essential that we first analyze the perceived needs and current status of the target population. This study was designed to assess the perceived needs and status of secondary science teachers in Kansas. Secondary science teachers, as well as teachers as a whole, have received criticism regarding their competencies and their lack of accountability in terms of student science achievement. If we are to assist teachers in their instructional improvement, we must design both preservice and inservice programs that meet the needs of teachers to be involved.

The instrument used in this study, "Kansas Science Teaching Needs Inventory," was developed through modifying a survey instrument by Padilla et al. (1983). Demographic items were changed to reflect the special characteristics of Kansas Schools, e.g., school size, grade level breakdown, etc. In addition, items were added to assess the viability of various graduate course offerings, preferred times, and inservice topics. The instrument was four pages in length and consisted of the following sections:

1. Personal Information
2. Teaching Strategies
3. District Information
4. Status of Science Educators
5. Inservice Needs
6. Science Curriculum
7. Materials

The instrument was mailed to all secondary science teachers in Kansas, after purging the State Department of Education mailing list of duplicate entries. A total of 1,100 surveys was mailed. Of these, 405 were returned. No follow-up was done.

The study indicated that there are similarities between rural and non-rural teachers. One of the highest concerns was in regard to the use of microcomputers. Also, teachers were highly interested in taking science content courses. It was also clear that teachers are not using the latest innovations and instructional techniques. Science teachers did express a strong interest for inservice in science content, instructional materials and new teaching strategies, with high preference for summer course offerings.

SCIENCE EDUCATION FOR OUT-OF-SCHOOL ADULTS:  
AN EMERGING CHALLENGE FOR RURAL SCHOOL SYSTEMS

J. Preston Prather  
Science and Mathematics Education  
The University of Tennessee at Martin  
Martin, Tennessee

A 1979 National Science Foundation Survey indicated that about ninety-three percent of the nation's adults may be classified as scientifically illiterate. In an era when lifelong science learning is increasingly important, most adults lack a basic science background for further science education. Given predicted occupational transitions over the next two decades, millions of skilled laborers and factory workers who once felt secure in their employment will find themselves vulnerable in a rapidly changing job market caused by automation, robotics, and/or industrial shut-downs. This will be an especially severe sociocultural problem for rural communities where much of the population may derive income from one or a few industrial plants. As these citizens realize the need for additional science learning, millions will turn to local educational agencies for help. Many will lack the money, mobility, or prerequisite training to pursue science education through other channels. Displaced workers who feel disenfranchised and disillusioned due to scientific illiteracy may expect local science teachers, by virtue of their title and training, to provide the needed training. This program will examine the principles of adult/continuing education for insight into possible options for rural and small school systems that may face this impending, socioculturally volatile challenge.

## SCIENCE TEACHER PREPARATION IN SMALL RURAL COLLEGES

Kevin D. Finson  
Department of Elementary Education/Reading  
Western Illinois University  
Macomb, Illinois

Small rural colleges face many of the same challenges in education that confront rural elementary and secondary schools--including widely dispersed student populations, lack of networking between schools, little flexibility in money allocations, large distances between attendance centers, professional isolationism, and the need to find and retain qualified faculty capable of teaching a wide range of subjects--particularly the sciences.

These types of rural problems impact teacher education programs at small colleges in rural settings. The small college must develop programs capable of producing the types of teachers required in their regions while at the same time conforming to budgetary, time, and faculty limitations which impact such colleges far more than in more populous college areas.

The problems facing rural colleges in providing inservice to rural teachers, developing and disseminating science curriculum innovations to rural schools, developing research strategies (and conducting research) from such colleges, and other pertinent concerns all vary from similar problems encountered by larger colleges not in extensively rural locales. These problems will be presented and discussed, with one goal of the discussion being the generation and exchange of ideas and/or strategies useful for establishing objectives attainable by small rural colleges for the improvement of the efficiency and effectiveness of their teacher education programs, particularly in science education, and especially in light of recent NCATE/NSTA guidelines.

## THE SCI-TECH NETWORK: INFORMATION FOR ALL

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Department of Educational Curriculum and Instruction  
Texas A & M University  
College Station, Texas

We are repeatedly reminded that the world in which we live is not the world in which our students will spend their adult lives. Realizing how our lives and our environment is increasingly impacted by technology, it is imperative that today's students develop clear concepts of how use or abuse of resources today determines the environment in which they will live tomorrow. Considering how our lives are presently affected by electronic devices and limitless information, it is clear that tomorrow's citizens must be able to use technology effectively or they will be overwhelmed by it.

In order to become scientifically and culturally literate citizens in a technological society, students must learn to use current information to constantly update a changing knowledge base and to apply their knowledge in responsible problem-solving and prudent decision-making. Tomorrow's citizens will need to comprehend the world in terms broader than their immediate horizons to realize international, multicultural interdependence. Since technology is at the heart of our changing world, it must be part of the students' learning experiences.

The SCI-TECH CURRICULUM PROJECT at Texas A & M University is working to introduce innovative technology into environmental science instruction. Activity-oriented curriculum materials are currently being developed and used to help students to measure and describe their own life-space. Through these activities, students discover environmental interrelationships of living and non-living features, as well as the impact of human intervention. By analyzing changes over time, they begin to recognize effects of wise or unwise management. In response to their discoveries, students evaluate current practices and synthesize new solutions to local problems. To enhance these investigations, students use in their classrooms such innovative technologies as local aerial photography, "live" weather satellite imagery, and computers interfaced with environmental sensors.

Central to this effort is the SCI-TECH NETWORK. This electronic network is being designed to encourage students to become involved in real scientific investigations, coached by research scientists and using real-time data from the real world. Through this network, teachers and their students are able to receive and analyze current data related to animal migrations, weather, sea surface temperatures and currents, earthquakes, vegetation growth, and more. As students communicate ideas and share information among peers in distant places, their horizons are continually extended, helping them to recognize their roles as responsible citizens, not only of their local region, but also of the world community.

## A SCIENTIFIC RESEARCH EXPERIENCE FOR STUDENTS

Donald T. Powers  
Center for Science Education  
Kansas State University  
Manhattan, Kansas

The Kansas Junior Academy of Science (KJAS) sponsors a program to develop research skills in junior high and senior high students. Students are encouraged to develop a project in science or mathematics and conduct research. The results of their project are then presented at a district meeting in the Spring, 1989. Projects judged to be superior are then presented at a state meeting. The best paper in Kansas will be presented at the American Association for the Advancement of Science National Meeting.

The purpose of KJAS is to encourage students to develop skills in researching, to meet other scientists and to provide students with the opportunities to present research findings in public. Participants will receive information on how to become part of the Kansas Junior Academy of Science. Handbooks will also be available as well as information on how schools may qualify for student research grants.



USING AIMS (ACTIVITIES INTEGRATING MATHEMATICS  
AND SCIENCE) MATERIALS IN THE CLASSROOM

Kevin D. Finson  
Department of Elementary Education/Reading  
Western Illinois University  
Macomb, Illinois

The first portion of this session will be a brief report on the use of AIMS (Activities to Integrate Mathematics and Science) materials in an actual classroom setting. In this classroom study, the effectiveness of the integration of science and math was examined to determine what impact, if any, an integrated unit using the AIMS materials would have on fourth grade students' attitudes toward science and their comprehension of concepts relating to weather. Pretests and posttests for both attitudes and comprehension were used. Analysis of test data revealed positive (although not significant) gains in attitudes for students who experienced the AIMS activities, and significant gains in comprehension for those same students. As a follow up to this brief report, one of two sample AIMS activities such as those used in the study's classroom will be conducted with session participants to help them gain a better understanding of the materials and classroom efforts reported here.

# SPECIAL EDUCATION

COMBINING TECHNOLOGY AND PROFESSIONAL  
EXPERTISE TO MEET THE NEEDS OF YOUNG HANDICAPPED  
CHILDREN AND THEIR FAMILIES

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Northwest Kansas Educational  
Service Center  
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Northwest Kansas Educational Service Center has awarded funds in the Winter/Spring 1988 to implement a project with the goal of increasing services to unserved/underserved infants and their families. The P.L. 99-457 project is administered through the State Department of health. Data shows that in the rural eleven counties of Kansas, the vast majority (87%) of high-risk newborns from the eleven-county area are not followed by special intervention services. Thirteen percent (13%) of the Kindergarten through twelfth grade school population are currently receiving special education in the service area, yet less than one percent (1%) of children under the age of three years in the same geographic area are receiving early intervention services. A review of literature indicates these high-risk (including low-birthweight) infants warrant follow-up and provision of special programs, if needed, in order to increase a child's later success in school. The Northwest Kansas Educational Service Center project BRITE Start--Begin Right with Infant Toddler Early-- Intervention is utilizing a computer, software, telephone and mail to provide families of infants with Home Activity Packages of developmentally appropriate activities which families implement in the child's home. Community persons are utilized to assess the infants/toddlers.

**COMMUNITY BASED INSTRUCTION WITH SMH/TMH  
STUDENTS IN RURAL SETTING**

Michelle Gaskell  
Brown County Kansas Special Ed. Coop  
1st and Kickapoo  
Hiawatha, Kansas

SMH/TMH students in the Brown County Special Ed. Cooperative are involved in Community Based instruction in the following life-skill areas: vocational, domestic, community life and recreation and leisure. Students are also integrated into regular education classes with the chronological age appropriate peers. This presentation will include slides of both integration and community training with SMH/TMH students ages three through twenty-one. A packet of handouts will be distributed which includes description of program, newspaper articles, and sample forms used in community-based instruction.

DEVELOPING HUMAN SEXUALITY AND PREVENTION  
INSTRUCTION FOR SPECIAL EDUCATION

Michael C. Bodensteiner  
Southeast Kansas Education Service Center  
Box 189  
Girard, Kansas

The development and implementation of effective prevention instruction has been an ever growing theme of staff development activities. A wide range of issues including alcohol/drug abuse, teen pregnancy, teen suicide, and child abuse/neglect have prompted staff development and curriculum personnel to design strategies that will prepare educators to meet the social as well as academic needs to students. Most attention in this area has focused on regular education. Indeed, an absence of appropriate instructional materials and staff development activities for special education teachers has created an interesting paradox. This is especially true in light of the fact that special education students are commonly identified as a high risk group for the development of a number of lifestyle related health problems.

The proposed workshop will review a project that provides human sexuality and prevention programming for special education students and staff throughout Southeast Kansas. Project contributions in two distinct, but nonetheless related areas will be the major focus of the workshop. The first contribution is related to the development and modification of prevention instruction for identified exceptionalities. The second contribution is related to specific staff development activities that have been designed to assist regular and special education staff to expand the quality and quantity of human sexuality, alcohol/drug, and other forms of prevention instruction provided to special education students. A primary goal of the workshop will be to explore the adaptation of project services to other special education agencies interested in expanding existing prevention programming.

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ENHANCING READING AND WRITING FOR THE MAINSTREAMED  
STUDENT IN THE SECONDARY CLASSROOM

Kay L. Helger  
Doane College  
Crete, Nebraska 68333

This presentation will provide the participants with ideas for enhancing reading and writing for the mainstreamed student. All the ideas have been "teacher-tested" as successful in public school secondary classrooms. Strategies will be shared for adapting teaching, materials, and environment to motivate students in the areas of reading and writing. Several strategies will be demonstrated. Participants will receive a handout including many ideas.



ENHANCING RURAL GIFTED PROGRAMS THROUGH LOCAL  
STAFF DEVELOPMENT AND COLLABORATION

Peggy Dettmer  
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Bluemont Hall Rm 304  
Manhattan, Kansas

Gifted programs are not easy to design and implement in school districts where attendance centers are separated by great distances and contain relatively few gifted students in any grade level. A key to a smoothly integrated and well-accepted gifted program in rural areas is local design to meet local needs. An effective staff development plan will facilitate gifted program planning within the entire system, as well as provide teachers with strategies to use with students in the classroom. During this session participants will have opportunity to outline a framework for conducting staff development that benefits not only gifted students but the district as a whole.

INSERVICE EDUCATION FOR SPECIAL EDUCATION  
TEACHERS IN RURAL AREAS

Sandra Silver  
Elementary Principal  
Bemidji, MN 56601

Because of the isolation of special education teachers in rural areas, delivery of effective in-service programs through traditional means is restricted. If we are to assist special education teachers remain abreast of current developments, alternative types of in-service must be explored. This presentation will explore a variety of in-service models, the difficulties inherent in each of the models, and present a comprehensive in-service education model based on the theories of planned change and adult education. This model is designed to address the specific needs of the isolated rural special education teacher. It is both flexible and adaptable. This enhances its efficiency and effectiveness. It is a model that is readily adaptable to the needs of any and all rural special educators.

## THE MEDICAL/EDUCATIONAL LIAISON PROGRAM

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1002 E. Harvey  
Wellington, Kansas

The Medical/Educational Liaison program was formed to meet the needs of special education programs in Region-6 providing an interface between the medical and educational communities. The project was formulated into a grant proposal and received title VI-B funding in the fall of 1987.

The project is a joint effort between Dr. Richard Gilmartin (pediatric neurologist) and Dr. Pat Stephens (District 619 Co-op Director) to provide the services of a nurse-clinician to all special education programs and medical providers in Region-6 who wish to participate. At present there is no cost to the special education program.

The Medical/Educational Liaison project is staffed by a nurse-clinician who works 1/3 time in Dr. Gilmartin's office and 2/3 time in the region. The nurse-clinician, Carol Gale, is available to provide the following services.

1. Facilitation of the transfer of information between medical and educational communities.
2. Provision of medically related inservices to both regular and special education staff.
3. Coordination of medical/therapeutic consultation for individual students.
4. Coordination of hospital dismissal plans with readmission to school.
5. Participation in IEP's.
6. Interface with health agencies.
7. Consultation on health problems.
8. Coordination with mental health facilities and agencies.
9. Information on child abuse/neglect, sexual abuse and follow-up.
10. Coordination with hospital-based clinics such as Myelo Clinic, MDA Clinic, and Epilepsy Clinic.
11. Identification of children with educationally relevant problems and follow-up.
12. Consultation with physicians regarding individual students.

This list is not all inclusive and specific needs may be identified which require the expertise and involvement of the liaison.

**ORGANIZATIONAL CHANGE MODEL/IMPACT ON RURAL  
EMOTIONAL/BEHAVIOR DISORDERED PROGRAM DEVELOPMENT**

Vickie Brandt  
Coordinator of Services for  
Emotional/Behavior Disordered  
Rum River Special Education Cooperative  
430 N.W. 8th Avenue  
Cambridge, MN 05008

The presentation describes an organizational change process which promotes interagency programming in the development and implementation of rural services for emotional/behavior disordered youth. Areas addressed: preliminary negotiations, model building, team decision making, and creative financial planning using the organizational change process.

PARSONS INTEGRATION PARTNERSHIP: DEVELOPING SHARED  
RESPONSIBILITY FOR HANDICAPPED LEARNERS  
IN THE NEIGHBORHOOD SCHOOL

Kim Bodensteiner  
Southeast Kansas Education Service Center  
Parsons District Schools  
Box 1056  
Parsons, Kansas

Schools have long recognized the importance of providing free, appropriate education to all students. However, the interpretation of what is "appropriate" has varied greatly and is in a state of evolution. A particular concern has been in developing effective means of educating handicapped students in the least restrictive environment. Parents and professionals across the country have begun to question "pull-out" and "self-contained" program approaches, as fully integrated programs have demonstrated success for mildly, moderately and severely handicapped students. With the success of supported integration of handicapped students in regular classrooms, the implications of least restrictive environment take on new meaning.

After a year of study and planning, the Parsons District Schools have implemented a model designed to provide the opportunity for all students to learn in the regular education environment. The aim is to bring services to the student in the neighborhood school, rather than transporting the student to centralized services. Through a collaborative process, building-based teams develop and support the implementation of an individualized plan for each handicapped student. By bringing direct service, consultative service, and technical assistance to the regular classroom pull-out services can be greatly reduced or eliminated. An integrated classroom requires that ownership and decision-making be shared between regular educators, special educators, administrators, and parents to create an environment that better supports all students.

## A PRACTICAL APPROACH TO POSITIVE PARENTING

Dorothy Rockefeller  
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Rossville, Kansas

The Parent Involvement Program of U.S.D. #321, St. Marys, Kansas began six (6) years ago with the award of a federally funded grant. As the need for Parent Training in other school districts became more apparent, the Kaw Valley Parent Involvement Program extended its services across the State of Kansas in the form of Parent Training Workshops. The Parent Involvement staff will discuss the content of the Parent Training Workshops, methods of implementation and other strategies for a practical approach to positive parenting.

PROVIDING MENTOR EXPERIENCES FOR RURAL GIFTED LEARNERS

Beth Miller  
Florida Department of Education  
Bureau of Education for Exceptional Students  
Knott Building  
Tallahassee, Florida 32399-0400

Mentorship experiences for gifted and able learners offer a unique opportunity for teachers and community professionals to work in collaboration in order to provide extended, deep experiences in career exploration. Participants in this session will learn innovative strategies for implementing a mentor program in small and/or rural school districts. Each participant will receive an information packet which includes step-by-step implementation procedures and the forms necessary to establish a mentor program in any size school district.



## TRANSITION SERVICES PROJECTS

Michele Polland  
Florida Department of Education  
Knott building  
Tallahassee, Florida 32399-0400

The Bureau of Education for Exceptional Students, Florida Department of Education is funding five Transition Services Projects for three years through June, 1989. These projects will replicate the Rehabilitation Research and Training Center (RRTC) school-to-work transition model for moderately and severely handicapped students.

The RRTC model incorporates a longitudinally planned, functional curriculum delivered in an integrated learning environment and utilizing a community-based service delivery system. An individualized transition plan is also developed. The student is placed in supported competitive employment while enrolled in the secondary program. Supported employment is designed to provide structured job development, assessment, job placement, job site training, advocacy, on-going assessment, and follow-up services.

Projects have been awarded to four individual school districts and to a regional center servicing five rural districts. Project activities include a restructuring of a secondary curriculum to foster the implementation of a functional curriculum and a community-based employment training model. Each project also has established a system to develop individual transition plans in conjunction with the student's individual educational plans. Interagency agreements with state agencies and interagency councils have been developed to ensure that students receive on-going employment support services following graduation.